California State University, Channel Islands Solar Array Project

Initial Study – Mitigated Negative Declaration

prepared by

California State University, Channel Islands Site Authority
One University Drive
Camarillo, California 93012

prepared with the assistance of

Rincon Consultants, Inc.
180 North Ashwood Avenue
Ventura, California 93003

December 2019

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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Initial Study

1. Project Title

California State University, Channel Islands (CSUCI) Solar Array Project

2. Lead Agency Name and Address

The Trustees of the California State University
400 Golden Shore
Long Beach, California 90802

3. Contact Person and Phone Number

Mr. Terry M. Tarr, AIA, LEED AP
Associate Architect/Project Manager
Planning Design & Construction Department
California Station University, Channel Islands
One University Drive
Camarillo, California 93012
terry.tarr@csuci.edu

4. Project Sponsor's Name and Address

Owner

The Trustees of the California State University
400 Golden Shore
Long Beach, California 90802

Ground Lessee/Locally represented by

The Trustees of California State University, Channel Islands
One University Drive
Camarillo, California 93012

5. Project Location

The approximately 16-acre project site is located on a currently vacant, approximately 153-acre parcel (Assessor's Parcel Number 234-0-050-330) between Parking Lot A3 and Calleguas Creek near the western edge of the CSUCI campus. The CSUCI campus is located in southern Ventura County at the eastern edge of the Oxnard Plain and at the western flank of the Santa Monica Mountains. The CSUCI campus lies 2.5 miles south of the city of Camarillo, northeast of the intersection of Lewis and Potrero Roads, and east of Calleguas Creek. Primary access to the CSUCI campus is provided by U.S.

Highway 101 to the north, via Lewis Road and Camarillo Street, or by U.S. Highway 1 to the southwest, via Las Posas Road and Hueneme Road to Lewis Road and University Drive. Figure 1 shows the location of the project site in its regional context. Figure 2 shows the geographic area of the project site.

6. Land Use Designation and Existing Setting

The CSUCI campus is not subject to County of Ventura planning and land use policies. However, the County of Ventura General Plan land use designation of the project site as Agricultural is provided for information purposes (County of Ventura 2016). The General Plan land use designations for lands immediately surrounding the project site include “State or Federal Facility” to the south and east, and “Agricultural” to the north and west.

The project site is fallow farmland and is predominantly undeveloped, although an inactive agricultural well pump house currently exists near the middle of the project site. Access to the site is from Old Lewis Road, paralleling Lewis Road, accessed off of Potrero Road, and farm roads that directly access the project site gates. Old Lewis Road is a frontage road that is gated to prevent public access. The site is relatively flat, ranging from approximately 40 to 45 feet above mean sea level. Based on a review of historical aerial photographs, the site and surrounding areas have been intensively used for agriculture and disturbed since at least 1947. The parcel was tilled in 2019 for vegetation maintenance purposes. As such, vegetation within the project site is sparse and mainly consists of weedy non-native ruderal species. Photos of the project site and surrounding area are shown in Figure 3.

7. Surrounding Land Uses

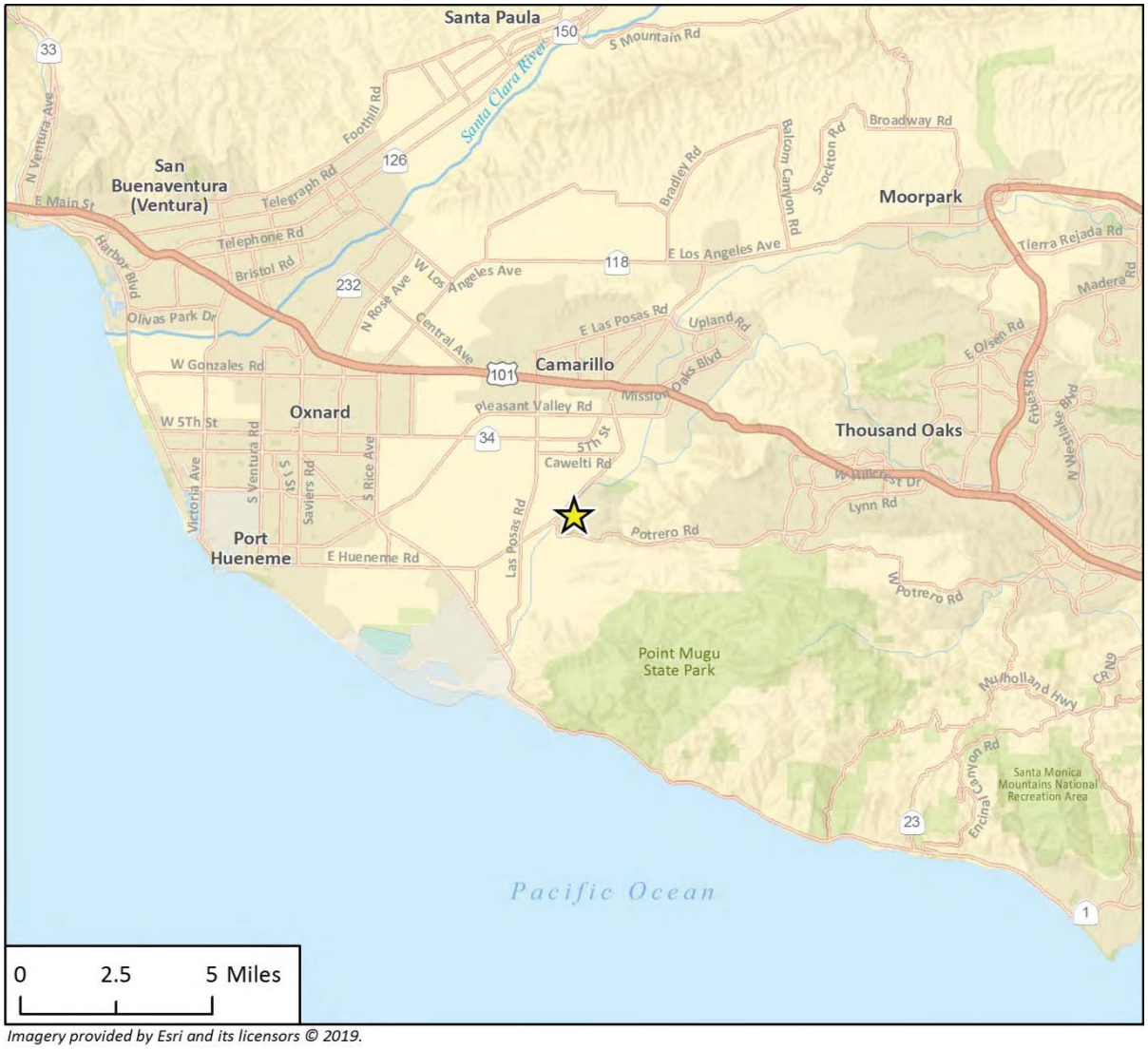
As shown in Figure 1 the project site is located in unincorporated Ventura County within the CSUCI campus. The surrounding land uses are predominantly agricultural to the north and west, and institutional (including the CSUCI core campus) to the east and southeast. Round Mountain and the Camrosa Water District Round Mountain Water Treatment Plant are located south of the project site.

8. Description of Project

The project involves the installation of a 3.75-megawatt (MW) ground mounted, fixed tilt solar photovoltaic (PV) system. In fiscal year 2018 to 2019, CSUCI used a total of 12,348 megawatt-hours (MWh) of electricity. The solar PV array has an annual estimated production of 8,289 MWh, which would offset approximately 67 percent of the current electrical energy demand of CSUCI facilities.

The solar PV system would consist of solar PV modules mounted on fixed tilt racking, inverters, and electrical equipment (e.g. switchboards, transformers, and meters). The solar PV modules would be manufactured at an off-site location and transported to the project site via truck. Solar PV panels and equipment would be located on piles ranging from heights of approximately 9 feet above ground at the southern edge of the project site to 4 feet above ground at the northern edge of the project site. Solar PV panels would be located on piles driven into the ground to depths of 10 to 14 feet and supports would be bolted onto the piles. The solar PV modules would extend an additional 4.5 feet above the piles. Modules would be designed to minimize glare using an anti-reflective

Figure 1 Regional Location



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Project Location

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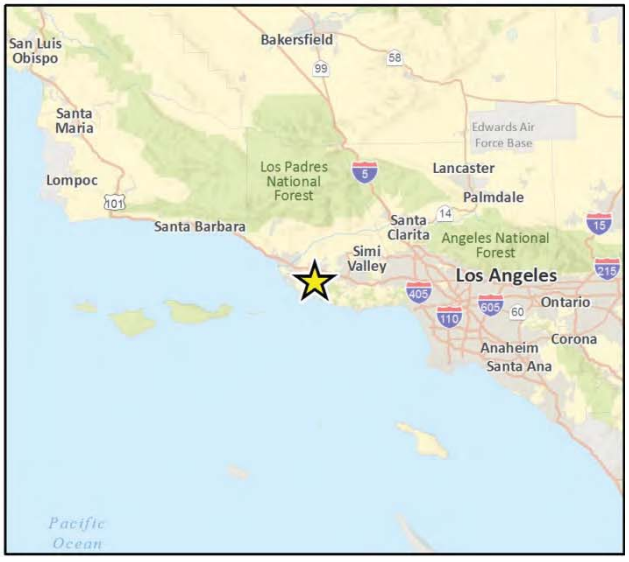

Figure 2 Project Location

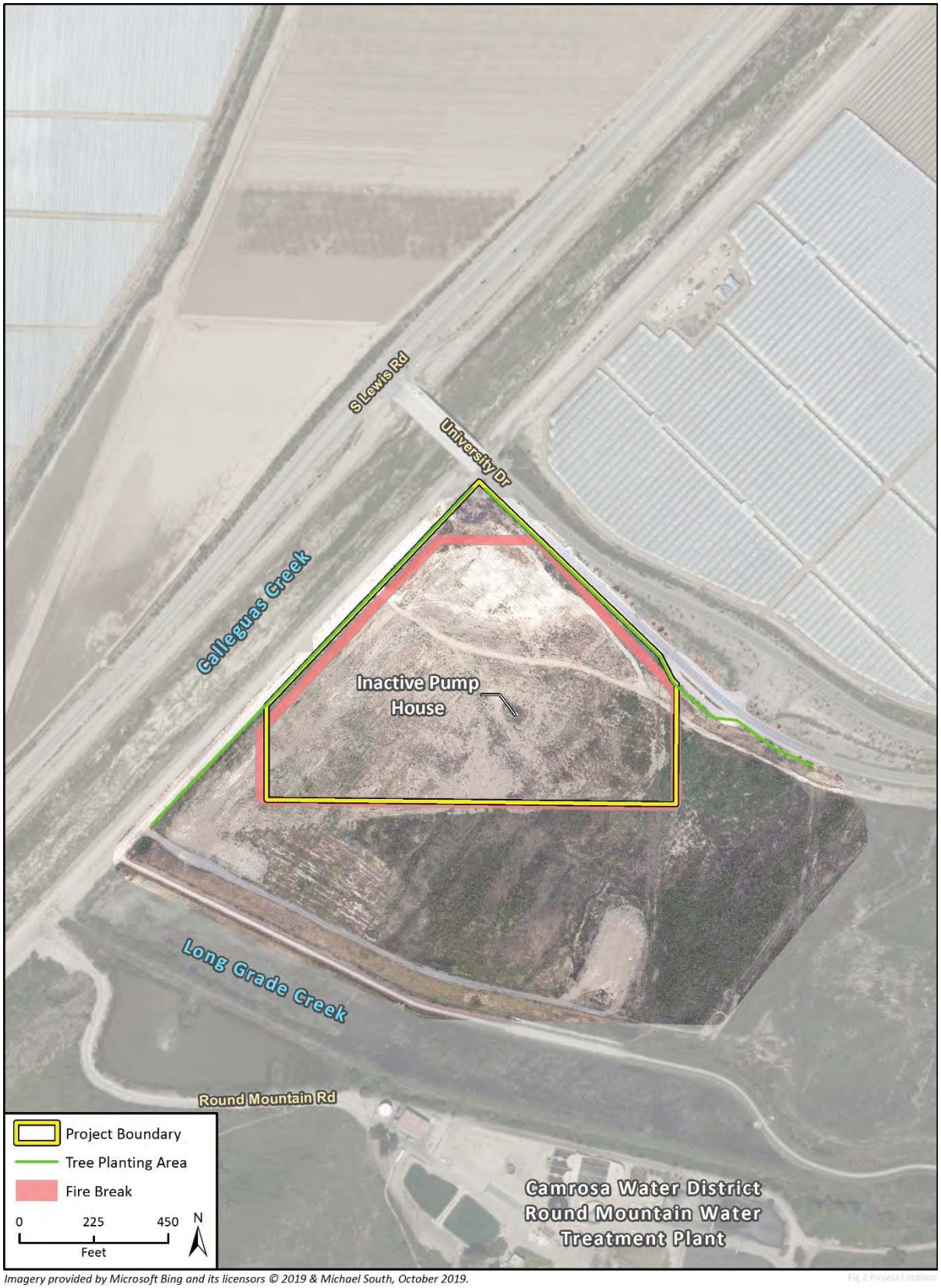

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Figure 3 Photo Point Map and Photos of Project Site and Surrounding Land Uses

Imagery provided by Microsoft Bing and its licensors © 2019

Photograph 1. View east from Lewis Road across the project site towards the CSUCI campus and the western edge of the Santa Monica Mountain range.

Photograph 2. View northeast from Lewis Road across the Oxnard Plain. Source: Google Earth 2019.

Photograph 3. View southwest from near University Drive across the project site towards Round Mountain. Inactive pump house (to remain) located within project site visible on right.

Photograph 4. View west from near University Drive across the project site towards Lewis Road. Inactive pump house (to remain) located within project site visible on left.

Photograph 5. View of the inactive pump house (to remain) within the project site.

Photograph 6. View northeast from Lewis Road across Calleguas Creek towards intersection of University Drive and Lewis Road, adjacent to the project site.

Photograph 7. View northwest across Lewis Road towards the Oxnard Plain.

Photograph 8. View east from the intersection of Lewis Road and University Drive towards agricultural hoop houses located north of the project site (on the northern side of University Drive).

Photograph 9. View northeast from the intersection of Lewis Road and University Drive towards Camarillo.

coating. Manually-controlled lights would be installed at equipment stations. Lighting would be shielded and downward-facing to avoid light spilling on to surrounding properties.

Electrical equipment would be clustered in two locations, one adjacent to the inactive pump house in the middle of the array, and the other location along the northeastern edge of the project site. The inactive pump house would remain. The electrical equipment would be located on pads approximately six to eight feet above the ground.

Twenty-foot-wide, unpaved access roads would be constructed along the perimeter of the project site and between the solar PV arrays to provide access for maintenance. The site plan is included in Figure 4a and Figure 4b. Renderings of the solar PV array over open ground are shown in Figure 5 and Figure 6. Renderings of each electrical equipment pad are shown in Figure 7 and Figure 8. Figure 9 shows an example of a complete solar PV array.

The project proposes six-foot-high perimeter fencing with barbed wire and access gates around the solar PV array and equipment. Additionally, six- to eight-foot-tall toyon trees would be planted along 1,400 linear feet of the project site's northern boundary and 1,300 linear feet of the western boundary to obscure views of the solar PV panels from the adjacent roads (South Lewis Road and University Drive) and agricultural uses. The location of the toyon tree plantings are depicted in Figure 2.

Ground-disturbing activities associated with the project include vegetation clearing prior to construction, surface grading along access roads within the project site, trenching to connect the solar PV system to existing CSUCI switchgear as a point of connection (POC) on campus, minor grading to create two raised pads for electrical equipment, installation of a fence and associated landscaping. The CSUCI switchgear feeds to the campus main switchgear, which then feeds to the Southern California Edison (SCE) sub-station on campus. The project would utilize existing conduits running alongside University Drive, adjacent to the project site, to connect the solar PV system to the preferred POC. Approximately 200 to 300 feet of trenching and conduit routing will be required to get from the solar PV array station to the vault where existing conduits begin on University Drive.

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Figure 4a Site Plan

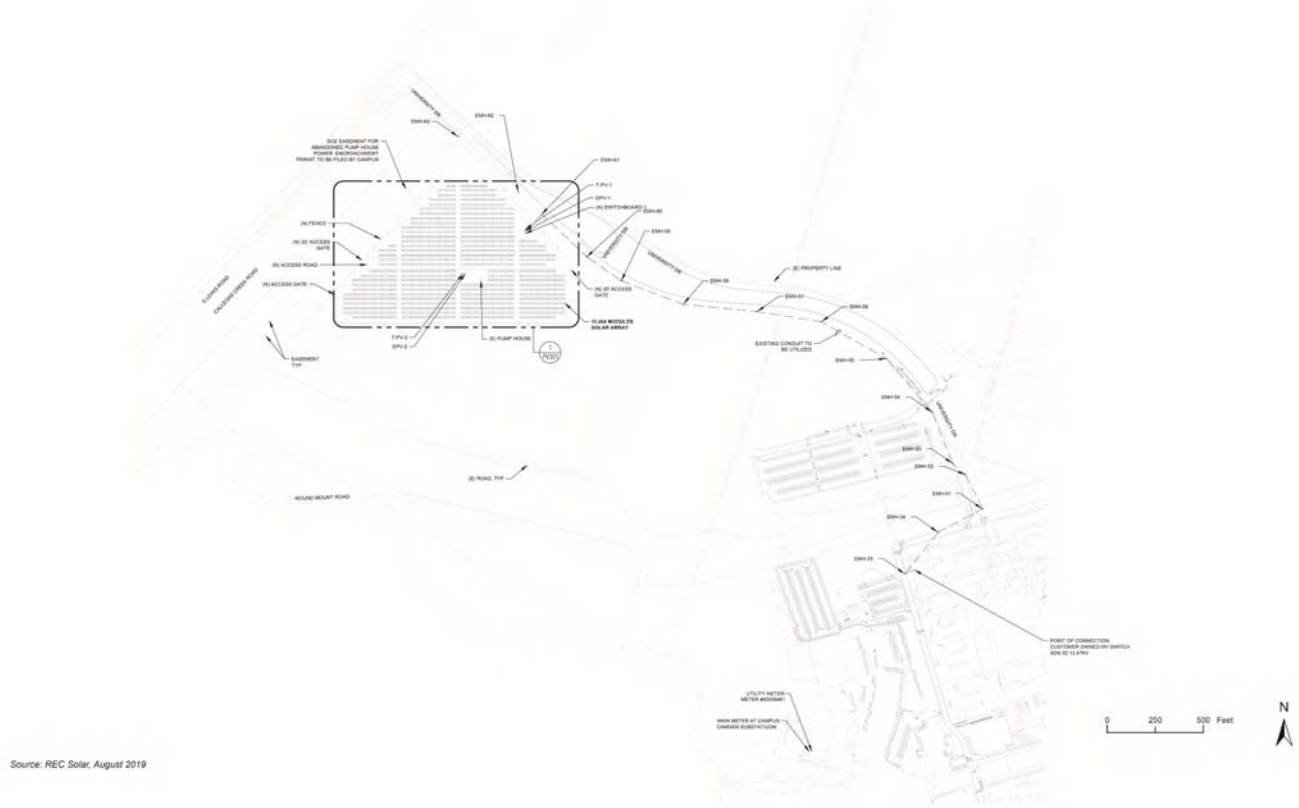

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Figure 4b Site Plan

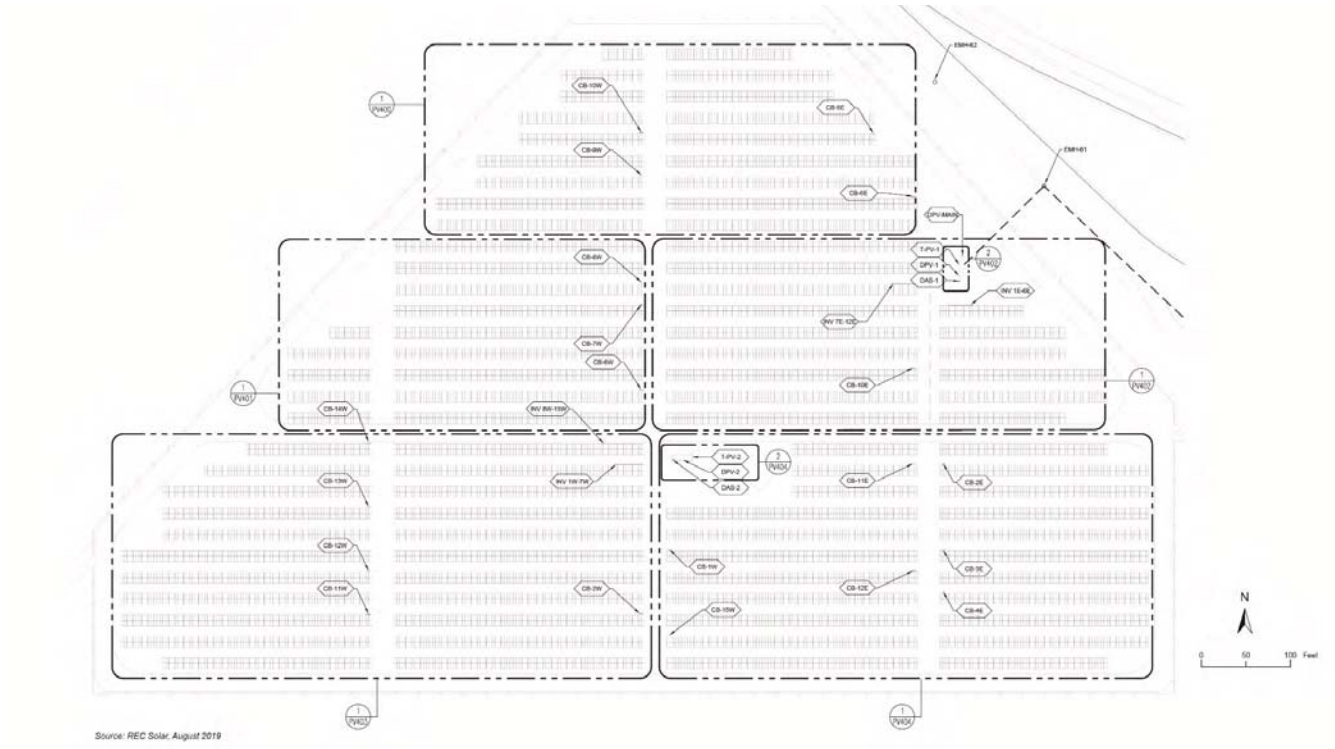

Figure 5 Rendering of Solar PV Array Over Open Ground

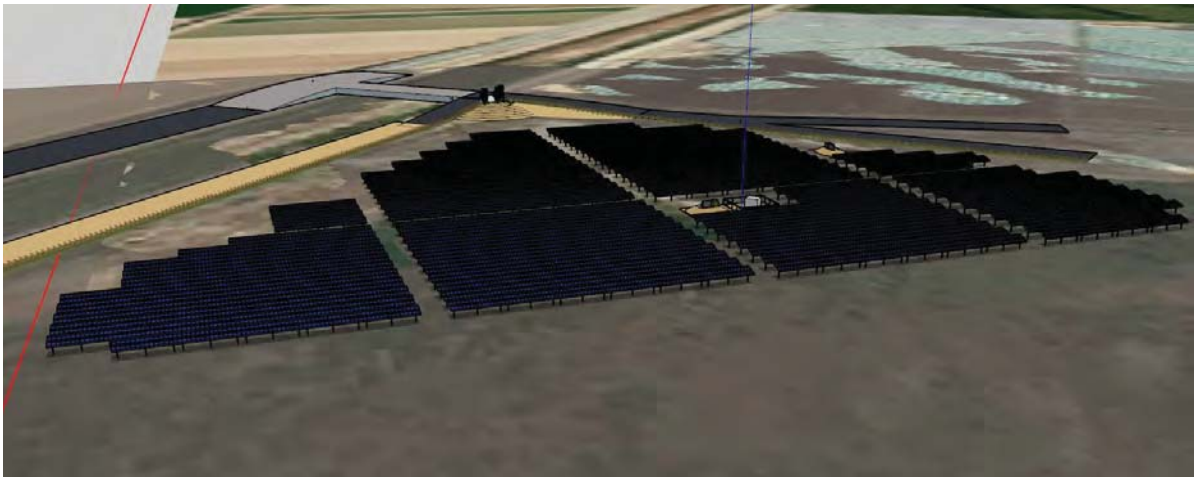

Figure 6 Rendering of Solar PV Array Over Open Ground

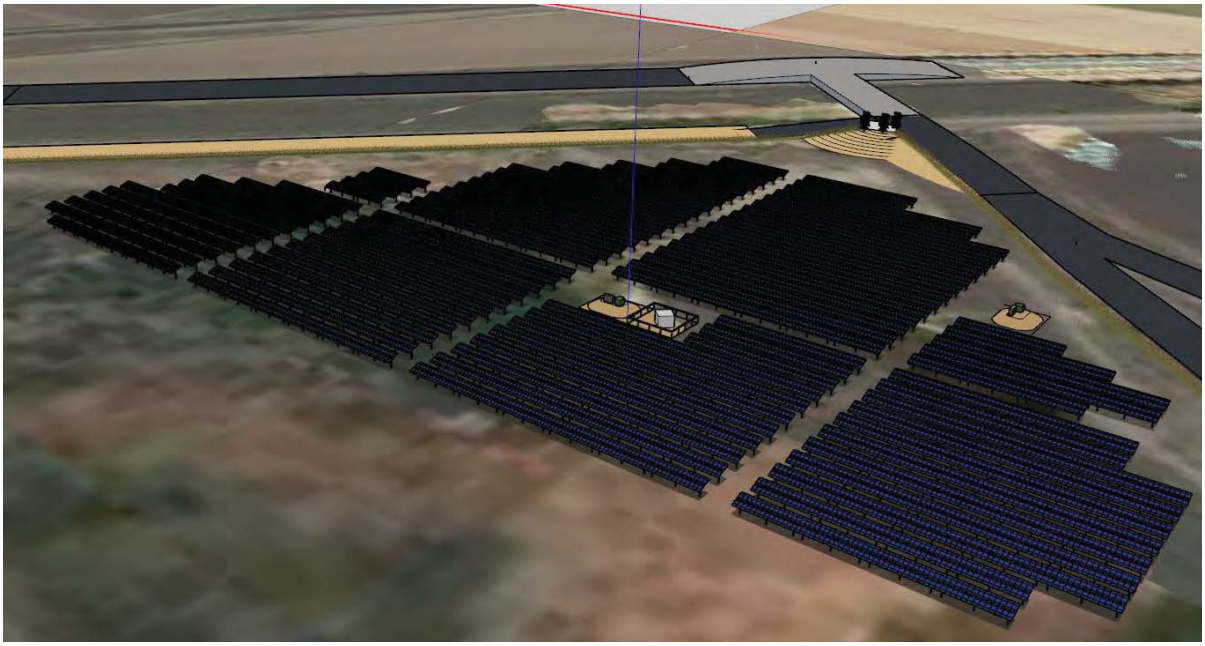

Figure 7 Rendering of Electrical Equipment Pad (Switchboard 1)

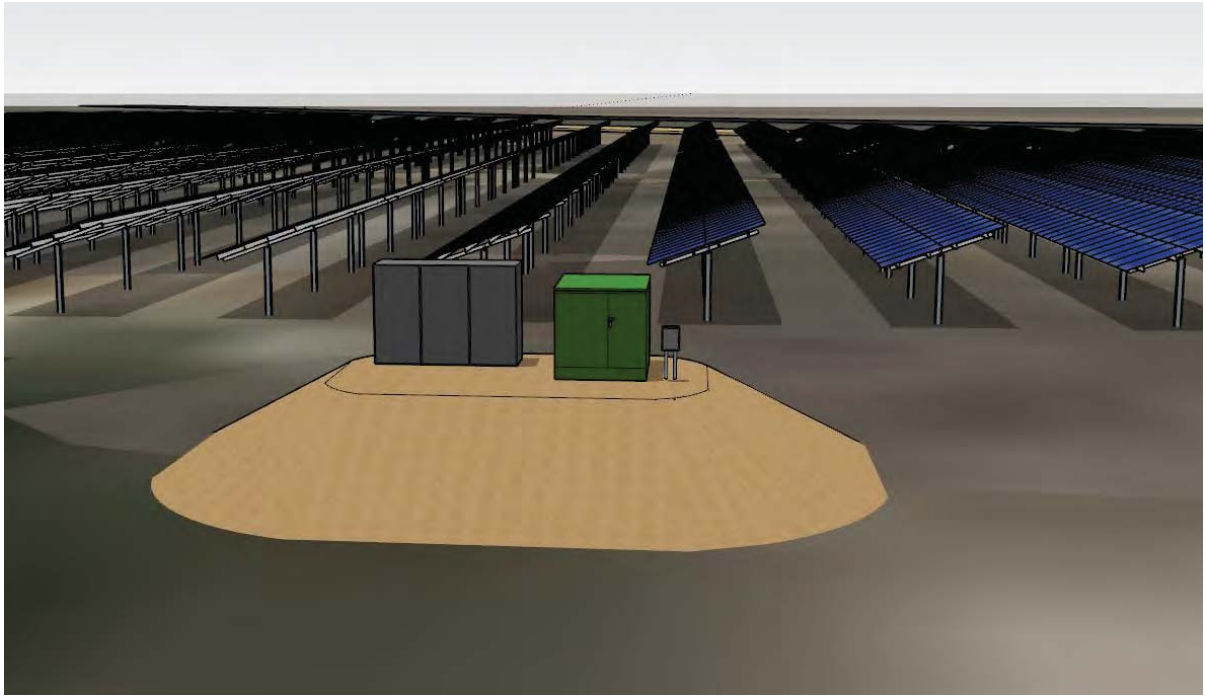

Figure 8 Rendering of Electrical Equipment Pad (Switchboard 2)

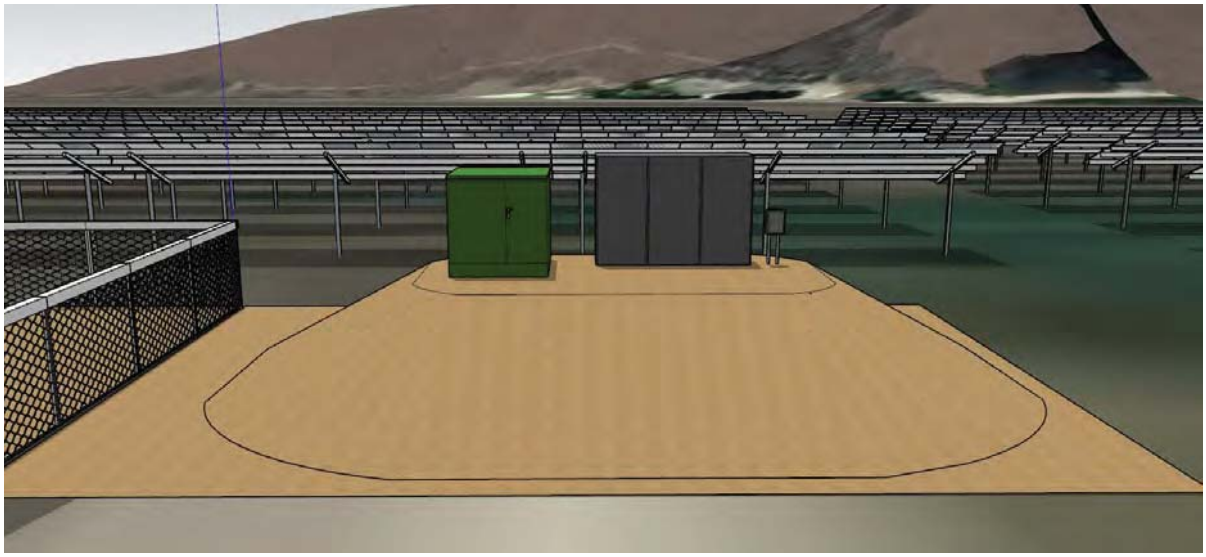

Figure 9 Example of Solar PV Array Over Open Ground

Project Construction and Schedule

Construction would include three phases:

- Site preparation
- Pile driving
- Solar PV system, equipment, and conduit installation

Construction activities would occur for eight to ten hours per day. Construction would generally occur five days per week, Monday through Friday. Construction contractors would limit noise-generating activities to daytime hours between 7 a.m. and 7 p.m. Construction would take up to seven months and is anticipated to begin in September 2020 and end by June 2021. The project site is generally flat, and minimal grading, fill, compaction, and erosion control would be required to accommodate the placement of the solar PV arrays, equipment pads, and access roads.

The list of construction equipment outlined in Table 1 is derived from construction information for similar-scale solar projects.

Table 1 Construction Equipment by Phase

Phase	Equipment Type
Site Preparation	Rubber Tired Dozer
	Grader
	Roller
	Sweeper
	Utility Truck
	Water Truck
	Wheel Loader
Pile Driving	Crane
	Drill Rig
	Reach Forklift
	Shop Forklift
	Sweeper
	Tractor/Backhoe/Loader
	Water Truck
Solar PV system, equipment, and conduit installation	Air Compressor
	Crane
	Sweeper
	Tractor/Backhoe/Loader
	Trencher
	Reach Forklift
	Shop Forklift
	Utility Truck
	Water Truck

Operation

Operation of the proposed project would be automated and unstaffed. Production, system health and on-site weather data would be monitored and gathered electronically. Vegetation within the project site would be maintained by livestock grazing or other non-mechanical control techniques. Alternatively, a weed trimmer may be used within the fenced solar PV array area. Outside the fence, the campus would plan to maintain a thirty-foot-wide fire break using similar maintenance techniques to protect the solar PV array against wildfire damage.

Washing of the solar PV panels to remove debris and improve energy production would be required up to two times per year. Maintenance would require temporary staffing on-site and use of a water truck. Based on an anticipated annual energy production of 8,289 MWh, approximately 273,000 gallons of water would be required annually for panel washing.

The project does not include on-site restroom facilities because there would be no occupied facilities or permanent on-site personnel. Therefore, no wastewater would be generated on the project site. Additionally, no water service would be constructed for the project, as water required during construction and operation activities would be delivered to the site via water trucks as needed. The proposed toyon trees to be planted along portions of the parcel boundary would be

temporarily irrigated with recycled water until established. Irrigation would be run on the surface and would connect to an irrigation system, which currently exists along University Drive.

The project site is located in the FEMA floodplain for Long Grade Creek, an earthen channel constructed for flood control purposes south of the project site. During heavy rain or flood events, there is a lift station to transport accumulated runoff from the project site into a recharge basin operated by CSUCI, which is part of Long Grade Canyon Creek. If the recharge basin is full, the excess runoff exits through a floodgate into Calleguas Creek. Normally annual rains only inundate the southeastern portion of the parcel area, which is pumped out automatically, without reaching the project site. Only an extreme rainfall event would flood the project site temporarily, until the lift station finished pumping the water out to Calleguas Creek. The bottom of the solar PV modules, inverters, and all electrical gear are located one foot above the maximum water inundation level in the recharge basin, which is at a height of approximately 47.5 feet above mean sea level. The project surveyor determined that the spill-over point at the Calleguas Creek levee is the maximum flood level before floodwaters would spill into the Oxnard Plain, which is located at a lower elevation than the project site and surrounding floodplain.

An existing off-site campus operations center would continuously monitor the production and condition of the solar PV system. The operations center would dispatch maintenance staff to the site on an as-needed basis. In the event of a system alarm or identified system health issue, operations center staff would issue work orders for on-site maintenance.

Decommissioning

At the end of the proposed project's useful life (anticipated to be 30 to 40 years), the equipment owner would decommission or repower the project based on further discretionary review.

Currently, standard decommissioning practices include dismantling and repurposing, salvaging/recycling, or disposing of the solar energy improvements. However, actual decommissioning and site restoration for the project would be conducted in accordance with all applicable requirements in effect at the time of project decommissioning, and a final decommissioning plan, based on then-current technology, site conditions, and regulations, would be prepared prior to actual decommissioning.

Under current standard decommissioning practices, solar PV modules are removed, collected, and can be recycled. Some or all of the components (i.e., aluminum and steel components) are salvaged and/or recycled, as feasible. Components which cannot be salvaged are removed and disposed of in accordance with applicable laws and regulations.

Project decommissioning, which would occur after 30 years or more, could potentially result in other environmental effects, depending on site-specific environmental conditions and the specific actions which would occur as part of decommissioning. The need for supplemental environmental review would be assessed at the time decommissioning is proposed based on then-current planning and environmental regulations.

9. Other Public Agencies Whose Approval is Required

Project access requires review and approval by the California State Fire Marshal. In addition, the Ventura County Watershed Protection District would review the Project because it proposes structures in a floodplain.

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Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact, which is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

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

Determination

Based on this initial evaluation:

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

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

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

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

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

Signature — Date: DEC. 9, 2019

ISABEL TRINIDAD — Printed Name

VP BUSINESS — Title

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	■	☐
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	■	☐
c. 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 a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	■	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	■	☐

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

CSUCI is not subject to County planning and land use regulations or policies, such as those found in the County of Ventura General Plan. A discussion of County-designated scenic resources is provided here for information purposes. The General Plan highlights specific areas in the region that are eligible for listing or designated as scenic resource areas. These include areas near lakes and those visible from parts of State Route 33 (County of Ventura 2011). The nearest lake, Lake Sherwood, is in Thousand Oaks, more than 12 miles from the campus. State Route 33 is situated more than 30 miles from the CSUCI campus. These distances prevent designated scenic resource areas or specific scenic vistas from being visible from or near the CSUCI campus. Designated scenic vistas would not be affected by the project.

Looking south from the project site, the hills and ridgelines of the western edge of the Santa Monica Mountains dominate the view. This ridgeline forms a natural boundary between Thousand Oaks and the rest of the Conejo Valley. The CSUCI campus and project site are in a small valley flanked by

mountainous features ranging from roughly 400 feet to over 1,000 feet in elevation. The dramatic rise from the lower elevation where the campus is located creates an impressive visual backdrop for CSUCI, particularly when the hillsides are green from winter rains and spring blooms. The east/west mountain range parallels Lewis Road, and provides a sense of place for travelers moving between Camarillo and the Pacific Ocean (see Figure 3, Photograph 1).

Looking north from Lewis Road and the campus, the Topa Topa mountain range is visible on the distant horizon and similarly forms a notable context for the Oxnard Plain that spans the distance between the campus and the more developed areas of Ventura County (Oxnard, Ventura, etc.). The image in Figure 3, Photograph 2 shows the mountain range in the distance, as it is visible from Lewis Road at the intersection with University Drive, travelling east.

From Lewis Road, University Drive provides central ingress and egress to the campus and the project site to the north. Potrero Road offers access to the project site from the south, after it connects to Calleguas Creek Road, which parallels Lewis Road, south of the drainage canal (see Figure 2). University Drive continues to the campus, ending at Santa Barbara Avenue and the northernmost campus buildings. The entire campus, including the ring road formed by the campus core streets, is landscaped with mature trees and large bushes that insulate the campus visually from the off-site views. Furthermore, the topography is relatively flat within the campus core. Because the project site is closer to the main road entrances described above than it is to the campus itself, the project would not be visible from the main gate or the rest of the campus.

Even though the project site is not part of an officially designated scenic vista, it would occur in an area marked by visually important landscape features. Nevertheless, it would not form a barrier to the visibility of these features nor would it be visible from the campus such that it would interrupt views from there. Impacts would, therefore, be less than significant. Section 18, *Tribal Cultural Resources*, provides a discussion of the project's potential visual impacts with respect to views from Round Mountain.

LESS THAN SIGNIFICANT IMPACT

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

c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a 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?

The project site is located on vacant land at the entrance to the CSUCI core campus. The parcel was last tilled in 2019 for vegetation maintenance. Figure 3, Photograph 4 shows that vegetation is sparse and primarily consists of weedy, non-native, ruderal species. No scenic resources, such trees, rock outcroppings, or historic buildings, occur on the project site. Furthermore, no state-designated scenic highways occur near the project site, although U.S. 101 is eligible for designation through portions of Ventura County (California Department of Transportation [Caltrans] 2017). Nevertheless, the project site is too far from the highway, at a little more than 5 miles away, to be visible from U.S. 101.

Both Lewis Road and Potrero Road are listed in the County's General Plan as eligible for listing as County-designated scenic highways (County of Ventura 2011). Both of these roads provide the public viewpoints with the greatest potential for direct views of the project site. Views of the project

site from Potrero Road are limited, however, as the distance from the roadway to the project site is more than 1,600 feet. Furthermore, Round Mountain, Peanut Hill, and other unnamed hills along the south end of campus block views of the project site from much of Potrero Road in the project vicinity. The project site is visible from Lewis Road, although it is located at a generally lower elevation than the roadway, and the expanse between the roadway and the hillsides is unobstructed. Image 1 in Figure 10 provides a panoramic image of the project site viewed from Lewis Road, where the rolling form of the highest hills is prominently visible in its current state.

As previously stated, the solar PV system would be installed on piles ranging from four feet to nine feet above ground with an additional 4.5 feet in height for the panels. The total height would range from 8.5 to 13.5 feet above ground. Associated electrical equipment would be on pads and would rise 6 to 8 feet above ground. Refer to Figure 5 through Figure 8 for renderings of the proposed array and electrical equipment. Figure 9 presents an example of a solar PV array installed at a similar type of site.

Figure 10 depicts a visual simulation of the proposed solar PV arrays from Lewis Road (Image 2) in comparison to the current view from Lewis Road without the proposed project (Image 1). The simulation shows that the low height of the panels would not impact views of the Santa Monica Mountains from the project site or from Lewis Road. Furthermore, the project proposal includes the planting of approximately 200 toyon shrubs along the northern and western perimeters of the site (see Section 8, *Description of Project*). Although the shrubs would require three to five years to mature, at that time they would reach a height of six to eight feet, softening the direct line of sight to the array, while leaving views of the hillsides from the roadway unobstructed.

Finally, adjacent land uses feature agro-industrial equipment, such as hoop houses and other equipment, visible in Figure 3, Photograph 8. Other developed features include roadway overpasses, gates, and signage associated with transportation uses and the campus (Figure 3, Photograph 9). The proposed solar PV array would have a similar visual character to that of the surrounding land uses and would therefore not present a substantial degradation of the visual character when completed. Figure 10 offers a visual simulation of the project when installed, and while the tops of the panels are visible above the proposed landscaping, they do not create a substantial degradation to the site as it looks today. Project implementation would not degrade the existing visual character or quality of public views of the site and its surroundings, nor would the project substantially damage scenic resources within a state scenic highway. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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Figure 10 Photo of Project Site from Lewis Road and Visual Simulation of Project from Lewis Road

Image 1. Photo of Project Site from Lewis Road

Image 2. Visual Simulation of Project Site with Proposed Solar Array from Lewis Road

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

The CSUCI campus is located approximately 3.5 miles northeast of Naval Base Ventura County Point Mugu. As identified in the Naval Base Ventura County Joint Land Use Study (JLUS; Ventura County Transportation Commission 2014), man-made lighting (street lights, airfield lighting, building lights) and glare (direct or reflected light) disrupts vision. Light sources from commercial, industrial, recreational, and residential uses at night can cause excessive glare and illumination, impacting the use of military night vision devices and air operations. Light pollution from development can make it difficult for night training to occur effectively. The JLUS does not provide a geographic area within which increased light or glare could result in impacts on nighttime flight training operations. Instead the JLUS recommends the development of standard conditions of approval to protect night skies from significant increases in ambient light and glare, including design requirements to ensure lighting is limited to illuminating the site in question (no spill over lighting), light is directed downward, and fixtures are shielded, as well as restrictions on uplighting (specific siting locations of lighting fixtures so wasted light is not reflected upwards). The project site is not located near any land uses that may be sensitive to glare, such as trails or residences. The project site is located over 1,000 feet from the non-public trail on Round Mountain, 1,750 feet from the nearest academic building (Modoc Hall), and 3,600 feet from the nearest residential area (student housing at Anacapa Village).

Security lighting is not currently proposed for fence lines or interior roads. Therefore, the project would have no impacts related to lighting. The reflection of sunlight off solar PV panel surfaces would be the primary source of potential glare from the project. Reflection of headlights or roadway lighting from nearby University Drive and Lewis Road off solar PV panel surfaces during nighttime hours would be a secondary source of potential glare from the project; however, these light sources are over 50 feet from the proposed solar PV panel locations and are located at higher elevations. Moreover, solar PV panels consist of many solar cells, which are designed to capture solar energy in order to convert it into usable energy. Therefore, solar PV panels are designed to be as absorptive as feasible in order to maximize the efficiency of energy production. Additionally, solar PV panels typically are covered with a tempered glass layer treated with an anti-reflective coating, which further reduces the reflectivity of the panels. When compared to common reflective surfaces, solar PV panels without an anti-reflective coating are found to produce around the same amount of reflectivity as water, which is about half the amount of reflectivity as standard glass commonly used in residential or commercial applications (Shields 2010). If an anti-reflective coating is applied to the solar PV panels, the reflectivity of the panels would be further reduced to substantially less than the reflectivity of water. Therefore, the proposed project would not be a source of substantial light or glare that would adversely affect daytime or nighttime views, including nighttime flight training from the Naval Base Ventura County Point Mugu.

LESS THAN SIGNIFICANT IMPACT

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2 Agriculture and Forestry Resources

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

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

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

The project site is currently vacant and not actively used for agricultural activities. However, according to the California Department of Conservation's (2016) Farmland Mapping and Monitoring Program (FMMP), the project site is classified as Farmland of Local Importance. The project site is not identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The FMMP classifications surrounding the project site include Urban and Built-Up Land and Other Land

to the south, east, and west, and Prime Farmland to the north. Land to the north currently contains hoop houses, typically used to grow berries.

The project site is not currently under a Williamson Act land use contract. Therefore, the project would not conflict with any existing zoning for agricultural use or Williamson Act contracts.

NO IMPACT

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

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

The project site and the surrounding area are not designated or zoned as forest or timberland. No impact would occur.

NO IMPACT

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

Construction of the project would involve ground-disturbing activities, including vegetation clearance prior to construction and trenching to connect the solar PV system to an existing SCE POC, followed by installation of above-ground solar PV systems and planting of trees along two perimeters. Installation of above ground solar PV systems would not cause long-term impacts to the soil of the site, such as through permanent paving or substantial soil removal. In addition, during project operation vegetation within the project site would be maintained by livestock grazing or other non-mechanical control technique. Because both construction and operation of the project would only temporarily impact soil, it would not permanently convert Farmland of Local Importance to a non-agricultural use. In addition, the project would not result in the conversion of nearby farmland to non-agricultural uses because it would not introduce uses on the project site that are incompatible with nearby agricultural uses, such as residents or school uses, which may be adversely affected by agricultural operations (dust generation, odors, or pesticide use).

LESS THAN SIGNIFICANT IMPACT

3 Air Quality

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

Setting

The project site is located in the portion of the South Central Coast Air Basin (the Basin) under the jurisdiction of the Ventura County Air Pollution Control District (VCAPCD). As the local air quality management agency, VCAPCD is required to monitor air pollutant levels for conformance with applicable air quality standards and, if they are not met, to develop strategies to meet the standards.

Depending on whether or not the standards are met or exceeded, the Basin is classified as being in "attainment" or "nonattainment." VCAPCD has determined Ventura County is in nonattainment for both the federal and state standards for ozone and state standards for particulate matter less than 10 microns in diameter (PM_{10}). Thus, the Basin currently exceeds several state and federal ambient air quality standards and is required to implement strategies, which would reduce pollutant levels to recognized acceptable standards. In 2017, VCAPCD adopted an Air Quality Management Plan (AQMP), which provides a strategy for the attainment of federal air quality standards.

The most recent VCAPCD comprehensive publication regarding air quality assessment is the *Ventura County Air Quality Assessment Guidelines* (VCAPCD Guidelines; 2003). The VCAPCD Guidelines recommend significance thresholds for projects proposed in Ventura County. As outlined in the VCAPCD Guidelines, impacts are considered significant if a proposed project would:

- Generate daily emissions exceeding 25 pounds of reactive organic compounds (ROC)[1] or nitrogen oxides (NO_X)
- Be inconsistent with goals and policies of the Ventura County AQMP

[1] Reactive organic compounds (ROC) and reactive organic gases (ROG) are used interchangeably. This analysis uses the term "ROC" to refer to these criteria pollutants because it is the term used by VCAPCD.

- Create a human health hazard by exposing sensitive receptors to toxic air emissions
- Create objectionable odors affecting a substantial number of people
- Cause an exceedance or make a substantial contribution to an exceedance of an ambient air quality standard
- Directly or indirectly cause the existing population to exceed the population forecasts in the most recently adopted AQMP

The VCAPCD Guidelines consider projects generating more than 25 pounds per day of ROC and NO_X to jeopardize attainment of the federal and state ozone standard and thus have a significant impact on air quality. The 25 pounds per day thresholds for ROC and NO_X do not apply to construction emissions because they are temporary.

The VCAPCD has not established quantitative thresholds for particulate matter either for operation or construction. However, according to the VCAPCD, a project may have a significant air quality impact if it: generates fugitive dust emissions in such quantities as to cause injury, detriment, nuisance, or annoyance to any considerable number of persons; endangers the comfort, repose, health, or safety of any such person; or causes or has a natural tendency to cause injury or damage to business or property. This threshold is particularly applicable to the generation of fugitive dust during construction.

Applicable VCAPCD Rules and Regulations

The VCAPCD implements rules and regulations for emissions generated by various uses and activities. The rules and regulations detail pollution-reduction measures, which must be implemented during construction and operation of projects. Relevant rules and regulations to the project include those listed below.

Rule 50 (Opacity)

This rule sets opacity standards on the discharge from sources of air contaminants. This rule would apply during construction of the proposed project.

Rule 51 (Nuisance)

This rule prohibits any person from discharging air contaminants or any other material from a source that would cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public or which endangers the comfort, health, safety, or repose to any considerable number of persons or the public. The rule would apply during construction and operational activities.

Rule 55 (Fugitive Dust)

This rule requires fugitive dust generators, including construction and demolition projects, to implement control measures limiting the amount of dust from vehicle track-out, earth moving, bulk material handling, and truck hauling activities. The rule would apply during construction and operational activities.

Rule 55.1 (Paved Roads and Public Unpaved Roads)

This rule requires fugitive dust generators to begin the removal of visible roadway accumulation within 72 hours of any written notification from the VCAPCD. The use of blowers is expressly

prohibited under any circumstances. This rule also requires controls to limit the amount of dust from any construction activity or any earthmoving activity on a public unpaved road. This rule would apply throughout all construction activities.

Rule 55.2 (Street Sweeping Equipment)

This rule requires the use of PM_{10} efficient street sweepers for routine street sweeping and for removing vehicle track-out pursuant to Rule 55. This rule would apply during all construction activities.

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

The VCAPCD Guidelines state project consistency with the AQMP can be determined by comparing the proposed project population projections and the actual population growth in the county with the projected growth rates used in the AQMP. The CSUCI campus lies in an aggregated non-growth area (AGA) of Ventura County. According to the VCAPCD Guidelines, a consistency determination with the AQMP for projects in a non-growth area is based on actual population growth relative to projected growth (VCAPCD 2003).

The proposed project would involve the development of solar PV energy facilities on currently vacant land. There would be no permanent on-site personnel. The project would not result in an increase in population and therefore would not directly or indirectly cause the existing population in the area to exceed the population forecasts in the most recently adopted AQMP. Construction and operation of the proposed project would not conflict with or obstruct the implementation of the VCAPCD AQMP, and no impact would occur.

NO IMPACT

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

Project criteria pollutants emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2. CalEEMod was developed by the South Coast Air Quality Management District and is used by jurisdictions throughout California to quantify criteria pollutant emissions. Fugitive dust control measures required by VCAPCD Rule 55—including watering exposed areas and reducing vehicle speeds to 15 miles per hour on unpaved roads—were incorporated into the modeling of construction emissions as "mitigation." Other measures, such as those reducing emissions of ozone precursors, were not incorporated into the modeling of construction emissions, but would further reduce construction emissions beyond those presented in this analysis. For the purposes of modeling, the analysis relied on the following assumptions:

- **Construction Schedule.** Construction would take place between September 2020 and June 2021, with crews working five days per week. For modeling purposes, it was conservatively assumed construction activity would extend beyond the anticipated seven months and would occur throughout this period.
- **Vehicle Trips.** Up to 24 vendor trips would occur per day during the pile driving and installation construction phases. It was conservatively assumed up to 30 operational maintenance trips would occur per year for panel washing activities.

Construction Impacts

The proposed project would generate criteria pollutant emissions primarily during construction of the solar PV facility, which would include three phases: (1) site preparation; (2) pile driving; and (3) solar PV system, equipment, and conduit installation. Temporary construction emissions are associated with operation of heavy-duty diesel equipment and grading. Table 2 summarizes the maximum daily pollutant emissions generated by the project during construction.

Table 2 Construction Generated Air Quality Emissions

	Maximum Daily Criteria Pollutant Emissions (pounds per day)					
	ROC	NO_X	CO	SO_X		
Construction	3.2	25.1	21.9	<0.1	4.5	2.8

ROC: reactive organic compounds; NO_X: nitrogen oxides; CO: carbon monoxide; SO_X: sulfur oxides; PM_{10}: particulate matter less than 10 microns in diameter; $PM_{2.5}$: particulate matter less than 2.5 microns in diameter

See Appendix A for modeling details and CalEEMod results.

Notes: Emissions presented are the highest of the winter and summer modeled emissions. Emissions data is sourced from "mitigated" results, which incorporate emissions reductions from measures which would be implemented during project construction, such as watering of soils during construction required under Ventura County Air Pollution Control District Rule 55.

As discussed above, significance thresholds set by the VCAPCD for daily ROC and NO_X emissions apply to operational emissions and are not intended to be used to determine the significance of construction emissions, which are temporary. Because the air pollutant levels in Ventura County exceed the state and federal ozone standards and the state PM_{10} standard, the VCAPCD recommends all projects with construction activities adopt "Fugitive Dust Mitigation Measures" and "ROC and NO_X Construction Mitigation Measures," with special attention given to projects requiring a grading permit. The VCAPCD requires construction-related emissions to be mitigated if ROC and NO_X emissions exceed 25 pounds per day.

As shown in Table 2, the proposed project would result in a maximum daily NO_X emission of 25.1 pounds per day. Therefore, to reduce air quality impacts to a less than significant level, Mitigation Measures AQ-1 and AQ-2 would be incorporated. With mitigation, this impact would be less than significant.

Operation Impacts

Operation of the proposed project would be automated and unstaffed, requiring minimal ongoing maintenance. Panel washing maintenance activities would occur up to two times per year and involve the use of a water truck. As described in the *Project Description*, panel washing activities would require up to approximately 273,000 gallons of water per year. It was conservatively assumed up to 30 operational maintenance trips would occur per year for panel washing activities. Table 3 summarizes annual emissions generated during project operation.

Table 3 Operational Generated Air Quality Emissions

	Maximum Daily Criteria Pollutant Emissions (pounds per day)					
Operational Category	**ROC**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Area	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
Energy	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mobile	<0.1	<0.1	0.8	<0.1	0.2	<0.1
VCAPCD Threshold	**25**	**25**	**N/A**	**N/A**	**N/A**	**N/A**
Threshold Exceeded?	No	No	No	No	No	No

ROC: reactive organic compounds; NO_X: nitrogen oxides; CO: carbon monoxide; SO_X: sulfur oxides; PM_{10}: particulate matter less than 10 microns in diameter; $PM_{2.5}$: particulate matter less than 2.5 microns in diameter; VCAPCD: Ventura County Air Pollution Control District

See Appendix A for modeling details and CalEEMod results.

Notes: Emissions presented are the highest of the winter and summer modeled emissions.

As shown in Table 3, project emissions would not exceed VCAPCD's operational significance thresholds. Furthermore, the solar PV array would offset emissions, which would otherwise be produced by non-renewable sources of electricity. Emission offsets were estimated based on the proposed facility's estimated annual production (8,289 MWh), California's electric system power mix, and pollutant emission factors for non-renewable energy sources. Table 4 summarizes the project's net operational air quality emissions.

Table 4 Project Net Operational Air Quality Emissions

	Annual Criteria Pollutant Emissions (tons per year)					
	ROC	**NO_X**	**CO**	**SO_X**		
Operational Emissions	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Offset Emissions	0.0	0.8	0.1	0.1	<0.1	0.1
Project Net Emissions	<0.1	- 0.8	- 0.1	- 0.1	<0.0	<0.0

ROC: reactive organic compounds; NOX: nitrogen oxides; CO: carbon monoxide; SO_X: sulfur oxides; PM_{10}: particulate matter less than 10 microns in diameter; $PM_{2.5}$: particulate matter less than 2.5 microns in diameter

See Appendix A for modeling details and CalEEMod results.

Notes: Emissions presented are the highest of the winter and summer modeled emissions. Emissions data is sourced from "mitigated" results, which incorporate emissions reductions from measures, which would be implemented during project construction, such as watering of soils during construction required under VCAPCD Rule 55.

As shown in Table 3 and Table 4, the project would not result in a cumulatively considerable net increase of any criteria pollutant during operation for which the project region is in non-attainment under an applicable federal or state ambient air quality standard. Project operation activities would result in a less than significant adverse impact for ROC, PM_{10}, and $PM_{2.5}$ and a net beneficial impact for NO_X, carbon monoxide, and sulfur oxides.

Mitigation Measures

The following mitigation measures would be required to reduce impacts to air quality to a less than significant level.

AQ-1 Construction NO_X Emissions

The following mitigation measures shall be incorporated to reduce NO_X emissions during construction (based on the VCAPCD Guidelines, Section 7.4.3).

- Minimize equipment idling time
- Maintain equipment engines in good condition and in proper tune as per manufacturers' specifications
- Minimize the number of vehicles and equipment operating at the same time during the smog season (May through October), to the extent practicable
- Use alternatively fueled construction equipment, such as compressed natural gas, liquefied natural gas, or electric, to the extent practicable
- Incorporate the use of newer off-road equipment with Tier 4 engines, to the extent practicable

AQ-2 Construction Fugitive Dust Emissions

The following mitigation measures shall be incorporated to reduce construction emissions of fugitive dust (based on the Ventura County Air Quality Assessment Guidelines, Section 7.4.1).

- The area disturbed by clearing, grading, earth moving, or excavation operations shall be implemented in a manner to prevent excessive amounts of dust.
- Pre-grading/excavation activities shall include watering the area to be graded or excavated before commencement of grading or excavation operations. Application of water (preferably recycled, if available) should penetrate sufficiently to minimize fugitive dust during grading activities.
- All trucks shall be required to cover their loads as required by California Vehicle Code §23114.
- All graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways, shall be watered periodically to reduce fugitive dust. Watering shall be done as often as necessary and reclaimed water shall be used whenever practicable.
- Graded and/or excavated inactive areas of the construction site shall be monitored at least weekly for dust stabilization. Soil stabilization methods, such as water and roll-compaction, and environmentally-safe dust control materials, shall be periodically applied to portions of the construction site, which are inactive for over four days. If no further grading or excavation operations are planned for the area, the area should be seeded and watered until grass growth is evident, or periodically treated with environmentally-safe dust suppressants, to prevent excessive fugitive dust.
- Signs shall be posted on-site limiting traffic to 15 miles per hour or less.
- During periods of high winds, all clearing, grading, earth moving, and excavation operations shall be curtailed to the degree necessary to minimize fugitive dust created by on-site activities and operations from being a nuisance or hazard, either off site or on site. The Site Superintendent/Supervisor shall use his/her discretion in determining when winds are excessive.
- Adjacent streets and roads shall be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.
- Personnel involved in grading operations, including contractors and subcontractors, should be advised to wear respiratory protection in accordance with California Division of Occupational Safety and Health regulations.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

Carbon Monoxide

The VCAPCD defines sensitive receptors as facilities or land uses, which include members of the population particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of sensitive receptors listed in the VCAPCD Guidelines include schools, hospitals, and daycare centers (VCAPCD 2003).

The nearest sensitive receptor is the Carden Kids Preschool, located within the CSUCI core campus approximately 2,800 feet from the project site boundary. As discussed under item (b), project construction would result in emissions of criteria pollutants, including fugitive dust, ROC, and NO_X. However, such emissions would be temporary in nature and reduced through compliance with existing regulations, such as VCAPCD Rule 55.

Traffic-congested roadways and intersections have the potential to generate elevated localized carbon monoxide (CO) levels (i.e., CO hotspots). In general, CO hotspots occur in areas with poor circulation or areas with heavy traffic. VCAPCD monitoring stations throughout the county ceased monitoring ambient CO concentrations in March and July 2004 because existing CO levels in Ventura County have historically been low (VCAPCD 2010). The proposed project would require minimal operational maintenance trips, conservatively estimated at approximately 30 days per year. Therefore, the project would not result in CO hotspots on adjacent roadways, which would expose sensitive receptors to substantial pollutant concentrations and impacts would be less than significant.

Valley Fever

Valley Fever (formally known as Coccidiodomycosis) is an infectious disease caused by the fungus, Coccidioides immitis. The fungal spores grow in the top few inches of virgin, undisturbed soil, and are often found at the base of hillsides. Infection occurs when the fungal spores become airborne due to wind or other soil disturbance and the spores are inhaled. Most people who are exposed to Valley Fever fungal spores do not develop symptoms or have relatively mild flu-like symptoms. Others, however, can experience more severe symptoms, particularly individuals with a weakened immune system, who are of African-American or Filipino descent, or who are pregnant (Monterey 2014). The elderly may also be prone to more severe cases. Common symptoms include fever, cough, headache, rash, muscle aches, and joint pain. Symptoms of advanced Valley Fever may include skin lesions, chronic pneumonia, meningitis, bone or joint infection. Symptoms may appear between one and three weeks after exposure. Some patients have reported having symptoms for six months or longer, especially if the infection is not diagnosed early.

Valley Fever is common in arid and semiarid areas of the Western Hemisphere. In the United States, it is found primarily in the southwestern states (especially Arizona and Southern California). Valley Fever infection rates are the highest in California from June to November, when soils are typically very dry. Major events contributing to an increased movement of soil, such as earthquakes, which directly disturb soil, or fires, which can alter soil composition and make soil more airborne, can increase the risk of exposure to Valley Fever. Ventura County experiences an average of about 40 reported infections each year (VCAPCD 2003). However, the year of the Northridge earthquake, the number of reported cases rose to 243.

The fungal spores responsible for Valley Fever generally grow in virgin, undisturbed soil. Coccidioides is thought to grow best in soil after heavy rainfall and then disperse into the air most

effectively during hot, dry conditions. As previously described, the site and surrounding areas have been intensively used for agriculture and disturbed since at least 1947. The parcel was tilled in 2019 for vegetation maintenance purposes. Due to the previous and continuous soil disturbance at the site, disturbance of soils during construction activities is unlikely to pose a substantial risk of infection. In addition, compliance with VCAPCD Rule 55 and Mitigation Measure AQ-2, detailed above, during project construction activities would minimize fugitive dust and reduce the potential risk of Valley Fever infections to a less than significant level.

Following implementation of Mitigation Measure AQ-2, the project would not expose sensitive receptors to substantial pollutant concentrations and impacts would be less than significant.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

Operation of the solar PV array would not involve any sources typically associated with substantial odors, as listed in Section 2.7.2 of the VCAPCD Guidelines. Such sources include wastewater treatment facilities, food processing facilities, coffee roasters, fiberglass operations, refineries, feed lots/dairies, and composting facilities (VCAPCD 2003).

Project construction could generate odors associated with heavy-duty equipment operation and earth-moving activities. Such odors would be temporary in nature and limited to the four-month construction period. Furthermore, the project site is not adjacent to any sensitive receptors. The nearest sensitive receptor is Carden Kids Preschool, located within the CSUCI core campus approximately 2,800 feet from the project site boundary. Consequently, the proposed project would not generate emissions (such as those leading to odors) adversely affecting a substantial number of people. No impact would occur.

NO IMPACT

4 Biological Resources

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

Setting

Rincon Consultants, Inc. prepared a biological resource assessment for the proposed project in September 2019 (included as Appendix B). Data used for this analysis included United States Department of Agriculture Soil Survey for the project site; United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System: Information, Planning and Conservation System; USFWS Critical Habitat Portal; USFWS National Wetland Inventory; the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database; and the CDFW Biogeographic Information and Observation System. Other resources included the California Native Plant Society's (2019) Inventory of Rare and Endangered Plants of California. Aerial photographs, topographic maps, and soil survey maps in the area were also examined. Data obtained from a biological reconnaissance survey for special-status species was also utilized for this analysis. The potential presence of special-status species is based on a literature review and reconnaissance site visit designed to assess habitat suitability only.

The biological reconnaissance survey was conducted on May 22, 2019 and evaluated existing site conditions and the potential presence of special-status biological resources, including special-status plant and wildlife species, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, and habitat for nesting birds. The area surveyed consisted of an approximately 60-acre study area including the project site and surrounding parcel, which is depicted in the Biological Resource Assessment in Appendix B. Special-status plant and wildlife species include: 1) species listed as threatened or endangered under the Federal Endangered Species Act (species under review may be included if there is a reasonable expectation of listing within the life of the project); 2) species listed as candidate, threatened, or endangered under the California Endangered Species Act; 3) species designated as Fully Protected, Species of Special Concern, or Watch List by the CDFW; and 4) species designated as locally important by the Local Agency and/or otherwise protected through ordinance or local policy.

Existing Conditions

The study area is relatively flat, with elevations ranging from approximately 45 to 55 feet above mean sea level. It is situated within a former agricultural field which is periodically cleared of vegetation. Based on a review of historical aerial photographs, the site and surrounding areas have been intensively used for agriculture and disturbed since at least 1947. Soils on site consist of Camarillo loam; Camarillo loam, sandy substratum; Hueneme sandy loam; Hueneme loamy sand, loamy substratum; and Pacheco silty clay loam, none of which are hydric.

Vegetation is overall very sparse within the study area and primarily consists of weedy non-native ruderal species. Commonly encountered species included castor bean (*Ricinus communis*), black mustard (*Brassica nigra*), whitetop (*Lepidium draba*), and bristly ox-tongue (*Helminthotheca echioides*). One stand of mulefat scrub was observed. This plant community is dominated by mulefat (*Baccharis salicifolia*), with coyote brush (*Baccharis pilularis*) present as a sub-dominant species. The shrub layer is relatively open. Commonly encountered herbaceous species include whitetop and bristly ox-tongue. No sensitive vegetation communities were observed within the study area.

The study area provides habitat for wildlife species which commonly occur in Ventura County as well as some species typically found in or near riparian habitat. Avian species observed/detected during the reconnaissance survey include house finch (*Haemorhous mexicanus*), common yellowthroat (*Geothlypis trichas*), northern mockingbird (*Mimus polyglottos*), Anna's hummingbird (*Calypte anna*), and an unidentified swallow species. One California Species of Special Concern was observed during the survey: yellow-breasted chat (*Icteria virens*).

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

The literature review identified 12 special-status plant species and 18 special-status wildlife species within five miles of the study area. Special-status plant and wildlife species typically have very specific habitat requirements which are generally not found on the site.

Special-Status Plants

The majority of the study area contains very sparse vegetation and is regularly disturbed. Due to the lack of specific habitat types or suitable substrates as well as the high levels of historical and existing disturbance, special-status plant species are not expected to occur on the site. Therefore, no impacts to special-status plant species would occur.

Special-Status Wildlife

Of the 18 special-status wildlife species identified, 16 of these species are not expected to occur due to absence of suitable habitat. The remaining two wildlife species with potential to occur within the site are least Bell's vireo and white-tailed kite. In addition, yellow-breasted chat was observed in the mulefat scrub during the reconnaissance visit. Shrubs located within the study area provide suitable nesting habitat for common avian species. Bird nests and eggs are protected by California Fish and Game Code Section 3503 and the Migratory Bird Treaty Act.

The mulefat scrub habitat within the study area as well as within the adjacent Calleguas Creek and Long Grade Canyon Creek provides moderate quality foraging habitat for two special-status wildlife species:

- Least Bell's vireo (*Vireo bellii pusillus*, federally endangered, state endangered). This species requires riparian habitat with dense shrub cover for concealing nests. Nesting generally occurs in willows (*Salix* sp.), mulefat, California wild rose (*Rosa californica*), poison oak (*Toxicodendron diversilobum*), mugwort (*Artemisia douglasiana*), and cottonwood (*Populus fremontii*). This species has been documented within the nearby Long Grade Canyon Creek (Rincon Consultants, Inc. 2009).
- Yellow-breasted chat (Species of Special Concern). Yellow-breasted chat was observed within the mulefat scrub habitat during the survey effort. This species occurs in a variety of habitats including the edges of streams, ponds, forest edges, and abandoned agricultural fields.

The ruderal vegetation on site provides foraging habitat for white-tailed kite (*Elanus leucurus*, CDFW Fully Protected Species). This species primarily feeds on small mammals and forages by hovering over open fields and marshes.

Construction activities associated with the proposed project are primarily located within a disturbed area with little vegetation, and the project has been designed to avoid the mulefat scrub on site which provides potential foraging habitat for least Bell's vireo and yellow-breasted chat. Therefore, the proposed project is not expected to result in loss of suitable foraging habitat for least Bell's vireo or yellow-breasted chat. The project would result in the removal of a relatively small area of suitable foraging habitat for white-tailed kite; however, the study area is surrounded by agricultural fields which provide long-term sources of suitable foraging habitat. Therefore, potential impacts to white-tailed kite foraging habitat would be less than significant.

Suitable nesting habitat for common and protected bird species occurs within the study area, particularly the mulefat scrub habitat. Direct or indirect impacts to nesting birds could occur if they are nesting on or near the site at the time of construction.

Implementation of standard best management practices, including pre-construction nesting bird surveys, establishment of no-work buffers as appropriate, and fencing for avoidance of suitable special-status species habitat, would avoid and/or minimize impacts to special-status wildlife species. With implementation of mitigation measures BIO-1 and BIO-2, impacts to special-status wildlife species and nesting birds would be less than significant.

Mitigation Measures

The following mitigation measures would be required to reduce impacts to biological resources to a less than significant level.

BIO-1 Pre-Construction Survey for Nesting Birds

To avoid disturbance of nesting and special-status birds, including raptorial species protected by the Migratory Bird Treaty Act and California Fish and Game Code, activities related to construction of the proposed project, including, but not limited to vegetation removal, ground disturbance, and construction and demolition, should occur outside of the nesting season (February 1 through September 15).

If construction activities must occur during the nesting season:

- A pre-construction nesting bird survey shall be conducted no more than seven days prior to initiation of ground disturbance and vegetation removal activities.
- The survey shall be conducted on foot to visually assess the entire project site, including a 300-foot line-of-sight buffer (500-foot for raptors) using binoculars to the extent practical.
- The survey shall be conducted by a qualified biologist familiar with the identification of avian species known to occur in southern California coastal communities.
- If nests are found, an avoidance buffer (dependent upon the species, the proposed work activity, and existing disturbances associated with land uses outside of the site) shall be determined and demarcated by the biologist using bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary.
- All construction personnel shall be notified as to the existence of the buffer zone and instructed to avoid entering the buffer zone.
- No construction activities shall occur within this buffer until the biologist has confirmed breeding / nesting is complete and the young have fledged. Encroachment into the buffer shall occur only at the discretion of the qualified biologist.
- If least Bell's vireo or other threatened or endangered species are observed nesting within the 300- to 500-foot survey buffer during the pre-construction survey, no construction activities shall occur until the project proponent has consulted with USFWS and/or CDFW, as appropriate, for additional guidance regarding take avoidance.

BIO-2 Mulefat Scrub Avoidance

Mulefat scrub which provides potentially suitable foraging habitat for special-status wildlife species (i.e., least Bell's vireo, yellow-breasted chat) occurs adjacent to the project site to the south (near Long Grade Creek; see Figure 4 of the Biological Resource Assessment in Appendix B). To avoid

impacts to special-status species habitat, the extent of this habitat shall be demarcated in the field with highly visible orange construction fencing, or similar material prior to construction. A qualified biologist shall provide oversight during the installation of the fence and he or she, or a designee (e.g., construction foreman) shall survey the site once per week for the duration of construction activities to verify the fence remains intact.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

Two sensitive plant communities, southern cottonwood riparian forest and southern sycamore alder riparian woodland, occur within five miles of the site. The site does not contain riparian habitat or other sensitive natural communities. Therefore, no impacts to sensitive plant communities would occur.

NO IMPACT

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

The study area is situated directly east of Calleguas Creek and north of Long Grade Canyon Creek. Man-made levees separate the study area from both creeks. Calleguas Creek and Long Grade Canyon Creek are subject to the jurisdiction of the United States Army Corps of Engineers, Regional Water Quality Control Board, Ventura County Watershed Protection District, and CDFW. No indicators of recent water flow or inundation were evident within the study area. The study area does not appear to be directly connected to any streambeds, channels, or other jurisdictional features.

The study area does not contain any jurisdictional drainages or wetlands. The proposed activities are located outside of the adjacent creeks and the creeks would not be impacted by the proposed project based on the project design. Therefore, no impacts to jurisdictional waters and wetlands would occur.

NO IMPACT

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

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches which allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of contiguous or near-contiguous habitat linkages in an area can collectively form a wildlife corridor network.

The study area is generally open and may serve as a local wildlife movement corridor for common wildlife species. Calleguas Creek and Long Grade Canyon Creek likely provide suitable corridors for local wildlife movement as well. However, these areas generally lack appropriate cover (with the

exception of the mulefat stand) and are subject to frequent disturbance. The study area is surrounded by agriculture and the CSUCI campus, as well as man-made levees and roads. The study area does not occur within an Essential Connectivity Area or a Natural Landscape Block, as determined by the California Essential Habitat Connectivity Project (Spencer et al. 2010). The closest *Natural Landscape Block* is approximately 2 miles southeast of the study area near Point Mugu State Park.

The study area is generally open and may serve as a suitable movement corridor for common wildlife species; however, it generally lacks appropriate cover (with the exception of the mulefat stand) and is subject to frequent disturbance. The study area does not occur within an Essential Connectivity Area or a Natural Landscape Block. It is surrounded by agriculture and the CSUCI campus. Installation of a fence to protect the mulefat stand would be temporary and would not pose a significant barrier to wildlife movement. Therefore, impacts to wildlife movement would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The study area occurs within Ventura County but is not subject to the requirements in the County of Ventura General Plan or any other local ordinances. The study area does not contain resources regulated by local policies and ordinances (e.g. protected trees). Therefore, the proposed project would not conflict with local policies and ordinances.

NO IMPACT

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

The study area is not subject to any Habitat Conservation Plan, Natural Conservation Community Plan, or other local, regional, or state habitat conservation plan. Therefore, the proposed project would not conflict with the provisions of adopted or approved conservation plans.

NO IMPACT

5 Cultural Resources

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

Setting

Rincon Consultants, Inc. prepared a Phase 1 Cultural Resources Assessment for the proposed project in October 2019 (included as Appendix C). The study included a records search with the California Historical Resources Information System, Native American tribal outreach, archival map review, a field survey, and Extended Phase 1 (XPI) testing.[2] As part of the literature review for the project, Rincon staff also reviewed the California Register of Historical Resources, National Register of Historic Places, the California Historical Landmarks list, the Archaeological Determination of Eligibility list, and the California State Historic Resources Inventory list.

Cultural Resources Records Search

The records search identified 18 previously conducted cultural resources studies within a 0.5-mile radius of the project site. Of these, eight cultural resources studies include portions of the project site. Taken together, these studies encompass the project site in its entirety. As detailed in the Phase 1 Cultural Resources Assessment (Appendix C), the records search identified four previously recorded cultural resources within a 0.5-mile radius of the project site. These include three prehistoric archaeological sites and one historic district (the CSUCI core campus). Although no cultural resources were identified within the project site, one prehistoric site (CA-VEN-174) is located less than 0.25 mile from the project site.

This prehistoric archaeological resource (CA-VEN-174) was first recorded by Chester King and Clay Singer in 1967 as a possible seasonal village or base camp located at the base of Round Mountain, which lies to the south within the CSUCI campus. The site was recorded as being in direct association with Round Mountain (*Satwiwa*), which contains a summer solstice shrine site. A site update was later completed by Wlodarski and Larson (1998). Due to its association with *Satwiwa*, the boundary of CA-VEN-174 was expanded to encompass the entirety of Round Mountain. Although grading from road construction and maintenance activities may have destroyed some

[2] XPI testing is a subsurface investigation to determine whether archaeological deposits are present.

potential features at the site, Wlodarski and Larson (1998) noted CA-VEN-174 retains its importance as a summer solstice observation point/shrine. According to the Final Program Environmental Impact Report prepared for the California State University, Channel Islands Campus Master Plan (CSUCI 1998:5.4-2), the site is considered significant under CEQA. Assembly Bill (AB) 52 consultation conducted as part of the CEQA process for the Specific Reuse Plan Amendment and Phase 2 Development of the East Campus Residential Neighborhood Project (CSUCI 2017) identified Round Mountain as a Tribal Cultural Resource by local Chumash groups.

Native American Tribal Outreach

Rincon contacted the Native American Heritage Commission (NAHC) on August 8, 2019 to request a search of the Sacred Lands File (SLF) of the project site. A response was received from the NAHC on August 12, 2019 stating the SLF search had been completed with negative results. See Section 18, *Tribal Cultural Resources*, for a summary of CSUCI's Native American tribal consultation efforts under AB 52.

Archival Map Review

A review of historical maps and aerial photographs available online at NETRonline (2019) indicates development in the area began as early as 1904 with a single building depicted east of Calleguas Creek within the vicinity of the current project site. By 1943, Old Hueneme Road had been built running adjacent to the creek and much of the project site and surrounding areas were under cultivation; the building depicted on the 1904 map is no longer present. Other development at this time includes the Camarillo State Hospital, which was established southeast of the project site and is the present-day site of the CSUCI core campus. The Camarillo State Hospital slowly expanded in the following decades with the land encompassing the project site continuing to be used for agricultural purposes. A single structure is shown on the project site in a 1967 aerial photograph; the structure likely represents the abandoned pump house which is still present on the project site. The current alignment of University Drive was constructed between 2010 and 2012.

Field Survey and XPI Testing

A pedestrian survey of the project site and the proposed tree planting areas was completed by a Rincon Archaeologist on August 9, 2019. The field survey identified a historic-period abandoned pump house structure and two possibly prehistoric shell scatters in the project site. The discovery of the two shell scatters on the project site prompted the development and implementation of an XPI testing program. The field work for the XPI study was completed on September 24 and 25, 2019. Matthew Vestuto of the Barbareño/Ventureño Band of Mission Indians served as the Native American monitor and observed all ground-disturbing activities conducted for the XPI investigation. Colleen Delaney, PhD, Associate Professor of Anthropology at CSUCI, was present during portions of the testing program and assisted with the field work. No prehistoric artifacts, features, or midden-like sediments were identified in association with the shell scatter.

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

The abandoned pump house identified on the site is a small semi-permanent building, rectilinear in plan, sheathed in corrugated metal sheeting, and capped by a flat roof punctuated with a turbine ventilator. The building is surrounded by a metal chain link fence. Because the inactive pump house will remain on the site and is semi-permanent in construction, a formal evaluation of the building

was not conducted. The proposed project would not require any modifications to the building and would therefore have no direct impact to historic resources.

As discussed under *Cultural Resources Records Search*, the CSUCI core campus is a designated historic district. Changes to the integrity of location, design, setting, materials, workmanship, feeling, and/or association of the historic district would constitute a potentially significant impact. The proposed project would not directly alter the core campus. Furthermore, due to the distance of the project site from the core campus and intervening topography, the proposed project would not be visible from the core campus and therefore, would not result in changes to the historic district's integrity of location, design, setting, materials, workmanship, feeling, and/or association. No indirect impacts to historic resources would occur.

NO IMPACT

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

As detailed above, a pedestrian field survey identified two possibly prehistoric shell scatters in the project site. XPI excavations indicate the shell scatters are likely the result of the redeposition of detention basin sediments containing freshwater shell fragments, which had been intentionally placed on the project site as fill. As such, the shell does not represent archaeological remains reflecting prehistoric use of the area.

Although no archaeological materials were identified by the Phase 1 Cultural Resources Assessment, records search data indicate three prehistoric archaeological resources are located within the project vicinity. Two of these sites appear to be village locations suggesting relatively intensive use of the area by prehistoric groups. Given these findings, the project site appears to have a moderate sensitivity for containing buried prehistoric archaeological remains.

The results of the field survey revealed surficial deposits throughout much of the project site that have been disturbed by agricultural activities and the deposition of detention basin clean-out sediments. These previous ground-disturbing activities appear to be limited to the upper few feet of sediment. Given that the depth of ground disturbance for the solar PV array project will extend 14 feet below the current ground surface, it is anticipated the solar PV panel installation will extend into undisturbed native sediments. These excavations have the potential to impact buried prehistoric archaeological resources given the moderate sensitivity of the project site.

Based on the results of the Phase 1 Cultural Resources Assessment, impacts to archaeological resources would be less than significant with implementation of mitigation measures CR-1 and CR-2, which would provide for monitoring of initial ground-disturbing activities for archaeological resources and, in the event of an unanticipated discovery, work would be halted until materials are evaluated by a qualified archaeologist.

Mitigation Measures

CR-1 Initial Monitoring of Ground Disturbance

Initial project-related ground-disturbing activities (including, but not limited to site preparation, grading, excavation, and trenching) conducted within the project site shall be observed by an archaeological monitor and Native American monitor. The following shall guide initial monitoring of ground disturbance:

- The archaeological monitor shall be under the direction of a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for prehistoric archaeology (National Park Service 1983).
- Archaeological monitoring may be reduced or halted at the discretion of the qualified archaeologist as warranted by conditions such as encountering culturally sterile sediments or bedrock, sediments being excavated are identified as fill materials, or negative findings during initial ground-disturbing activities.
- If monitoring is reduced, spot-checking shall occur when ground-disturbance moves to a new location or when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock).

CR-2 Unanticipated Discovery of Archaeological Resources

If cultural resources are encountered during ground-disturbing activities:

- Work in the immediate area shall halt and the Board of Trustees of the California State University shall be notified.
- A qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to assess the nature, extent, and potential significance of any cultural remains.
- If the resources are determined to be Native American in origin, the archaeologist shall consult with the Board of Trustees of the California State University to begin Native American consultation procedures, as appropriate.
- If the discovery is determined to be not significant, work would be permitted to continue in the area.

Potentially significant resources may require a Phase II subsurface testing program to determine the resource boundaries within the project site, assess the integrity of the resource, and evaluate the site's significance through a study of its features and artifacts.

- If, in consultation with the Board of Trustees of the California State University, a discovery is determined to be significant, a mitigation plan would be prepared and carried out in accordance with CEQA guidelines.
- If the resource cannot be avoided, a data recovery plan would be developed to ensure collection of sufficient information to address archaeological and historical research questions, with results presented in a technical report describing field methods, materials collected, and conclusions
- Unless otherwise agreed upon with consulting Native American representatives, any cultural material collected as part of an assessment or data recovery effort would be property of the University and curated at a qualified facility as directed by the University.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

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

pursuant to Public Resources Code Section 5097.98. Per the Public Resources Code, in the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the NAHC, which will determine and notify a most likely descendant. The most likely descendant will complete the inspection of the site and provide recommendations for treatment to the landowner within 48 hours of being granted access. Adherence to this existing regulation regarding the treatment of human remain would reduce impacts to a less than significant level.

LESS THAN SIGNIFICANT IMPACT

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6 Energy

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

Setting

California is one of the lowest per capita energy users in the United States, ranked 48th in the nation, due to its energy efficiency programs and mild climate (United States Energy Information Administration [EIA] 2018). Californians consumes approximately 285,488 gigawatt-hours (GWh) of electricity, 2.1 million cubic feet of natural gas, and 18.9 billion gallons of motor vehicle fuels per year (California Energy Commission [CEC] 2019a; EIA 2019; Federal Highway Administration [FHWA] 2017). The single largest end-use sector for energy consumption in California is transportation (39.8 percent), followed by industry (23.7 percent), commercial (18.9 percent), and residential (17.7 percent) (EIA 2018).

Most of California's electricity is generated in-state with approximately 30 percent imported from the Northwest and Southwest in 2017. Approximately 30 percent of California's electricity supply comes from renewable energy sources, such as wind, solar photovoltaic, geothermal, and biomass (CEC 2018). California's electricity providers are required to comply with Senate Bill (SB) 100, which accelerates the Renewables Portfolio Standards Program by mandating electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Gasoline is the most used transportation fuel in California with 15.5 billion gallons sold in 2018. Gasoline fuel is used by light-duty cars, pickup trucks, and sport utility vehicles. Diesel is the second most-used fuel in California with 1.8 billion gallons sold in 2018. Diesel fuel is used primarily by heavy-duty trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles (CEC 2019b). Both gasoline and diesel are primarily petroleum-based, and their consumption releases greenhouse gas (GHG) emissions, including carbon dioxide (CO_2) and nitrous oxide (N_2O). The transportation sector is the single largest source of GHG emissions in California, accounting for 41 percent of all inventoried emissions in 2017 (California Air Resources Board [CARB] 2019). To reduce statewide vehicle emissions, California requires all motorists use California Reformulated Gasoline, which is sourced almost exclusively from in-state refineries.

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

Construction Energy Usage

Project construction would require energy resources primarily in the form of fuel consumption to operate heavy equipment, light-duty vehicles, machinery, and generators. Temporary power may also be provided for electric construction equipment. Table 5 summarizes the anticipated energy consumption from construction equipment and vehicles, including vendor delivery and construction worker trips to and from the project site.

As shown in Table 5, construction of the project would require approximately 23,792 gallons of gasoline and 25,069 gallons of diesel fuel. Energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, the project would utilize construction contractors who demonstrate compliance with applicable CARB regulations restricting the idling of heavy-duty diesel motor vehicles and governing the accelerated retrofitting, repowering, or replacement of heavy-duty diesel on- and off-road equipment. Compliance with state measures would reduce the inefficient, wasteful, or unnecessary consumption of energy. Furthermore, in the interest of cost efficiency, construction contractors would not utilize fuel in a manner that is wasteful or unnecessary. Therefore, project construction would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy, and impacts would be less than significant.

Table 5 Proposed Project Construction Energy Usage

	Fuel Consumption (Gallons)	
Source	**Gasoline**	**Diesel**
Construction Equipment & Hauling Trips	–	25,069
Construction Worker Vehicle Trips	23,792	–

Notes: Energy consumption calculations were completed in accordance with applicant-provided information and data as well as data provided by the California Emissions Estimator Model. See Appendix D for energy calculation sheets and Appendix A for California Emissions Estimator Model default values for average distances of travel.

Operational Energy Usage

As discussed under *Description of Project*, the proposed project would construct a solar PV system offsetting approximately 67 percent of the current electrical energy demand of CSUCI facilities. By expanding CSUCI's access to renewable electricity generation, the project would reduce the need for electricity to be generated by fossil fuel power plants and would increase the stability and reliability of the local electrical grid.

Operation of the proposed project would be automated and unstaffed, and an existing off-site operations center would continuously monitor the production and condition of the solar PV system. The operations center would dispatch maintenance staff to the site on an as-needed basis, which would require minimal vehicle fuel usage. Semiannual panel washing would require the use of approximately 273,000 gallons of water delivered via water trucks. Approximately 17 gallons of fuel would be consumed by semiannual panel washing activities. These routine washing events would

improve energy production; therefore, energy usage would not be wasteful or unnecessary. As such, there would be no operational energy impact.

NO IMPACT

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

CSUCI does not have an adopted plan in place for renewable energy or energy efficiency. However, the project would assist with achieving the CSU's renewable energy goal of 80 megawatts of on-site self-generation capacity, as stated in the CSU *Sustainability Report 2014: The California State University* (CSU 2014). In addition, the project would contribute toward implementation of the State's 2008 Update to the Energy Action Plan and 2018 Integrated Energy Policy Report, both of which contain specific goals and policies for expanding the use of renewable energy for electrical generation (California Public Utilities Commission 2008; CEC 2019c). In addition, the project would be consistent with California's Renewable Portfolio Standard, which has an ultimate target of supplying 100 percent of retail electricity from eligible renewable energy resources by 2045. Accordingly, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and no impact would occur.

NO IMPACT

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7 Geology and Soils

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

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

Alquist-Priolo Earthquake Fault Zones are regulatory zones established throughout California by the California Geological Survey. These zones identify areas where potential surface rupture along an active fault could prove hazardous and identify where special studies are required to characterize the fault rupture hazard potential to habitable structures (California Geological Survey 2016).

The nearest active fault is Bailey Fault, which is less than one-mile from the project site (California Department of Conservation 2010). However, the most recent rupture occurred in the Late Quaternary period (0.5 to one million years ago). The project does not involve construction of habitable structures or placement of permanent on-site personnel. Therefore, the project would have no impact related to fault rupture.

NO IMPACT

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Because the project site is located in a seismically active area, it may be subjected to seismic ground shaking. Strong seismic ground shaking could potentially result in damage to the proposed solar PV facilities. The project engineering design would incorporate measures to accommodate seismic loading, pursuant to existing guidelines such as the International Building Code (IBC; International Code Council 2018) and the California Building Code (CBC; California Code of Regulations, Title 24, Part 2, Volume 1). With incorporation of applicable seismic safety measures into project design and construction, the potential impacts associated with seismic strong ground shaking would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Liquefaction is the process in which granular materials temporarily act as a fluid instead of a solid, which can cause permanent ground displacements. The project site is located in a liquefaction zone (County of Ventura 2019a). However, the project does not involve habitable structures or permanent on-site personnel. Project design and construction would incorporate standard safety measures from the IBC and CBC to address potential impacts from liquefaction. Impacts associated with liquefaction would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site is not located in an area designated with a record of actual or potential landslides or potential earthquake-induced landslides (County of Ventura 2019a). Additionally, the project does not involve habitable structures or permanent on-site personnel. Therefore, no impact would occur.

NO IMPACT

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

Soil erosion may potentially occur at the project site during site preparation and grading activities associated with project construction. Construction of the project would involve ground-disturbing activities, including vegetation clearance prior to construction and trenching to connect the solar PV system to an existing SCE POC, followed by installation of above ground solar PV systems and planting of trees along two perimeters of the project site. The ground-mounted solar PV arrays would not require substantial excavation to install because they would be supported by pile driven small-diameter steel poles. The electrical equipment areas would require minor grading to create raised platforms. Additionally, excavation and grading activities would be required to adhere to the CBC and to implement erosion control and dust control measures as part of Stormwater Pollution Prevention Plan (SWPPP) implementation. A SWPPP would be required to obtain coverage under a National Pollutant Discharge Elimination System (NPDES) Construction General Permit because the project would disturb more than one acre. Erosion and loss of topsoil impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The project site is located on a gently sloping alluvial plain and no landslides are mapped in the vicinity (County of Ventura 2019a). In addition, the site is not located on an unstable geologic unit or soil. The potential for slope instability to affect the site is low. No impact would occur.

NO IMPACT

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

Soil expansion and shrinkage can cause damage to infrastructure. Soils with moderate to high expansion potential are susceptible to shrinking and swelling due to fluctuations in moisture content. According to the United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey (2019), the soils at the project site consist primarily of Camarillo loam; Camarillo loam, sandy substratum; and Hueneme loamy sand, which are not considered potentially expansive soils in general. The potential impact of expansive soils on structures is limited to just a few developed areas in the county: portions of the Ojai Valley, the Camarillo Hills and areas around the community of Moorpark (County of Ventura 2013a). Additionally, numerous agencies, including the CBC, have established standards to eliminate the potential for structural damage due to expansive soils. Project design and construction would incorporate standard engineering techniques to avoid adverse effects of expansive soils. Therefore, no impact would occur.

NO IMPACT

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

The project would not require permanent on-site personnel and therefore, would not require permanent on-site restroom facilities during operation. Therefore, no septic tanks or wastewater disposal systems would be part of the proposed project. No impact would occur.

NO IMPACT

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

The paleontological sensitivity of the geologic units underlying the project site was evaluated using the results of the paleontological locality search and review of existing information in the scientific literature concerning known fossils within those geologic units. Rincon examined fossil collections records from the University of California Museum of Paleontology (UCMP) online database, which contains known fossil localities in Ventura County.

Following the literature review, a paleontological sensitivity classification was assigned to the geologic units within the project site. The potential for impacts to significant paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units. The Society of Vertebrate Paleontology (SVP) has developed a system for assessing paleontological sensitivity and describes sedimentary rock units as having high, low, undetermined, or no potential for containing scientifically significant nonrenewable paleontological resources (SVP 2010). This criterion is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present.

The project site is situated within the Oxnard Plain in the Transverse Ranges geomorphic province, (California Geological Survey 2002). The geology of the project site is mapped by Dibblee and Ehrenspeck (1990) at a scale of 1:24,000 and is entirely underlain by younger Quaternary alluvium (Qa). Near the surface, these Holocene deposits generally consist of uncemented, unconsolidated alluvial gravel, sand and clay of valley and floodplain areas. Holocene alluvial deposits in the project site may also contain volcaniclastic sediments derived from nearby exposures of Miocene Conejo Volcanics, which consist of extrusive basaltic and andesitic flows interbedded with reworked volcanic sedimentary rocks.

Intact Holocene alluvial deposits in the project site are too young to preserve paleontological resources and are determined to have a low paleontological resource potential according to SVP standards (SVP 2010). However, according to United States Geological Survey (USGS; 1985), the younger Quaternary (Holocene) sediments may grade into older alluvial deposits of late Pleistocene (Qoa) or volcaniclastic deposits of Miocene age (Conejo Volcanics) at moderate depth (up to 100 feet below ground surface) which could preserve fossil remains. These older Quaternary (Pleistocene) alluvial deposits consist of moderately to well consolidated, slightly cemented silt, clay and fine sand with gravel (USGS 1985). Pleistocene deposits have a well-documented record of abundant and diverse vertebrate fauna throughout California, including Ventura County (UCMP 2019); therefore, these Pleistocene deposits are assigned a high paleontological resource potential. Generally, igneous rocks do not preserve fossils; however, fossil wood and fish scales have been recovered from outcrops of Miocene Conejo Volcanics (Yerkes and Campbell 1979; City of Thousand Oaks 2013). As a result, these Miocene volcaniclastic deposits are also assigned a high paleontological resource potential.

A review of the museum records maintained in the UCMP online collections database was conducted. This database does not contain records for vertebrate fossil localities in the immediate vicinity of the project site. However, locality V4107 was reported from Pleistocene alluvial deposits in an unspecified location in Ventura County, which yielded a Mammoth (*Mammuthus*) tooth (UCMP 2019).

As currently proposed, project ground disturbance would include pile driving for solar PV panel installation and trenching to a depth of approximately three to four feet below ground surface for conduit routing. However, disturbance to intact Pleistocene deposits from these ground-disturbing activities would be limited and impacts to paleontological resources due to pile driving would be negligible. In the project site, the Holocene deposits overlie the paleontologically-sensitive Pleistocene alluvial (and possibly Miocene volcaniclastic) sediments at an unknown depth but may be as extensive as 100 feet below ground surface (USGS 1985). Given the fossiliferous deposits may occur at greater depths than anticipated project disturbance and impacts to paleontological resources from pile driving would be negligible, the potential for encountering fossil resources during project-related ground disturbance is low and impacts to unanticipated paleontological resources are not anticipated. Nonetheless, Mitigation Measure GEO-1 would apply to all phases of project construction and would reduce potential impacts to paleontological resources to a less than significant level by providing for the recovery, identification and curation of previously unrecovered fossils.

Mitigation Measure

GEO-1 Unanticipated Paleontological Resources

In the event an unanticipated fossil discovery is made during the course of project development, then in accordance with SVP (2010) guidelines, it is the responsibility of any worker who observes fossils within the project site to stop work in the immediate vicinity of the find and notify a qualified professional paleontologist who shall be retained to evaluate the discovery, determine its significance and if additional mitigation or treatment is warranted. Work in the area of the discovery will resume once the find is properly documented and authorization is given to resume construction work. Any significant paleontological resources found during construction monitoring will be prepared, identified, analyzed, and permanently curated in an approved regional museum repository.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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8 Greenhouse Gas Emissions

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

Setting

Climate change is the observed increase in the average temperature of the earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period of time. Climate change is the result of numerous, cumulative sources of GHGs contributing to the "greenhouse effect," a natural occurrence taking place in Earth's atmosphere to help regulate the temperature of the planet. The majority of radiation from the sun hits Earth's surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions. However, anthropogenic activities since the beginning of the industrial revolution (approximately 250 years ago) are adding to the natural greenhouse effect by increasing the gases in the atmosphere, which trap heat. Emissions resulting from human activities thereby contribute to an average increase in Earth's temperature.

GHGs occur both naturally and as a result of human activities, such as fossil fuel burning, methane generated by landfill wastes and raising livestock, deforestation activities, and some agricultural practices. GHGs produced by human activities include (CO_2, methane (CH_4), N_2O, hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6). Since 1750, estimated concentrations of CO_2, CH_4, and N_2O in the atmosphere have increased by 36 percent, 148 percent, and 18 percent, respectively, primarily due to human activity. Potential climate change impacts in California may include loss of snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (CEC 2009).

In response to climate change, California implemented AB 32, the "California Global Warming Solutions Act of 2006." AB 32 requires achievement by 2020 of a statewide GHG emissions limit equivalent to 1990 emissions (essentially a 15 percent reduction below 2005 emission levels) and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. On September 8, 2016, the governor signed SB 32 into law,

extending AB 32 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged).

On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 state target. The 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of six metric tons (MT) of carbon dioxide equivalent (CO_2e) by 2030 and two MT CO_2e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the state.

Significance Thresholds

Pursuant to the requirements of SB 97, the California Resources Agency adopted amendments to the *CEQA Guidelines* for the feasible mitigation of GHG emissions and analysis of the effects of GHG emissions. The adopted *CEQA Guidelines* provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts.

In its *Sustainability Report 2014: The California State University*, the CSU set a goal of reducing GHG emissions to 1990 levels or below by 2020, consistent with the statewide target set by AB 32, and to 80 percent below 1990 levels by 2040. The latter goal exceeds statewide reduction target goals codified in SB 32, which sets an interim goal of 40 percent below 1990 levels by 2030 (CSU 2014). However, CSU does not provide target emission levels corresponding to these reduction targets. CSUCI has conducted GHG inventory analyses for its campus identifying sources of emissions. It has also participated in the Sustainability Tracking, Assessment and Rating System (STARS) to examine and report on sustainability activities. Although some CSU campuses are adopting individual GHG reduction plans and targets, CSUCI has not yet adopted a qualified GHG reduction plan or specific policies to reduce GHGs. In addition, the VCAPCD has not established quantitative GHG significance thresholds.

In light of the lack of a specific GHG threshold from VCAPCD or CSU, it is appropriate to refer to guidance from other agencies when discussing GHG emissions. Thus, for the purposes of this analysis, the bright-line threshold developed by the SCAQMD (10,000 MT CO_2e per year for industrial projects) is considered to determine the significance of GHG emissions.

Although construction activity is addressed in this analysis, the California Air Pollution Control Officers Association (CAPCOA) does not discuss whether any threshold approaches adequately address impacts from temporary construction activity. As stated in the *CEQA and Climate Change* white paper, “more study is needed to make this assessment or to develop separate thresholds for construction activity” (CAPCOA 2008). Nevertheless, air districts such as the SCAQMD (2008) have recommended GHG emissions from construction be amortized over 30 years and added to operational GHG emissions to determine the overall impact of a proposed project.

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

The project would generate GHG emissions directly and indirectly during construction and operation. Construction activities would generate emissions from the operation of heavy machinery and worker trips to and from the site. Operation of the project would generate emissions from

vehicle trips for panel washing activities, estimated to occur twice per year. Because the proposed project involves the operation of a renewable energy facility, GHG emissions associated with project construction and operation activities would be offset by the on-site production of renewable energy. As described in the *Project Description*, the solar PV array's annual estimated production of 8,289 MWh would offset approximately 67 percent of the current electrical energy demand of CSUCI facilities.

The project's GHG emissions were estimated using CalEEMod version 2016.3.2. Over the anticipated seven-month construction period, the project would generate approximately 412.4 MT of CO_2e. Per SCAQMD guidance, project-related GHG emissions were amortized over a 30-year period to determine the annual construction-related GHG emissions over the estimated life of the project.

The project's GHG offsets were calculated based on natural gas and coal combustion GHG emissions factors and 2018 statewide energy resource mix assumptions. Appendix A shows calculations used to determine the amount of GHG emissions offset by the project over its expected lifespan.

Table 6 summarizes the project's estimated annual GHG emissions and offsets. The project's amortized construction and annual operational emissions are totaled to show the project's total gross new emissions. The total annual GHG emissions offset by the project are then subtracted from the gross total to calculate the project's total net annual emissions.

Table 6 Estimated Emissions of Greenhouse Gases

Emission Source	Annual Emissions (MT per year of CO_2e)
Construction (amortized over 30 years)	13.7
Operational	
Area	< 0.1
Solid Waste	0.0
Water	1.0
Mobile	
CO_2 and CH_4	<0.1
N_2O	<0.1
Total Gross New Emissions	**14.7**
GHG Emissions Offset by Project	(1,756.6)
Total Net Emissions	**(1,741.9)**
SCAQMD Recommended Threshold	10,000
Threshold Exceeded?	No

MT: metric tons; CO_2e: carbon dioxide equivalent; SCAQMD: South Coast Air Quality Management District; () = negative number
See Appendix A for CalEEMod results.
Values are approximations and have been rounded.

As shown in Table 6, the project's total gross new emissions of 14.7 MT of CO_2e per year would not exceed the SCAQMD recommended significance threshold of 10,000 MT of CO_2e per year. Furthermore, because the solar PV array would offset GHG emissions associated with direct combustion, the project would result in a net reduction in annual GHG emissions of approximately 1,742 MT of CO_2e per year. The project would have a beneficial impact related to GHG emissions.

NO IMPACT/BENEFICIAL IMPACT

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

The CSU and VCAPCD have not adopted any plans, policies, or regulations for the purpose of reducing the emissions of GHGs. The proposed project would reduce CSUCI's GHG emissions by offsetting energy demands associated with direct combustion. In doing so, the project would assist with achieving the CSU's GHG reduction goals as stated in *Sustainability Report 2014: The California State University.* In addition, the project would implement renewable electricity generation, an action identified in the 2017 Scoping Plan as necessary to achieving statewide GHG reduction goals.

Because the proposed project would itself result in a reduction in GHG emissions, it would not be in conflict with any applicable plans, policies, or regulations for the purpose of reducing GHG emissions. The project would have a beneficial impact related to GHG emissions reductions plans, policies, and regulations.

NO IMPACT/BENEFICIAL IMPACT

9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	■	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	■	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	☐	■
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	■
e. For a project located in 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?	☐	☐	☐	■
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	■
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐		■	☐

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

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

Once the project is constructed, the project would be remotely operated and monitored. Solar PV facilities do not typically use or store hazardous materials. While the solar PV panels may contain hazardous materials, they would not be manufactured or recycled onsite, and materials within the panels are completely encapsulated. The transport, use, and storage of any hazardous materials used during the construction of the project would be conducted in accordance with all applicable state and federal laws, such as the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, the California Hazardous Material Management Act, and the California Code of Regulations, Title 22. Adherence to these existing requirements would reduce impacts to a less than significant level.

LESS THAN SIGNIFICANT IMPACT

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The proposed project is located over 0.25 mile from CSUCI's core campus, where academic buildings and student housing is located. The nearest preschool is Carden Kids Preschool, located in the CSUCI core campus over 0.5 miles east of the project site. The nearest existing kindergarten through high school (K through 12) school is Laguna Vista Elementary School, located over two miles southwest of the project site. The proposed solar PV facility would not involve the handling of hazardous materials, and there are no hazardous emissions associated with the operation of solar facilities. Additionally, the facility would be operated and monitored remotely and would not involve the handling of any hazardous materials at the site. Therefore, the project would not emit hazardous emissions or handle hazardous materials within 0.25 mile of a school.

NO IMPACT

d. Would the project be located on a site that is included on a list of hazardous material 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?

The following databases compiled pursuant to Government Code Section 65962.5 were checked for known hazardous materials contamination at the project site:

- State Water Resources Control Board Geotracker (http://geotracker.waterboards.ca.gov/)
- United States Environmental Protection Agency (USEPA) Resource Conservation and Recovery Act Info site (https://www3.epa.gov/enviro/facts/rcrainfo/search.html)
- USESPA Permit Compliance System and Integrated Compliance Information System databases in Envirofacts regarding facilities registered with the federal enforcement and compliance and holding NPDES permits (https://www3.epa.gov/enviro/facts/pcs-icis/search.html)
- Department of Toxic Substances Control EnviroStor Database (https://www.envirostor.dtsc.ca.gov/public/)
- USEPA Comprehensive Environmental Response, Compensation, and Liability Information System (Superfund site) database (https://cumulis.epa.gov/supercpad/CurSites/srchsites.cfm)

The project site was not listed in any of the above environmental databases nor are there any listed sites within 1,000 feet. In addition, the nearest hazardous site (Thornhill Ranch) is a leaking underground storage tank site located approximately 0.8 mile to the southeast for which cleanup has already been completed.

NO IMPACT

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The nearest public airport is Camarillo Airport, which is located approximately 3.8 miles northwest of the project site. The project site is not located in an airport land use plan or within two miles of a public airport (Ventura County Airport Land Use Commission 2000). The project site is located approximately 3.5 miles northeast of Naval Base Ventura County Point Mugu, which includes an airport. The project site is within the military compatibility area for the naval base; however, it is located outside the clear zone and accident potential zones. In addition, although the project site does experience occasional flyovers from aircraft travelling to and from Naval Base Ventura County Point Mugu, the project site is located outside the 60-decibel noise contour and would not require permanent on-site personnel during operation (Ventura County Transportation Commission 2014). Therefore, these flyovers would not expose people working in the project area to safety hazards or excessive noise levels. No impact would occur.

NO IMPACT

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

The proposed project would not involve the development of structures, which could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Access to the site is from Old Lewis Road (paralleling Lewis Road) accessed off of Potrero Road and then on farm roads to the project gates. Additionally, after construction, the project would be operated and monitored remotely. An existing off-site operations center would continuously monitor the production and condition of the solar PV system. The operations center would dispatch maintenance staff to the site on an as-needed basis. No impact to adopted emergency response plans or emergency evacuation plans would occur.

NO IMPACT

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

The project site is located on vacant land immediately surrounded by both active agricultural land and the remainder of the 153-acre undeveloped parcel, in which the project site is located, to the south and east. According to CALFIRE, the project site is not located in a Fire Hazard Severity Zone, but it is located approximately 750 feet north of an area recommended for designation as a very high fire hazard severity zone, which includes Round Mountain and the Camrosa Water District Round Mountain Water Treatment Plant (CALFIRE 2010). The project consists of solar PV panels and associated equipment and would not place new residents or users of the project in a high fire hazard severity zone. After construction, the facility would be operated and monitored remotely, and staff would only be present on-site for maintenance on an as-needed basis.

Vegetation within the project site would be maintained by livestock grazing or other non-mechanical control technique. Alternatively, a weed trimmer may be used within the fenced solar PV array area. Outside the fence, the campus would plan to maintain a thirty-foot fire break by similar maintenance technique to protect the solar PV array against wildfire damage. As detailed in *Other Public Agencies Whose Approval is Required*, Ventura County Fire Department (VCFD) and the California State Fire Marshal would review access plans for the project and approval would be necessary before project construction begins. Additionally, existing residences (student housing) are more than 3,000 feet from the project site, and the only other nearby structures are those associated with the Camrosa Water District Round Mountain Water Treatment Plant south of the project site. Therefore, the project would not expose people or structures to a significant risk of loss, injury or death involving wildland fire. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

10 Hydrology and Water Quality

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

Setting

The project site is predominantly undeveloped, with the exception of an inactive agricultural well pump house located near the center of the site. The project site is situated directly east of Calleguas Creek. Long Grade Canyon Creek, an ephemeral stream, flows on the south side of Round Mountain and to the south of the project site. Man-made levees separate the project site from both Calleguas Creek and Long Grade Canyon Creek. The site overlies the Pleasant Valley Groundwater Basin (California Department of Water Resources 2006).

The project site is located in a floodplain designated as Zone AE on the FEMA Flood Insurance Rate Map (Map # 06111C0941E) (FEMA 2010). Zone AE is characterized as a special flood hazard area subject to inundation by the 1-percent-annual-chance flood event. During heavy rain or flood events, there is a lift station to transport water from the project site into the recharge basin, which is part of Long Grade Canyon Creek. If the recharge basin is full, the excess water exits through a floodgate into Calleguas Creek. Normally, annual rains only inundate the southeastern portion of the parcel area, which is pumped out automatically, without reaching the project site. Only an extreme rainfall event would flood the project site temporarily, until the lift station finished pumping the water out to Calleguas Creek.

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

Construction

As stormwater flows over a construction site, it can pick up sediment, debris, and chemicals, and transport them to receiving water bodies. Temporary site preparation and grading activities associated with the project may result in soil erosion. If precautions are not taken to contain contaminants, construction activities could result in contaminated stormwater runoff that could enter Calleguas Creek and Long Grade Canyon Creek. Construction activities could also affect water quality in the event of an accidental fuel or hazardous materials leak or spill. However, the proposed project would apply best management practices and adhere to permitting requirements in order to avoid potential impacts to water quality, as discussed below.

On-site construction activities would be required to comply with the requirements of the campus MS4 Phase II permit and California State Construction General Permit (Order No. 2009-2009-DWQ) because project construction would disturb more than one acre of land. Compliance with the MS4 Phase II permit and California State Construction General Permit would require the creation and implementation of a SWPPP, which would include best management practices to prevent stormwater pollution during construction. Inspections would be conducted on the project site once every seven calendar days, or once every 14 calendar days and within 24 hours of a 0.25-inch storm event. With regulatory compliance, potential impacts associated with construction of the proposed project to water quality requirements would be less than significant.

Operation

The site is currently designated as a floodplain and is temporarily flooded in extreme rainfall events. The proposed project would not interfere with the flood operations at the project site. During heavy rain or flood events, excess water would accumulate at the project site and be discharged to the recharge basin or Calleguas Creek. The bottom of the PV modules, inverters, and all electrical gear are located one foot above the maximum water inundation level of the recharge basin. The existing flood management regime would remain in place. Because all equipment and panels are located

above the inundation level, the project would not release pollutants into discharged stormwater. Accordingly, operation of the project would not degrade surface or groundwater quality. Moreover, the project would be reviewed by the Ventura County Watershed Protection District, which implements the Flood Plain Management Ordinance 3841 on behalf of the County to ensure compliance with the National Flood Insurance Program. This includes review of structures built in the floodplain and evaluation of site plans for developments that include identified floodplains like the project site. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

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

The project site overlies the Pleasant Valley Groundwater Basin. The project site is currently predominantly undeveloped, with the exception of an inactive agricultural well pump house. The proposed project would minimally increase impervious surface area on the site through the introduction of PV panels and associated electrical equipment. The project would leave the majority of the site as pervious surfaces by only adding impervious surfaces at the footings for the individual PV panels, fence posts, as well as at the pads for the electrical equipment. Precipitation falling onto the solar PV panels would run off to the pervious ground below, where it would infiltrate pervious surfaces and follow existing drainage patterns towards the recharge basin. As discussed in Section 19, *Utilities and Service* Systems, there is sufficient water to meet the demands of the project related to panel washing. Accordingly, the proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

As discussed under item (a), the proposed project would not interfere with flood operations. Accumulated stormwater would continue to infiltrate pervious surfaces on-site and be discharged to the recharge basin, within which it would also percolate into the underlying groundwater basin. Operation of the project would not degrade surface or groundwater quality.

Consequently, the project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Impacts to groundwater supplies, recharge, and management plans would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

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

c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

Construction

As discussed under item (a), the proposed project would be required to create and implement a SWPPP, which would include best management practices. The SWPPP would include measures to retain stormwater on site, which would minimize erosion, siltation, and polluted runoff. With regulatory compliance, potential construction impacts associated with stormwater runoff would be less than significant.

Operation

As discussed under item (b), the project would minimally alter drainage patterns at the project site by introducing solar PV panels and equipment. However, precipitation that falls on the solar PV panels would run off to the pervious ground below, where it would infiltrate the ground and follow existing drainage patterns. The project would not substantially increase the rate or amount of surface runoff. In addition, as discussed under item (a), the proposed project would not interfere with flood operations. During heavy rain or flood events, like under current conditions, excess water would accumulate at the project site and be discharged to the recharge basin or Calleguas Creek.

Consequently, the proposed project would not substantially alter the existing drainage pattern of the site in a manner which would increase the potential for flooding, exceed existing stormwater drainage systems, or substantially increase polluted runoff. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

A tsunami is a series of traveling ocean waves of extremely long length generated primarily by vertical movement on a fault (earthquake) occurring along the ocean floor. The project site is located approximately 5.5 miles from the coastline. The project site is also not located near a large inland body of water, which could generate a seiche during seismic ground shaking. According to the

County of Ventura General Plan Hazards Appendix, the project site is located in a low hazard area for tsunamis or seiches (County of Ventura 2011).

The bottom of the solar PV modules, inverters, and all electrical gear are located one foot above the maximum water inundation level in the recharge basin, which is at a height of approximately 47.5 feet above mean sea level. The surveyor determined the spill over point at the Calleguas Creek levee is the maximum flood level before floodwaters would spill into the Oxnard Plain, which is located lower than the project site floodplain. Because all equipment and panels are located above the flood hazard, the project would not result in significant impacts related to release of pollutants due to project inundation.

LESS THAN SIGNIFICANT IMPACT

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11 Land Use and Planning

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

a. Would the project physically divide an established community?

The proposed project consists of the installation of a new fixed tilt solar PV system. The project site is situated within an undeveloped area approximately 0.5-mile northwest of the urbanized CSUCI campus. CSUCI is not subject to County Planning and land use regulations such as the County of Ventura General Plan.

Based on a review of historical aerial photographs, the site and surrounding areas have been used for agriculture since at least 1947. However, the project site has not been used for agriculture since at least 2012 when University Drive was constructed west of Lewis Road (NETROnline 2019). The construction and operation of the proposed project would not physically divide an established community. No impact would occur.

NO IMPACT

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

The project site is currently vacant and is not located adjacent to any residential or educational areas of the CSUCI campus or within Ventura County. Currently, there is no land use plan, policy or regulation adopted by CSUCI applicable to the project site. Additionally, as stated above, CSUCI is not subject to County Planning and land use regulations. However, the project would assist with achieving the CSU's renewable energy goal of 80 megawatts of on-site self-generation capacity, as stated in the CSU *Sustainability Report 2014: The California State University* (CSU 2014). No significant environmental impact would occur.

NO IMPACT

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12 Mineral Resources

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

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

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

Aggregates include sand, gravel and rock which are used for fill, construction-grade concrete, and riprap, among other uses. Although many sand and gravel sites exist throughout the county, most of the extraction sites are located in and along the Santa Clara River bed. Other minerals of commercial value in Ventura County include asphalt, clay, expansible shale, gypsum, limestone, and phosphate.

The proposed project involves the placement and operation of solar PV energy facilities on a vacant site. No mineral extraction activities currently occur on the project site. The project site is located in Mineral Resource Zone 1, an area where adequate information indicates no significant mineral deposits are present (County of Ventura 2011). Therefore, no impact would occur.

NO IMPACT

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13 Noise

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

Setting

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by hearing organs (e.g., the human ear). Noise is defined as sound, which is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Caltrans 2013a).

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels to be consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz (Hz) and less sensitive to frequencies around and below 100 Hz (Kinsler et al. 1999). Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as a doubling of traffic volume, would increase the noise level by 3 dB; similarly, dividing the energy in half would result in a decrease of 3 dB (Crocker 2007).

Human perception of noise has no simple correlation with sound energy; the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted the average healthy ear can barely perceive an increase (or decrease) of up to 3 dBA in noise levels (i.e., twice [or half] the sound energy); a change of 5 dBA is

readily perceptible (8 times the sound energy); and an increase (or decrease) of 10 dBA sounds twice (or half) as loud (10.5 times the sound energy) (Crocker 2007).

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in sound level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of noise source (e.g., point or line), the path the sound will travel, site conditions, and obstructions. Noise levels from a point source (e.g., construction, industrial machinery, ventilation units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013a). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (FHWA 2011). Structures can substantially reduce occupants' exposure to noise as well. The FHWA's guidelines indicate modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

The time of day when noise occurs and the duration of the noise are also important. Most noise lasting for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent noise level (L_{eq}), which considers both duration and sound power level. L_{eq} is defined as the single steady A-weighted level equivalent to the same amount of energy contained in the actual fluctuating levels over a period of time (essentially, the average noise level). Typically, L_{eq} is summed over a one-hour period. L_{max} is the highest root mean squared (RMS) sound pressure level within the sampling period, and L_{min} is the lowest RMS sound pressure level within the measuring period (Crocker 2007). Normal conversational levels are in the 60 to 65 dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

Noise occurring at night tends to be more disturbing than noise occurring during the day. Community noise is usually measured using Day-Night Average Level (L_{dn}), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime hours (10:00 p.m. to 7:00 a.m.). Community noise can also be measured using Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013a). Noise levels described by L_{dn} and CNEL usually differ by about 1 dBA. Quiet suburban areas typically have CNEL noise levels in the range of 40 to 50 CNEL, while areas near arterial streets are in the 50 to 60+ CNEL range.

Vibration Overview

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise (FTA 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration significance ranges from approximately 50 vibration decibels (VdB), which is the typical background vibration-velocity level, to 100 VdB, the general threshold where minor damage can occur in fragile buildings (FTA 2018). The general human response to different levels of groundborne vibration velocity levels is described in Table 7.

Table 7 Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable
85 VdB	Vibration acceptable only if there are an infrequent number of events per day

VdB = vibration decibels

Source: FTA 2018

Existing Ambient Noise Levels

The project site is located in a semi-rural area, and the primary sources of noise in the project vicinity are vehicles (e.g., automobiles, buses, and trucks) along Lewis Road and University Drive, as well as agricultural operations. Motor vehicle noise is characterized by a high number of individual events, which often create sustained noise levels. Ambient noise levels would be expected to be highest during the daytime and rush hour unless congestion slows speeds substantially. According to the County of Ventura General Plan Hazards Appendix, noise levels generated by traffic on Lewis Road at the project site are between 50 and 55 dBA CNEL (County of Ventura 2013b).

The County of Ventura General Plan Noise Element defines noise-sensitive receivers as residences, schools, hospitals, nursing homes, churches, and libraries (County of Ventura 2019b). Noise-sensitive receivers nearest to the project site include academic buildings and student housing associated with CSUCI. The nearest academic building is Modoc Hall, located approximately 1,750 feet southeast of the project site. The nearest student housing is Anacapa Village, located approximately 3,600 feet southeast of the project site.

Regulatory Setting

CSU has not adopted thresholds for evaluating noise impacts, and CSUCI is not subject to County planning and land use regulations such as the County of Ventura General Plan and County Code. Therefore, although the following analysis utilizes the County of Ventura's noise standards and thresholds for the purpose of evaluating the project under CEQA, the project would not be subject to the County's noise ordinance or General Plan.

County of Ventura General Plan

The County of Ventura General Plan states noise-generating facilities constructed near noise sensitive receivers shall not generate outdoor noise levels at nearby sensitive receivers exceeding the following standards, as measured at the exterior wall of the building:

- L_{eq}[1H] of 55dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 6:00 a.m. to 7:00 p.m.
- L_{eq}[1H] of 50dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 7:00 p.m. to 10:00 p.m.

- L_{eq}[1H] of 45dB(A) or ambient noise level plus 3dB(A), whichever is greater, during any hour from 10:00 p.m. to 6:00 a.m.

This analysis utilizes these standards to evaluate the significance of the project's operational noise impacts.

Ventura County Construction Noise Threshold Criteria and Control Plan

The County of Ventura Construction Noise Threshold Criteria and Control Plan establishes thresholds for temporary construction-generated noise at sensitive receptors. This analysis utilizes these thresholds to evaluate the significance of the project's construction noise impacts. Construction noise thresholds are divided into daytime hours (7:00 a.m. to 7:00 p.m.), evening hours (7:00 p.m. to 10:00 p.m.), and nighttime hours (10:00 p.m. to 7:00 a.m.). Per the Construction Noise Threshold Criteria and Control Plan, hospitals and nursing homes are sensitive receivers at all hours, single- and multi-family residences as well as hotels/motels are sensitive receivers during evening and nighttime hours, and schools, churches and libraries are sensitive receivers during daytime and evening hours when in use. Daytime construction noise thresholds are summarized in Table 8.

Table 8 Daytime Construction Activity Noise Threshold Criteria

Construction Duration Affecting Noise Sensitive Receivers	Noise Threshold Criteria shall be the greater of these noise levels at the nearest receiver area or 10 feet from the nearest noise sensitive building	
	Fixed Le_q[1H], dBA	Hourly Equivalent Noise Level, dBA[1, 2]
0 - 3 days	75	Ambient L_{eq}[1H] + 3 dB
4 - 7 days	70	Ambient L_{eq}[1H] + 3 dB
1 - 2 weeks	65	Ambient L_{eq}[1H] + 3 dB
2 - 8 weeks	60	Ambient L_{eq}[1H] + 3 dB
Longer than 8 weeks	55	Ambient L_{eq}[1H] + 3 dB

[1] The instantaneous L_{max} shall not exceed the Noise Threshold Criteria by 20 dBA more than 8 times per daytime hour.

[2] Local ambient L_{eq} measurements shall be made on any mid-week day prior to project work.

Source: County of Ventura 2010

In addition, the Construction Noise Threshold Criteria and Control Plan establishes thresholds of 50 dBA L_{eq}[1H] for construction activities occurring during evening hours (7:00 p.m. to 10:00 p.m.) near residential land uses and 45 dBA L_{eq}[1H] for construction activities occurring during nighttime hours (10:00 p.m. to 7:00 a.m.) near residential and live-in institutional land uses. The Construction Noise Threshold Criteria and Control Plan also specifies a significant construction noise impact would occur if maximum construction noise levels exceed the evening and nighttime noise threshold criteria by 20 dBA more than six times per evening hour or four times per nighttime hour (County of Ventura 2010).

Methodology

Construction Noise

Construction noise estimates are based on noise levels reported by the FHWA's Highway Construction Noise Handbook (2006). Reference noise levels were used to estimate noise levels at sensitive receivers based on a standard noise attenuation rate of 6 dBA per doubling of distance (line-of-sight method of sound attenuation for point sources of noise), using FHWA's Roadway Construction Noise Model (RCNM). The construction equipment list used in the analysis is summarized in Table 1 under *Description of Project*. This analysis conservatively assumes all three construction phases (i.e., site preparation, pile driving, and system installation) would overlap simultaneously.

For construction noise assessment, construction equipment can be considered to operate in two modes: stationary and mobile. As a rule, stationary equipment operates in a single location for one or more days at a time, with either fixed-power operation (e.g., pumps, generators, and compressors) or variable-power operation (e.g., pile drivers, rock drills, and pavement breakers). Mobile equipment moves around the construction site with power applied in cyclic fashion, such as bulldozers, graders, and loaders (FTA 2018). Noise impacts from stationary equipment are assessed from the center of the equipment, while noise impacts from mobile construction equipment are assessed from the center of the equipment activity area (e.g., construction site).

The average hourly noise level ($L_{eq[1H]}$) and maximum noise level (L_{max}) were modeled from the combined use of equipment during individual construction phases as well as from the simultaneous occurrence of all three phases. See Appendix E for RCNM output results. Construction noise from simultaneously-occurring phases was summed logarithmically.

Operational Noise

Table 9 summarizes reference noise levels for each piece of equipment expected to be utilized during project operation. Reference noise levels for expected stationary equipment have been identified in previous environmental evaluations of other solar projects and are referenced here. Noise from these sources would attenuate at the standard rate of 6 dBA per doubling of distance (line-of-sight method of sound attenuation for point sources of noise).

Table 9 Reference Noise Levels for Equipment Utilized During Project Operation

Equipment Type	Reference Noise Level (dBA $L_{eq[1H]}$)	Distance from Source (feet)
Enclosed Inverter[1]	55	50
Medium/High Voltage Transformer[2]	67	1

dBA = A-weighted decibels, $L_{eq[1H]}$ = steady-state equivalent noise level averaged over an hour

[1] County of San Luis Obispo 2011

[2] County of Fresno 2018

Vibration

Groundborne vibration levels from construction equipment are based on noise levels reported by the FHWA (2006) *Highway Construction Noise Handbook* and the FTA (2018) *Transit Noise and Vibration Impact Assessment*. Reference levels from those documents were then used to estimate vibration levels at nearby sensitive receptors.

The proposed project would not include stationary sources of vibration as part of operational activities. According to the Caltrans guidance manual, perceivable vibration caused by mobile sources is normally limited to heavy truck traffic (Caltrans 2013b).

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

Construction Noise

Construction of the project would involve the use of a variety of noise-generating equipment throughout various phases of construction, including trucks to transport materials to the site, heavy machinery to grade and clear the site, and a drill rig to install foundation supports for solar PV array modules. Construction activities would occur between the daytime hours of 7:00 a.m. to 7:00 p.m.; therefore, this analysis assesses construction noise impacts at Modoc Hall, which is the nearest daytime noise-sensitive receiver. Residential land uses are not typically considered sensitive to construction noise during daytime hours; therefore, this analysis does not evaluate construction noise impacts to the nearest residential land uses (student housing at Anacapa Village, located approximately 3,600 feet southeast of the project site). Per the County's (2010) Construction Noise Threshold Criteria and Control Plan, the daytime noise threshold criteria for construction projects lasting longer than 8 weeks is 55 dBA L_{eq}. In addition, a significant construction noise impact would occur if maximum construction noise levels exceed 55 dBA L_{eq} by 20 dBA (i.e., 75 dBA L_{max}) more than 8 times per daytime hour.

During a typical construction day, equipment would operate throughout the site at an average distance of 2,400 feet from Modoc Hall. As shown in Table 10, average hourly construction noise levels generated by individual construction phases would range from approximately 49 to 52 dBA L_{eq} at Modoc Hall. Assuming conservatively all three construction phases would occur simultaneously, combined construction noise levels would be approximately 55 dBA L_{eq}, which would not exceed the threshold of 55 dBA L_{eq}. Furthermore, maximum noise levels would range from approximately 51 to 56 dBA L_{max}, which would not exceed the threshold of 75 dBA L_{max}. Therefore, construction noise impacts would be less than significant.

Table 10 Construction Noise Levels at Nearest Sensitive Receiver (2,400 Feet)

Construction Phase	Average Noise Level (dBA L_{eq})	Daytime Hourly Noise Level Threshold (dBA L_{eq})	Maximum Noise Level (dBA L_{max})	Daytime Maximum Noise Level Threshold (dBA L_{max})	Exceeds Thresholds?
Site Preparation	50	55	51	75	No
Pile Driving	49	55	51	75	No
System Installation	52	55	56	75	No
Combined Noise Levels	55	55	56[1]	75	No

[1] The L_{max} value is the maximum instantaneous noise level generated by the loudest single piece of equipment operating during each phase. Unlike average L_{eq} values, which assume multiple pieces of equipment operating within the one-hour averaging period, L_{max} values are not summed because it is not assumed a given piece of equipment would generate its peak noise level at the same time as another piece of equipment.

On-Site Operational Noise

Solar PV Array and Associated Electrical Equipment

The project would operate continuously, seven days a week. Potential stationary noise sources would include inverters and transformers associated with the solar PV array. Electrical equipment would be clustered in two locations, one adjacent to the inactive pump house in the middle of the array, and the other location along the northeastern edge of the project site (see site plan in Figure 4a and Figure 4b). The nearest sensitive receiver, Modoc Hall, would be located approximately 2,100 feet from the nearest noise-generating electrical equipment. At this distance, an enclosed inverter would generate a noise level of approximately 39 dBA L_{eq}, and a medium/high voltage transformer would generate a noise level of approximately 34 dBA L_{eq}. Assuming the project would require four inverters and four transformers, project operation would generate a combined noise level of approximately 46 dBA L_{eq} at Modoc Hall, which would not exceed the thresholds of 55 dBA L_{eq}[1H] during daytime hours (6:00 a.m. to 7:00 p.m.) or 50 dBA L_{eq}[1H] during evening hours (7:00 p.m. to 10:00 p.m.; assuming there are evening classes).

The solar PV system would only be operational during hours of sunlight, which are typically between 6:00 a.m. to 8:30 p.m. Nevertheless, for approximately two and a half months of the year, the sun rises between 5:30 a.m. and 6:00 a.m., which falls within the range of nighttime hours (10:00 p.m. to 6:00 a.m.). However, given the low, indirect angle of the sun during this brief time frame, the solar PV system would likely not be operational and would not be generating noise. In addition, the nighttime threshold would only apply to residential land uses, the nearest of which is Anacapa Village (student housing) located approximately 3,600 feet to the southeast. At this distance, project operation would generate a combined noise level of approximately 40 dBA L_{eq}, which would not exceed the threshold of 45 dBA L_{eq} during nighttime hours (10:00 p.m. to 6:00 a.m.). In addition, Anacapa Village would be shielded from the project site by intervening topography, which would further reduce nighttime noise levels. Accordingly, impacts would be less than significant.

Maintenance Activities

Operation and maintenance would require the use of water trucks and handheld tools. However, given the low intensity of these activities and the distance from the project site to the nearest noise-sensitive receiver (i.e., Modoc Hall located 1,750 feet to the southeast), these activities would not result in elevated ambient noise levels. Therefore, noise impacts from maintenance activities would be less than significant.

Roadway Noise Impacts

Operation of the project would require as-needed maintenance activities and semi-annual panel washing. In both cases, approximately two vehicle trips (e.g., pickup trucks, water trucks) would be required for each day of maintenance/panel washing. This nominal increase in vehicle trips on Lewis Road, Potrero Road, and University Drive would not result in a perceptible increase in ambient noise levels generated by vehicular traffic; therefore, roadway noise impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

The FTA recommends vibration impact thresholds to determine whether groundborne vibration would be "excessive." According to the FTA, groundborne vibration impact criteria for residential receivers during nighttime hours are 72 VdB for frequent events, 75 VdB for occasional events, and 80 VdB for infrequent events. Groundborne vibration impact criteria for institutional land uses (e.g., university academic buildings) during daytime hours are 75 VdB for frequent events, 78 VdB for occasional events, and 83 VdB for infrequent events. In addition, groundborne vibration levels in excess of 100 VdB could damage fragile buildings (FTA 2018).

Construction Vibration

Construction activity would create temporary groundborne vibration. Construction of the proposed project would utilize large bulldozers, loaded trucks, vibratory rollers, and a drill rig. The nearest vibration-sensitive receiver is Modoc Hall (a university academic building), located approximately 1,750 feet southeast of the project site. Therefore, this analysis conservatively assumes construction equipment may operate at the southeastern edge of the project site at a distance of approximately 1,750 feet from Modoc Hall. Table 11 lists groundborne vibration levels from various pieces of construction equipment at this distance.

Table 11 Vibration Source Levels for Construction Equipment

Equipment	Vibration Levels at Nearest Sensitive Receiver at 1,750 Feet (VdB)
Large Bulldozer	46
Loaded Trucks	42
Vibratory Roller	53
Caisson Drilling[1]	46

VdB = vibration decibels

[1] Caisson drilling was used as a proxy for the bore/drill rig.

See Appendix E for vibration calculations.

As shown in Table 11, vibration levels from construction equipment would range from 42 VdB to 53 VdB at 1,750 feet from the source. Groundborne vibration would be similar to the typical background vibration velocity level of 50 VdB and would not exceed the thresholds of 75 VdB for frequent vibration events affecting institutional land uses or 100 VdB for structural damage impacts (FTA 2018). In addition, project construction activities would be limited to the hours of 7:00 a.m. to 7:00 p.m. and would not generate vibration impacting residential land uses during sensitive nighttime hours. Therefore, construction-related vibration impacts would be less than significant.

Operational Vibration

On-site maintenance activities and panel washing would require small- and medium-sized trucks. As discussed under *Methodology*, perceivable vibration is limited to heavy truck traffic (Caltrans 2013b). No heavy equipment is anticipated to be used during normal operations. Therefore, no operational vibration impact would occur.

LESS THAN SIGNIFICANT IMPACT

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?

The nearest public airport is Camarillo Airport, which is located approximately 3.8 miles northwest of the project site. The project site is not located in an airport land use plan or within two miles of a public airport (Ventura County Airport Land Use Commission 2000). The project site is located approximately 3.5 miles northeast of Naval Base Ventura County Point Mugu, which includes an airport. Although the project site does experience occasional flyovers from aircraft travelling to and from Naval Base Ventura County Point Mugu, the project site is located outside the 60-decibel noise contour and would not require permanent on-site personnel during operation (Ventura County Transportation Commission 2014). Therefore, these flyovers would not expose people working in the project area to excessive noise levels. No impact would occur.

NO IMPACT

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14 Population and Housing

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

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

No unplanned population growth would occur as a result of the project. No new homes, businesses, or other land uses are proposed, and no extension of roads or other infrastructure would occur. Access to the project site would continue to be taken from existing farm roads off of Old Lewis Road. The only new infrastructure proposed are 20-foot wide unpaved access roads along the perimeter of the project site and between solar PV arrays. No impacts would occur.

NO IMPACT

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

The project site is currently undeveloped and vacant. No housing or people would be displaced as a result of implementation of the proposed project. No impacts would occur.

NO IMPACT

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15 Public Services

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

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

The project site is located on vacant land near CSUCI's core campus. Fire protection for the entire campus is presently provided by the VCFD. Stations 50 and 32 are the nearest fire station, located approximately 5.4 and 5.8 miles from the project site, respectively. Station 50 is located at 189 Las Posas Road in Camarillo, and Station 32 is located at 830 South Reino Road in Newbury Park.

The project would include installation of a solar PV facility with 20-foot wide, unpaved access roads constructed along the perimeter of the project site and between solar PV arrays. The project would not include any substantial structures or permanent onsite personnel. Vegetation within the project site would be maintained by livestock grazing or other non-mechanical control technique. Alternatively, a weed trimmer may be used within the fenced solar PV array area. Outside the fence, the campus would plan to maintain a thirty-foot fire break by similar maintenance technique to protect the solar PV array against wildfire damage. As detailed in *Other Public Agencies Whose Approval is Required*, Ventura County Fire Department and the California State Fire Marshal would review access plans for the project and approval would be necessary before project construction begins. Additionally, existing residences (student housing) are more than 3,000 feet from the project

site, and the only other nearby structures are those associated with the Camrosa Water District Round Mountain Water Treatment Plant south of the project site. Therefore, while fire protection services would continue to be required at the site, construction of the project would not result in the need for new or physically altered facilities for fire protection. No impact would occur.

NO IMPACT

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

Police protection services are provided by the University Police Department. The police station is on the main campus less than one mile east of the project site on Camarillo Street near the Administration Building. The University provides and funds police protection and traffic law enforcement services for the campus. The proposed project includes installation of solar PV energy facilities with no permanent on-site personnel. Because the solar PV array would be operated and monitored remotely for a majority of the year, it could potentially become an attractive nuisance and draw people to the site. However, as mentioned in the *Project Description*, the site would be fenced and gated. Implementation of the proposed project would not increase the local population (employees or residents). Implementation of the proposed project would not create the need for new or physically altered police protection facilities. Impacts would be less than significant. No impact would occur.

NO IMPACT

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

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

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

Implementation of the proposed project would not substantially increase the local population because the proposed project does not include housing or permanent on-site employees. Any project that involves construction has an impact on the demand for additional housing due to potential housing demand created by construction workers. However, project construction would be short-term (up to seven months), and there is a sufficient pool of construction workers within Ventura County to supply the project. Therefore, the proposed project would not cause people to relocate to the local area for construction work or result in substantial adverse physical impacts to

schools, parks or other public facilities in the region and because it would not generate population growth would not necessitate new or physically altered facilities. No impact would occur.

Impacts to other public facilities (e.g., sewer, storm drains, and roadways) are discussed in Section 16, *Transportation/Traffic*, and Section 18, *Utilities and Service Systems*, of this Initial Study.

NO IMPACT

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16 Recreation

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

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

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

The proposed project involves the installation of a new solar PV system and does not include any recreational facilities. Furthermore, no increase in population would occur in the area as a result of the project. Therefore, no increase in use of existing neighborhood and regional parks or other recreational facilities would take place, and no construction or expansion of existing recreational facilities would be required. No impact would occur.

NO IMPACT

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17 Transportation

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

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

Construction traffic would be temporary and limited to the duration of the construction schedule (seven months). Based on the CalEEMod provided defaults for construction vendor trips, up to 24 delivery trips would be expected per day during the peak of construction (see Appendix A). Access to the project site would be provided from Old Lewis Road (paralleling Lewis Road) accessed off of Potrero Road and then on farm roads to the project site. Potrero Road is a two-lane road with a turn lane adjacent to the intersection with Old Lewis Road. Potrero Road provides the main access to Lewis Road, an arterial providing access to the Pacific Coast Highway (U.S. Highway 1) to the south and U.S. Highway 101 to the north. Additionally, traffic due to construction deliveries is typically spread throughout the day and would not be limited to peak traffic hours.

After construction is complete, operation of the project would not generate substantial amounts of traffic. The facility would be monitored and operated remotely and would only have personnel on-site for periodic panel cleaning and maintenance. Panel washing would require temporary on-site staffing and the use of a water truck and is anticipated to occur approximately two times per year. Impacts to roadway operation would be less than significant.

No transit stops are located adjacent to the project site. There are bike lanes located on Lewis Road and University Drive adjacent to the project site and, while there are pedestrian walkways at the intersection of Lewis Road and University Drive and sidewalks over the University Drive overpass, there are no additional sidewalks adjacent to the project site. In addition, construction traffic would not be routed along University Drive and would therefore not conflict with bike lanes and

pedestrian walkways along this roadway. Therefore, the project would not alter or conflict with any existing transit, bicycle or pedestrian facilities.

LESS THAN SIGNIFICANT IMPACT

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

CEQA Guidelines Section 15064.3(b) identifies criteria for evaluating transportation impacts. Specifically, the guidelines state vehicle miles travelled (VMT) exceeding an applicable threshold of significance may indicate a significant impact. According to Section 15064.3(b)(3) of the CEQA Guidelines, a lead agency may include a qualitative analysis of operational and construction traffic. Pursuant to Section 15064.3(c), the provisions of this section do not apply statewide until July 1, 2020, although a lead agency may elect to immediately apply the provisions of the updated guidelines. CSU is in the process of updating its Transportation Impact Study Manual to address VMT impacts. In the interim, CSU has issued guidance that states (CSU 2019):

> If a Draft CEQA document will be released for public review prior to the issuance of the CSU Transportation Impact Study Manual update, such CEQA documents should include analysis of the project's transportation-related VMT impacts to the extent reasonably feasible…the VMT analysis incorporated in such 'in-progress' CEQA documents should be limited to estimating the project's VMT and comparing the VMT estimate to the relevant VMT average. However, any conclusions regarding the significance of such impacts should not be made; thus, the analysis should be provided for information purposes only and not for the purpose of identifying significant impacts.

A VMT calculation is typically conducted on a daily or annual basis, for long-range planning purposes. As discussed under item (a), traffic on local roadways may be temporarily increased during project construction due to the presence of construction vehicles and equipment. Increases in VMT from construction would be short-term, minimal and temporary. In addition, maintenance of the proposed project would consist of limited as-needed site visits and semi-annual panel washing, which would not substantially contribute to VMT in the project area. Per CSU guidance stated above, this analysis does not make a conclusion regarding the significant of the project's VMT impact.

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

d. Would the project result in inadequate emergency access?

Construction traffic and operational traffic would access the site from Old Lewis Road (paralleling Lewis Road) accessed off of Potrero Road and then on farm roads to the project gates. Old Lewis Road is a frontage road that is gated and not publicly accessible. After construction, operational traffic would be minimal with temporary staffing on-site for panel cleaning approximately two times per year.

The project would not introduce or encourage any incompatible land uses in the project site vicinity as it involves the construction of a solar electricity generation facility in a predominantly rural area. In addition, the proposed project includes construction of 20-foot wide access roads between and around the perimeter of the solar PV array. No impact would occur.

NO IMPACT

18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or 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:				
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), or	☐	☐	☐	■
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.	☐	☐	☐	■

Rincon contacted the NAHC on August 8, 2019 to request a search of the SLF for the project site. A response was received from the NAHC on August 12, 2019 stating the SLF search had been completed with negative results. Following the SLF search, CSUCI staff prepared and sent AB 52 notification letters by certified mail to ten Native American individuals on September 18, 2019. Seven of the ten notification letters had a certified letter response signed by recipients. CSUCI also followed up by phone with tribal representatives who had previously consulted on CSUCI projects. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project" when that tribe has requested notice of projects proposed within the jurisdiction of the lead agency. Under AB 52, tribes have 30 days to respond and request consultation; thus, tribes had until October 18, 2019 to respond. Documentation of AB 52 consultation is available in Appendix C. Patrick Tumamait of the Barbareño/ Ventureño Band of Mission Indians contacted CSUCI staff with a question regarding whether the cultural resource studies were being prepared in accordance with state guidelines, but he did not request formal consultation under AB 52. As of November 26, 2019, no tribes have responded to the AB 52 notification letters with a request for consultation.

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is 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)?

b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is 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?

As detailed in Section 5, *Cultural Resources*, according to the Final Program Environmental Impact Report prepared for the California State University, Channel Islands Campus Master Plan (CSUCI 1998:5.4-2), Round Mountain (*Satwiwa)* is considered significant under CEQA. Subsequently, AB 52 consultation conducted as part of the CEQA process for the Specific Reuse Plan Amendment and Phase 2 Development of the East Campus Residential Neighborhood Project (CSUCI 2017) resulted in the identification of Round Mountain as a Tribal Cultural Resource by local Chumash groups. The project site is visible from portions of the non-public trail on Round Mountain and the proposed solar PV array would alter views from Round Mountain where the project site is visible from the trail. However, as detailed in Section 1, *Aesthetics,* views from Round Mountain already include roadways, the CSUCI campus, and intensive agricultural uses, such as hoop houses, development similar to the proposed project. Moreover, the project site is over 1,000 feet from the entrance to the non-public trail on Round Mountain. The anti-reflective coating on the solar panels, in addition to the distance, would reduce potential glare impacts to the non-public trail to a less than significant level. Therefore, the development of the solar PV array would not result in a substantial adverse change in the significance of Round Mountain.

No tribal cultural resources were identified in the project site at the time of this report preparation, based on the results of the SLF search, tribal outreach conducted under AB 52, the site reconnaissance survey, and XPI. Therefore, no substantial adverse change in the significance of a tribal cultural resource would occur; the project would have no impact.

NO IMPACT

19 Utilities and Service Systems

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

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

Water

The project site would have no permanent on-site personnel and no on-site facilities requiring water service. Water required during construction and maintenance activities would be delivered to the site via water trucks as needed. The proposed toyon trees to be planted along portions of the parcel boundary would be temporarily irrigated with recycled water until established. Irrigation would be

run on the surface and would connect to the irrigation system currently existing along University Drive. Washing of the solar PV panels to remove debris and improve energy production would be required up to two times per year. Water trucks would obtain water from nearby university facilities. Consequently, the project would not require or result in new water infrastructure resulting in significant effects. No impact to water infrastructure would occur.

Wastewater Treatment

The project would not involve permanent on-site personnel or on-site restroom facilities. Therefore, no wastewater would be generated, and septic tanks would not be necessary. No impact related to wastewater treatment facilities would occur.

Stormwater Drainage

The project site is located in an undeveloped area of the urbanized CSUCI campus. Implementation of the proposed project would not substantially increase impervious surfaces in the project area. Stormwater would run off the surfaces of the solar PV panels and fall onto the unpaved ground, where it would follow existing stormwater drainage patterns. No new or expanded stormwater drainage facilities would be required, and no impact would occur.

Electric Power

The proposed project is itself an electric power facility, the environmental effects of which are analyzed throughout this IS-MND. As concluded by this IS-MND, the electric power facilities included in the proposed project would not cause unmitigable significant environmental impacts. Consequently, no additional impact related to electric power facilities would occur.

Natural Gas

The proposed project would not involve any components requiring natural gas service. Therefore, the project would not result in the relocation of natural gas facilities. Consequently, no impact related to natural gas facilities would occur.

Telecommunications

The project site would have no permanent on-site personnel, but would include remote data collection systems for monitoring production, system health, and weather conditions. As concluded by this IS-MND, the telecommunications facilities included in the proposed project would not cause unmitigable significant environmental impacts. Consequently, no additional impact related to telecommunications facilities would occur.

LESS THAN SIGNIFICANT IMPACT

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

As discussed in Item a, the project site would have no permanent on-site personnel and no on-site facilities requiring water service. The project would use approximately 273,000 gallons (0.8 acre-feet) of water per year for panel washing. Water would be obtained from nearby CSUCI facilities and delivered to the site by water trucks.

As described above, Camrosa supplies water to the CSUCI campus. Camrosa's *2015 Urban Water Management Plan* projects an annual water surplus of between approximately 5,400 and 12,800 acre-feet per year between 2020 and 2035. Consequently, the project would have sufficient supplies available to meet its water demand of 0.8 acre-feet of water per year. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

As discussed in Item a, the project would not involve permanent on-site personnel or on-site restroom facilities. Therefore, no wastewater would be generated, and no impact would occur.

NO IMPACT

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

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

The project site is currently undeveloped and would not require any demolition during construction. The proposed project would adhere to state and local regulations pertaining to construction waste diversion and recycling. The project site would be operated and monitored remotely with personnel on-site only for periodic panel washing. Therefore, little solid waste would be produced by the project. The proposed project would produce minimal waste during construction and operation and would comply with applicable statutes and regulations related to solid waste. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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20 Wildfire

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

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

The project site is located on vacant, fallow agricultural land immediately surrounded by both active agricultural land and the remainder of the 153-acre undeveloped parcel, in which the project site is located, to the south and east. According to Cal Fire, the project site is not located in a Fire Hazard Severity Zone, but it is located approximately 750 feet north of an area recommended for designation as a very high fire hazard severity zone, which includes Round Mountain and the Camrosa Water District Round Mountain Water Treatment Plant (CALFIRE 2010).

As detailed in Section 9, *Hazards and Hazardous Materials*, the proposed project would not involve the development of structures, which could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Access to the site is from Old Lewis Road (paralleling Lewis Road) accessed off of Potrero Road and then on farm roads to the project gates and on-site access roads. Additionally, after construction, the project

would be operated and monitored remotely. An existing off-site operations center would continuously monitor the production and condition of the solar PV system. The operations center would dispatch maintenance staff to the site on an as-needed basis. No impact to adopted emergency response plans or emergency evacuation plans would occur.

NO IMPACT

b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

According to Cal Fire, the project site is not located in a Fire Hazard Severity Zone, but it is located approximately 750 feet north of an area recommended for designation as a very high fire hazard severity zone, which includes Round Mountain and the Camrosa Water District Round Mountain Water Treatment Plant (CALFIRE 2010).

The project site is located on vacant land immediately surrounded by both active agricultural land and the remainder of the 153-acre undeveloped parcel, in which the project site is located, to the south and east. The parcel was tilled in 2019 for vegetation maintenance purposes. As such, vegetation within the project site is sparse and mainly consists of weedy non-native ruderal species. During project operation, vegetation within the project site would be maintained by livestock grazing or other non-mechanical control technique. Alternatively, a weed trimmer may be used within the fenced solar PV array area. Outside the fence, the campus would plan to maintain a thirty-foot fire break by similar maintenance technique to protect the solar PV array against wildfire damage. The project does not include housing and does not require permanent on-site personnel. Therefore, the project would not exacerbate wildfire risk and would not expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Moreover, the project would utilize existing underground conduits running alongside University Drive, adjacent to the project site, to connect the solar PV system to the preferred POC. Approximately 200 to 300 feet of trenching and conduit routing would be required to get from the solar PV array station to the vault where existing conduits begin on University Drive. All proposed conduits would also be located underground, further reducing wildfire risk from the project during operation. Impacts related to installation or maintenance of associated infrastructure would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

As detailed in Section 10, *Hydrology and Water Quality*, the project would not alter the course of any drainage and would not result in increased runoff from the site. As discussed in Section 10, *Hydrology and Water Quality*, the project would leave the majority of the site as pervious surfaces

by only adding impervious surfaces at the footings for the individual PV panels, fence posts, as well as the pads for the electrical equipment. Therefore, stormwater discharge would remain at preconstruction levels, and stormwater would continue to infiltrate on site. The project site is also relatively flat and project construction would include minimal grading for surface roads and to create two raised pads for electrical equipment. Therefore, the project would have no impact related to exposing people or structures to significant risk from post-fire slope instability.

NO IMPACT

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21 Mandatory Findings of Significance

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

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?

As discussed in Section 4, *Biological Resources*, suitable nesting habitat for common and protected bird species occurs within the project site, particularly the mulefat scrub habitat. Implementation of standard best management practices, including pre-construction nesting bird surveys, establishment of no-work buffers as appropriate, and fencing for avoidance of suitable special-status species habitat, would avoid and/or minimize impacts to special-status wildlife species. With implementation of mitigation measures BIO-1 and BIO-2, impacts to special-status wildlife species and nesting birds would be less than significant. Therefore, the project does not 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, or substantially reduce the number or restrict the range of a rare or endangered plant or animal.

The project site does not contain any known cultural resources and there is no evidence important examples of the major periods of California history or prehistory are present at the site. However, there is a potential to uncover cultural resources during ground-disturbing activities. Mitigation Measure CR-1 would require monitoring of initial ground-disturbing activities by a qualified archaeologist and Mitigation Measure CR-2 would require work be halted if previously unknown cultural resources are discovered during construction and require the find to be evaluated by a qualified archaeologist. As a result, the proposed project would not eliminate an important example of major periods of California history or prehistory.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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)?

As described in the discussion of environmental checklist Sections 1 through 20, with respect to all environmental issues, the proposed project would not result in significant and unmitigable impacts to the environment; all anticipated impacts associated with project construction and operation would be either less than significant or less than significant with mitigation incorporated. This is largely due to the fact project construction activities would be temporary, and project operational activities would not significantly alter the environmental baseline condition.

Cumulatively considerable impacts could occur if the construction of other projects occurs at the same time as the proposed project and in the same vicinity, such that the effects of similar impacts of multiple projects combine to expose adjacent sensitive receptors to greater levels of impact than would occur under the proposed project. For example, if the construction of other projects in the area occurs at the same time as construction of the proposed project, potential impacts associated with noise and traffic to residents in the project area may be more substantial. There are no other planned or pending projects within the immediate vicinity of the project site, which would create cumulative impacts. Construction of Phase 2 of the CSUCI Specific Reuse Plan (also referred to as University Glen or the East Campus Residential Neighborhood Project) may occur at the same time as construction of the proposed project, but it would be located nearly a mile (0.9 mile) east of the project site and would not result in cumulative localized air quality impacts. If overlap occurred it would be for a short duration (at most 7 months) and construction-related vehicle trips would only use one common roadway, Lewis Road, an arterial providing access to the Pacific Coast Highway (U.S. Highway 1) to the south and U.S. Highway 101 to the north. Therefore, construction of these two projects simultaneously would not result in cumulative traffic impacts. The cumulative effect of construction period air impacts of this and other development projects in the regional air basin would be significant without mitigation. The project includes Mitigation Measures AQ-1 and AQ-2 to reduce project construction impacts to a less than significant level; therefore, the project's contribution to the regional cumulative air quality impact would not be cumulatively considerable.

Regarding potential cumulative aesthetic impacts, there are no planned or pending projects in the vicinity of the proposed project that, in combination with the proposed project, could result in a

cumulative impact to views from Lewis Road or Potrero Road, which are listed in the County's General Plan as eligible for listing as County-designated scenic highways. Similarly, there are no planned or pending projects that, in combination with the proposed project, would change the visual character of the project vicinity resulting in a cumulative impact. As discussed in Section 4.1, *Aesthetics,* the proposed solar PV array would have a similar visual character to that of the surrounding land uses, and would not result in a substantial degradation of the visual character of the area when completed; therefore, the project would not contribute to any existing cumulative impact to the visual character or quality of public views in the project area.

The project would not generate permanent on-site personnel; therefore, it would not contribute to cumulative impacts related to direct or indirect population growth, such as impacts to public services, recreation, population and housing, or cumulative impacts related to vehicle trips, such as noise and transportation. Impacts related to geology and soils and hazards and hazardous materials are inherently restricted to the project area and would not contribute to cumulative impacts associated with other future developments. Lastly, GHG impacts are cumulative by nature, and as discussed in Section 8, Greenhouse Gas Emissions, as a solar PV facility the project would have a beneficial project-level impact; therefore, it would not contribute to the significant cumulative climate change impact.

Project impacts are primarily temporary, localized effects, which would occur during the construction phase. Once operational, the project would not have significant adverse environmental impacts, which could combine with other projects' effects to create cumulatively considerable impacts. Therefore, the proposed project is not anticipated to result in a cumulatively considerable contribution to a significant cumulative impact.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

In general, impacts to human beings are associated with such issues as air quality, hazards and hazardous materials, and noise impacts. As detailed under Section 3, *Air Quality*, the proposed project would not result, either directly or indirectly, in adverse hazards related to air quality with implementation of mitigation measures AQ-1 and AQ-2 to reduce construction-related emissions. As discussed in Section 9, *Hazards and Hazardous Materials*, the project would not result in significant impacts associated with hazardous materials spills or leaks during construction and disturbance of contaminated soils. As discussed in Section 13, *Noise*, the project would have less than significant noise impacts from construction and operation due to substantial distance between the project site and sensitive receptors. Therefore, impacts to human beings would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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Appendix A

CalEEMod Results and Calculation Details

CSUCI Solar Array Project

Ventura County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	16.00	Acre	16.00	696,960.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Based on client schedule and assumptions re: pile driving and solar PV phase lengths

Off-road Equipment - Equipment list from PD

Off-road Equipment - Equipment list from PD

Off-road Equipment - Equipment list from PD

Trips and VMT - Changed vendor trips to 24/day (accounts for water trucks and utility trucks from equipment list)

Grading -

Vehicle Trips - ANNUAL RUN - Assumes up to 30 days of annual maintenance trips for the purposes of panel washing (2x per year for each panel)

Consumer Products - No consumer products

Area Coating - No architectural coating proposed on-site during construction or operation

Water And Wastewater - Panel washing water demand from PD

Construction Off-road Equipment Mitigation - VCAPCD Rule 55

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	41818	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	50.00
tblConstructionPhase	NumDays	300.00	130.00
tblConstructionPhase	PhaseEndDate	11/8/2021	11/23/2020
tblConstructionPhase	PhaseEndDate	1/2/2023	5/24/2021
tblConstructionPhase	PhaseStartDate	11/9/2021	11/24/2020
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.59	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.19	0.00

tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.3510e-003	0.00
tblFleetMix	MCY	3.9040e-003	0.00
tblFleetMix	MDV	0.11	1.00
tblFleetMix	MH	1.4900e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.1640e-003	0.00
tblFleetMix	SBUS	3.8000e-004	0.00
tblFleetMix	UBUS	1.0120e-003	0.00
tblOffRoadEquipment	HorsePower	187.00	97.00
tblOffRoadEquipment	LoadFactor	0.41	0.37
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Solar PV, Equipment, Conduit
tblOffRoadEquipment	PhaseName		Solar PV, Equipment, Conduit
tblOffRoadEquipment	PhaseName		Solar PV, Equipment, Conduit
tblTripsAndVMT	VendorTripNumber	114.00	24.00
tblTripsAndVMT	VendorTripNumber	114.00	24.00
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	0.01

tblWater	OutdoorWaterUseRate	0.00	273,000.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1201	0.8758	0.8394	2.0900e-003	0.1317	0.0439	0.1756	0.0433	0.0406	0.0838	0.0000	188.1614	188.1614	0.0305	0.0000	188.9245
2021	0.1412	0.9620	1.0647	2.4700e-003	0.1286	0.0506	0.1793	0.0344	0.0471	0.0815	0.0000	222.7895	222.7895	0.0304	0.0000	223.5493
Maximum	**0.1412**	**0.9620**	**1.0647**	**2.4700e-003**	**0.1317**	**0.0506**	**0.1793**	**0.0433**	**0.0471**	**0.0838**	**0.0000**	**222.7895**	**222.7895**	**0.0305**	**0.0000**	**223.5493**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1201	0.8758	0.8394	2.0900e-003	0.1136	0.0439	0.1575	0.0340	0.0406	0.0746	0.0000	188.1613	188.1613	0.0305	0.0000	188.9244
2021	0.1412	0.9620	1.0647	2.4700e-003	0.1286	0.0506	0.1793	0.0344	0.0471	0.0815	0.0000	222.7894	222.7894	0.0304	0.0000	223.5492
Maximum	**0.1412**	**0.9620**	**1.0647**	**2.4700e-003**	**0.1286**	**0.0506**	**0.1793**	**0.0344**	**0.0471**	**0.0815**	**0.0000**	**222.7894**	**222.7894**	**0.0305**	**0.0000**	**223.5492**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**6.92**	**0.00**	**5.08**	**11.93**	**0.00**	**5.60**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**9-1-2020**	**11-30-2020**	0.7231	0.7231
2	**12-1-2020**	**2-28-2021**	0.7244	0.7244
3	**3-1-2021**	**5-31-2021**	0.6558	0.6558
		Highest	0.7244	0.7244

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0451	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.9000e-004	2.9000e-004	0.0000	0.0000	3.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	4.0000e-005	6.0000e-005	5.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1491	0.1491	0.0000	0.0000	0.1492
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.9664	0.9664	4.0000e-005	1.0000e-005	0.9699
Total	**0.0451**	**6.0000e-005**	**6.9000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**1.1158**	**1.1158**	**4.0000e-005**	**1.0000e-005**	**1.1193**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0451	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.9000e-004	2.9000e-004	0.0000	0.0000	3.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	-2,641.0530	-2,641.0530	-0.1090	-0.0226	-2,650.5014
Mobile	4.0000e-005	6.0000e-005	5.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1491	0.1491	0.0000	0.0000	0.1492
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.9664	0.9664	4.0000e-005	1.0000e-005	0.9699
Total	**0.0451**	**6.0000e-005**	**6.9000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**-2,639.9372**	**-2,639.9372**	**-0.1090**	**-0.0226**	**-2,649.3821**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**236,706.52**	**236,706.52**	**272,575.00**	**225,600.00**	**236,795.68**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2020	9/14/2020	5	10	
2	Pile Driving	Building Construction	9/15/2020	11/23/2020	5	50	
3	Solar PV, Equipment, Conduit	Building Construction	11/24/2020	5/24/2021	5	130	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 0

Acres of Paving: 16

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	97	0.37
Site Preparation	Rollers	1	8.00	80	0.38
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Sweepers/Scrubbers	1	8.00	64	0.46
Pile Driving	Bore/Drill Rigs	1	8.00	221	0.50
Pile Driving	Cranes	1	7.00	231	0.29
Pile Driving	Forklifts	2	8.00	89	0.20
Pile Driving	Sweepers/Scrubbers	1	8.00	64	0.46
Pile Driving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Solar PV, Equipment, Conduit	Air Compressors	1	8.00	78	0.48
Solar PV, Equipment, Conduit	Cranes	1	7.00	231	0.29
Solar PV, Equipment, Conduit	Forklifts	2	8.00	89	0.20
Solar PV, Equipment, Conduit	Sweepers/Scrubbers	1	8.00	64	0.46
Solar PV, Equipment, Conduit	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Solar PV, Equipment, Conduit	Trenchers	1	8.00	78	0.50

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pile Driving	6	293.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Solar PV, Equipment, Conduit	7	293.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0328	0.0000	0.0328	0.0168	0.0000	0.0168	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0128	0.1252	0.0627	1.1000e-004		7.0700e-003	7.0700e-003		6.5100e-003	6.5100e-003	0.0000	10.1144	10.1144	3.2700e-003	0.0000	10.1961
Total	**0.0128**	**0.1252**	**0.0627**	**1.1000e-004**	**0.0328**	**7.0700e-003**	**0.0398**	**0.0168**	**6.5100e-003**	**0.0234**	**0.0000**	**10.1144**	**10.1144**	**3.2700e-003**	**0.0000**	**10.1961**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.7400e-003	0.0000	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4490	0.4490	1.0000e-005	0.0000	0.4493
Total	**2.4000e-004**	**1.6000e-004**	**1.7400e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4490**	**0.4490**	**1.0000e-005**	**0.0000**	**0.4493**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0147	0.0000	0.0147	7.5800e-003	0.0000	7.5800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0128	0.1252	0.0627	1.1000e-004		7.0700e-003	7.0700e-003		6.5100e-003	6.5100e-003	0.0000	10.1143	10.1143	3.2700e-003	0.0000	10.1961
Total	**0.0128**	**0.1252**	**0.0627**	**1.1000e-004**	**0.0147**	**7.0700e-003**	**0.0218**	**7.5800e-003**	**6.5100e-003**	**0.0141**	**0.0000**	**10.1143**	**10.1143**	**3.2700e-003**	**0.0000**	**10.1961**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.7400e-003	0.0000	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4490	0.4490	1.0000e-005	0.0000	0.4493
Total	**2.4000e-004**	**1.6000e-004**	**1.7400e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4490**	**0.4490**	**1.0000e-005**	**0.0000**	**0.4493**

3.3 Pile Driving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0354	0.3751	0.2569	5.7000e-004		0.0198	0.0198		0.0182	0.0182	0.0000	49.9895	49.9895	0.0162	0.0000	50.3937
Total	**0.0354**	**0.3751**	**0.2569**	**5.7000e-004**		**0.0198**	**0.0198**		**0.0182**	**0.0182**	**0.0000**	**49.9895**	**49.9895**	**0.0162**	**0.0000**	**50.3937**

3.3 Pile Driving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0600e-003	0.0652	0.0174	1.5000e-004	3.9900e-003	3.9000e-004	4.3800e-003	1.1500e-003	3.7000e-004	1.5200e-003	0.0000	14.9440	14.9440	1.2300e-003	0.0000	14.9748
Worker	0.0270	0.0182	0.1956	5.6000e-004	0.0591	4.2000e-004	0.0595	0.0157	3.9000e-004	0.0161	0.0000	50.6026	50.6026	1.3600e-003	0.0000	50.6367
Total	**0.0291**	**0.0834**	**0.2130**	**7.1000e-004**	**0.0631**	**8.1000e-004**	**0.0639**	**0.0168**	**7.6000e-004**	**0.0176**	**0.0000**	**65.5466**	**65.5466**	**2.5900e-003**	**0.0000**	**65.6115**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0354	0.3751	0.2569	5.7000e-004		0.0198	0.0198		0.0182	0.0182	0.0000	49.9894	49.9894	0.0162	0.0000	50.3936
Total	**0.0354**	**0.3751**	**0.2569**	**5.7000e-004**		**0.0198**	**0.0198**		**0.0182**	**0.0182**	**0.0000**	**49.9894**	**49.9894**	**0.0162**	**0.0000**	**50.3936**

3.3 Pile Driving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0600e-003	0.0652	0.0174	1.5000e-004	3.9900e-003	3.9000e-004	4.3800e-003	1.1500e-003	3.7000e-004	1.5200e-003	0.0000	14.9440	14.9440	1.2300e-003	0.0000	14.9748
Worker	0.0270	0.0182	0.1956	5.6000e-004	0.0591	4.2000e-004	0.0595	0.0157	3.9000e-004	0.0161	0.0000	50.6026	50.6026	1.3600e-003	0.0000	50.6367
Total	**0.0291**	**0.0834**	**0.2130**	**7.1000e-004**	**0.0631**	**8.1000e-004**	**0.0639**	**0.0168**	**7.6000e-004**	**0.0176**	**0.0000**	**65.5466**	**65.5466**	**2.5900e-003**	**0.0000**	**65.6115**

3.4 Solar PV, Equipment, Conduit - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0263	0.2453	0.1858	2.9000e-004		0.0157	0.0157		0.0146	0.0146	0.0000	25.3558	25.3558	7.0300e-003	0.0000	25.5315
Total	**0.0263**	**0.2453**	**0.1858**	**2.9000e-004**		**0.0157**	**0.0157**		**0.0146**	**0.0146**	**0.0000**	**25.3558**	**25.3558**	**7.0300e-003**	**0.0000**	**25.5315**

3.4 Solar PV, Equipment, Conduit - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1500e-003	0.0365	9.7600e-003	9.0000e-005	2.2400e-003	2.2000e-004	2.4500e-003	6.5000e-004	2.1000e-004	8.5000e-004	0.0000	8.3687	8.3687	6.9000e-004	0.0000	8.3859
Worker	0.0151	0.0102	0.1095	3.1000e-004	0.0331	2.4000e-004	0.0333	8.7900e-003	2.2000e-004	9.0000e-003	0.0000	28.3375	28.3375	7.6000e-004	0.0000	28.3566
Total	**0.0163**	**0.0467**	**0.1193**	**4.0000e-004**	**0.0353**	**4.6000e-004**	**0.0358**	**9.4400e-003**	**4.3000e-004**	**9.8500e-003**	**0.0000**	**36.7061**	**36.7061**	**1.4500e-003**	**0.0000**	**36.7424**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0263	0.2453	0.1858	2.9000e-004		0.0157	0.0157		0.0146	0.0146	0.0000	25.3558	25.3558	7.0300e-003	0.0000	25.5315
Total	**0.0263**	**0.2453**	**0.1858**	**2.9000e-004**		**0.0157**	**0.0157**		**0.0146**	**0.0146**	**0.0000**	**25.3558**	**25.3558**	**7.0300e-003**	**0.0000**	**25.5315**

3.4 Solar PV, Equipment, Conduit - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1500e-003	0.0365	9.7600e-003	9.0000e-005	2.2400e-003	2.2000e-004	2.4500e-003	6.5000e-004	2.1000e-004	8.5000e-004	0.0000	8.3687	8.3687	6.9000e-004	0.0000	8.3859
Worker	0.0151	0.0102	0.1095	3.1000e-004	0.0331	2.4000e-004	0.0333	8.7900e-003	2.2000e-004	9.0000e-003	0.0000	28.3375	28.3375	7.6000e-004	0.0000	28.3566
Total	**0.0163**	**0.0467**	**0.1193**	**4.0000e-004**	**0.0353**	**4.6000e-004**	**0.0358**	**9.4400e-003**	**4.3000e-004**	**9.8500e-003**	**0.0000**	**36.7061**	**36.7061**	**1.4500e-003**	**0.0000**	**36.7424**

3.4 Solar PV, Equipment, Conduit - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0860	0.8091	0.6645	1.0600e-003		0.0494	0.0494		0.0460	0.0460	0.0000	92.3759	92.3759	0.0255	0.0000	93.0123
Total	**0.0860**	**0.8091**	**0.6645**	**1.0600e-003**		**0.0494**	**0.0494**		**0.0460**	**0.0460**	**0.0000**	**92.3759**	**92.3759**	**0.0255**	**0.0000**	**93.0123**

3.4 Solar PV, Equipment, Conduit - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5300e-003	0.1194	0.0321	3.1000e-004	8.1500e-003	3.4000e-004	8.4900e-003	2.3500e-003	3.2000e-004	2.6700e-003	0.0000	30.2855	30.2855	2.4100e-003	0.0000	30.3457
Worker	0.0517	0.0335	0.3681	1.1100e-003	0.1205	8.5000e-004	0.1213	0.0320	7.8000e-004	0.0328	0.0000	100.1280	100.1280	2.5300e-003	0.0000	100.1914
Total	**0.0552**	**0.1528**	**0.4002**	**1.4200e-003**	**0.1286**	**1.1900e-003**	**0.1298**	**0.0344**	**1.1000e-003**	**0.0355**	**0.0000**	**130.4135**	**130.4135**	**4.9400e-003**	**0.0000**	**130.5371**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0860	0.8091	0.6645	1.0600e-003		0.0494	0.0494		0.0460	0.0460	0.0000	92.3758	92.3758	0.0255	0.0000	93.0121
Total	**0.0860**	**0.8091**	**0.6645**	**1.0600e-003**		**0.0494**	**0.0494**		**0.0460**	**0.0460**	**0.0000**	**92.3758**	**92.3758**	**0.0255**	**0.0000**	**93.0121**

3.4 Solar PV, Equipment, Conduit - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.5300e-003	0.1194	0.0321	3.1000e-004	8.1500e-003	3.4000e-004	8.4900e-003	2.3500e-003	3.2000e-004	2.6700e-003	0.0000	30.2855	30.2855	2.4100e-003	0.0000	30.3457
Worker	0.0517	0.0335	0.3681	1.1100e-003	0.1205	8.5000e-004	0.1213	0.0320	7.8000e-004	0.0328	0.0000	100.1280	100.1280	2.5300e-003	0.0000	100.1914
Total	**0.0552**	**0.1528**	**0.4002**	**1.4200e-003**	**0.1286**	**1.1900e-003**	**0.1298**	**0.0344**	**1.1000e-003**	**0.0355**	**0.0000**	**130.4135**	**130.4135**	**4.9400e-003**	**0.0000**	**130.5371**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.0000e-005	6.0000e-005	5.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1491	0.1491	0.0000	0.0000	0.1492
Unmitigated	4.0000e-005	6.0000e-005	5.4000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1491	0.1491	0.0000	0.0000	0.1492

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.16	0.00	0.00	304	304
Total	0.16	0.00	0.00	304	304

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	-2,641.0530	-2,641.0530	-0.1090	-0.0226	-2,650.5014
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	-8.289e+006	-2,641.0530	-0.1090	-0.0226	-2,650.5014
Total		**-2,641.0530**	**-0.1090**	**-0.0226**	**-2,650.5014**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0451	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.9000e-004	2.9000e-004	0.0000	0.0000	3.0000e-004
Unmitigated	0.0451	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.9000e-004	2.9000e-004	0.0000	0.0000	3.0000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0451					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.9000e-004	2.9000e-004	0.0000	0.0000	3.0000e-004
Total	**0.0451**	**0.0000**	**1.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.9000e-004**	**2.9000e-004**	**0.0000**	**0.0000**	**3.0000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0451					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	1.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.9000e-004	2.9000e-004	0.0000	0.0000	3.0000e-004
Total	**0.0451**	**0.0000**	**1.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.9000e-004**	**2.9000e-004**	**0.0000**	**0.0000**	**3.0000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.9664	4.0000e-005	1.0000e-005	0.9699
Unmitigated	0.9664	4.0000e-005	1.0000e-005	0.9699

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0.273	0.9664	4.0000e-005	1.0000e-005	0.9699
Total		**0.9664**	**4.0000e-005**	**1.0000e-005**	**0.9699**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0.273	0.9664	4.0000e-005	1.0000e-005	0.9699
Total		**0.9664**	**4.0000e-005**	**1.0000e-005**	**0.9699**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CSUCI Solar Array Project

Ventura County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	16.00	Acre	16.00	696,960.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Based on client schedule and assumptions re: pile driving and solar PV phases

Off-road Equipment - Equipment list from PD

Off-road Equipment - Equipment list from PD

Off-road Equipment - Equipment list from PD

Trips and VMT - Changed vendor trips to 24/day (accounts for water trucks and utility trucks from equipment list)

Grading -

Vehicle Trips - ANNUAL RUN - Assumes up to 30 days of annual maintenance trips for the purposes of panel washing (2x per year for each panel)

Consumer Products - No consumer products

Area Coating - No architectural coating proposed on-site during construction or operation

Water And Wastewater - Panel washing water demand from PD

Construction Off-road Equipment Mitigation - VCAPCD Rule 55

Energy Mitigation -

Fleet Mix - Assumed all medium duty vehicles (i.e. water trucks)

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	41818	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	50.00
tblConstructionPhase	NumDays	300.00	130.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.59	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.3510e-003	0.00

tblFleetMix	MCY	3.9040e-003	0.00
tblFleetMix	MDV	0.11	1.00
tblFleetMix	MH	1.4900e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.1640e-003	0.00
tblFleetMix	SBUS	3.8000e-004	0.00
tblFleetMix	UBUS	1.0120e-003	0.00
tblOffRoadEquipment	HorsePower	187.00	97.00
tblOffRoadEquipment	LoadFactor	0.41	0.37
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Pile Driving
tblOffRoadEquipment	PhaseName		Pile Driving
tblOffRoadEquipment	PhaseName		Solar PV, Equipment, Conduit
tblOffRoadEquipment	PhaseName		Solar PV, Equipment, Conduit
tblOffRoadEquipment	PhaseName		Solar PV, Equipment, Conduit
tblTripsAndVMT	VendorTripNumber	114.00	24.00
tblTripsAndVMT	VendorTripNumber	114.00	24.00
tblVehicleTrips	CC_TTP	0.00	100.00

tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	2.00
tblWater	OutdoorWaterUseRate	0.00	273,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.0316	25.0687	22.0259	0.0523	6.6591	1.4155	8.0746	3.3958	1.3022	4.6980	0.0000	5,195.7948	5,195.7948	0.8277	0.0000	5,216.4877
2021	2.7576	18.7596	21.1052	0.0495	2.5692	0.9924	3.5615	0.6851	0.9233	1.6084	0.0000	4,914.0822	4,914.0822	0.6574	0.0000	4,930.5163
Maximum	**3.0316**	**25.0687**	**22.0259**	**0.0523**	**6.6591**	**1.4155**	**8.0746**	**3.3958**	**1.3022**	**4.6980**	**0.0000**	**5,195.7948**	**5,195.7948**	**0.8277**	**0.0000**	**5,216.4877**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.0316	25.0687	22.0259	0.0523	3.0553	1.4155	4.4708	1.5437	1.3022	2.8459	0.0000	5,195.7948	5,195.7948	0.8277	0.0000	5,216.4877
2021	2.7576	18.7596	21.1052	0.0495	2.5692	0.9924	3.5615	0.6851	0.9233	1.6084	0.0000	4,914.0822	4,914.0822	0.6574	0.0000	4,930.5163
Maximum	**3.0316**	**25.0687**	**22.0259**	**0.0523**	**3.0553**	**1.4155**	**4.4708**	**1.5437**	**1.3022**	**2.8459**	**0.0000**	**5,195.7948**	**5,195.7948**	**0.8277**	**0.0000**	**5,216.4877**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**39.05**	**0.00**	**30.97**	**45.38**	**0.00**	**29.37**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2470	1.0000e-005	1.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.5000e-003	3.5000e-003	1.0000e-005		3.7300e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0644	0.0805	0.8385	2.6400e-003	0.1775	1.1500e-003	0.1786	0.0470	1.0600e-003	0.0481		263.4080	263.4080	7.0100e-003		263.5833
Total	**0.3114**	**0.0805**	**0.8401**	**2.6400e-003**	**0.1775**	**1.1600e-003**	**0.1786**	**0.0470**	**1.0700e-003**	**0.0481**		**263.4115**	**263.4115**	**7.0200e-003**	**0.0000**	**263.5870**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2470	1.0000e-005	1.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.5000e-003	3.5000e-003	1.0000e-005		3.7300e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0644	0.0805	0.8385	2.6400e-003	0.1775	1.1500e-003	0.1786	0.0470	1.0600e-003	0.0481		263.4080	263.4080	7.0100e-003		263.5833
Total	**0.3114**	**0.0805**	**0.8401**	**2.6400e-003**	**0.1775**	**1.1600e-003**	**0.1786**	**0.0470**	**1.0700e-003**	**0.0481**		**263.4115**	**263.4115**	**7.0200e-003**	**0.0000**	**263.5870**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2020	9/14/2020	5	10	
2	Pile Driving	Building Construction	9/15/2020	11/23/2020	5	50	
3	Solar PV, Equipment, Conduit	Building Construction	11/24/2020	5/24/2021	5	130	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 0

Acres of Paving: 16

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	97	0.37
Site Preparation	Rollers	1	8.00	80	0.38
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Sweepers/Scrubbers	1	8.00	64	0.46
Pile Driving	Bore/Drill Rigs	1	8.00	221	0.50
Pile Driving	Cranes	1	7.00	231	0.29
Pile Driving	Forklifts	2	8.00	89	0.20
Pile Driving	Sweepers/Scrubbers	1	8.00	64	0.46
Pile Driving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Solar PV, Equipment, Conduit	Air Compressors	1	8.00	78	0.48
Solar PV, Equipment, Conduit	Cranes	1	7.00	231	0.29
Solar PV, Equipment, Conduit	Forklifts	2	8.00	89	0.20
Solar PV, Equipment, Conduit	Sweepers/Scrubbers	1	8.00	64	0.46
Solar PV, Equipment, Conduit	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Solar PV, Equipment, Conduit	Trenchers	1	8.00	78	0.50

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pile Driving	6	293.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Solar PV, Equipment, Conduit	7	293.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.5495	25.0402	12.5351	0.0230		1.4147	1.4147		1.3015	1.3015		2,229.8316	2,229.8316	0.7212		2,247.8609
Total	**2.5495**	**25.0402**	**12.5351**	**0.0230**	**6.5523**	**1.4147**	**7.9671**	**3.3675**	**1.3015**	**4.6690**		**2,229.8316**	**2,229.8316**	**0.7212**		**2,247.8609**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0475	0.0285	0.3593	1.0400e-003	0.1068	7.5000e-004	0.1076	0.0283	6.9000e-004	0.0290		103.1961	103.1961	2.7500e-003		103.2649
Total	**0.0475**	**0.0285**	**0.3593**	**1.0400e-003**	**0.1068**	**7.5000e-004**	**0.1076**	**0.0283**	**6.9000e-004**	**0.0290**		**103.1961**	**103.1961**	**2.7500e-003**		**103.2649**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	2.5495	25.0402	12.5351	0.0230		1.4147	1.4147		1.3015	1.3015	0.0000	2,229.8316	2,229.8316	0.7212		2,247.8609
Total	**2.5495**	**25.0402**	**12.5351**	**0.0230**	**2.9486**	**1.4147**	**4.3633**	**1.5154**	**1.3015**	**2.8169**	**0.0000**	**2,229.8316**	**2,229.8316**	**0.7212**		**2,247.8609**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0475	0.0285	0.3593	1.0400e-003	0.1068	7.5000e-004	0.1076	0.0283	6.9000e-004	0.0290		103.1961	103.1961	2.7500e-003		103.2649
Total	**0.0475**	**0.0285**	**0.3593**	**1.0400e-003**	**0.1068**	**7.5000e-004**	**0.1076**	**0.0283**	**6.9000e-004**	**0.0290**		**103.1961**	**103.1961**	**2.7500e-003**		**103.2649**

3.3 Pile Driving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4155	15.0041	10.2743	0.0228		0.7927	0.7927		0.7293	0.7293		2,204.1583	2,204.1583	0.7129		2,221.9801
Total	**1.4155**	**15.0041**	**10.2743**	**0.0228**		**0.7927**	**0.7927**		**0.7293**	**0.7293**		**2,204.1583**	**2,204.1583**	**0.7129**		**2,221.9801**

3.3 Pile Driving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0804	2.5717	0.6572	6.2000e-003	0.1622	0.0154	0.1776	0.0467	0.0147	0.0614		665.7564	665.7564	0.0528		667.0754
Worker	1.0705	0.6431	8.0969	0.0234	2.4069	0.0170	2.4239	0.6384	0.0157	0.6541		2,325.8801	2,325.8801	0.0621		2,327.4322
Total	**1.1509**	**3.2148**	**8.7541**	**0.0296**	**2.5692**	**0.0324**	**2.6016**	**0.6851**	**0.0304**	**0.7155**		**2,991.6365**	**2,991.6365**	**0.1148**		**2,994.5077**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4155	15.0041	10.2743	0.0228		0.7927	0.7927		0.7293	0.7293	0.0000	2,204.1583	2,204.1583	0.7129		2,221.9801
Total	**1.4155**	**15.0041**	**10.2743**	**0.0228**		**0.7927**	**0.7927**		**0.7293**	**0.7293**	**0.0000**	**2,204.1583**	**2,204.1583**	**0.7129**		**2,221.9801**

3.3 Pile Driving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0804	2.5717	0.6572	6.2000e-003	0.1622	0.0154	0.1776	0.0467	0.0147	0.0614		665.7564	665.7564	0.0528		667.0754
Worker	1.0705	0.6431	8.0969	0.0234	2.4069	0.0170	2.4239	0.6384	0.0157	0.6541		2,325.8801	2,325.8801	0.0621		2,327.4322
Total	**1.1509**	**3.2148**	**8.7541**	**0.0296**	**2.5692**	**0.0324**	**2.6016**	**0.6851**	**0.0304**	**0.7155**		**2,991.6365**	**2,991.6365**	**0.1148**		**2,994.5077**

3.4 Solar PV, Equipment, Conduit - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8807	17.5235	13.2718	0.0207		1.1234	1.1234		1.0454	1.0454		1,996.4276	1,996.4276	0.5534		2,010.2619
Total	**1.8807**	**17.5235**	**13.2718**	**0.0207**		**1.1234**	**1.1234**		**1.0454**	**1.0454**		**1,996.4276**	**1,996.4276**	**0.5534**		**2,010.2619**

3.4 Solar PV, Equipment, Conduit - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0804	2.5717	0.6572	6.2000e-003	0.1622	0.0154	0.1776	0.0467	0.0147	0.0614		665.7564	665.7564	0.0528		667.0754
Worker	1.0705	0.6431	8.0969	0.0234	2.4069	0.0170	2.4239	0.6384	0.0157	0.6541		2,325.8801	2,325.8801	0.0621		2,327.4322
Total	**1.1509**	**3.2148**	**8.7541**	**0.0296**	**2.5692**	**0.0324**	**2.6016**	**0.6851**	**0.0304**	**0.7155**		**2,991.6365**	**2,991.6365**	**0.1148**		**2,994.5077**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8807	17.5235	13.2718	0.0207		1.1234	1.1234		1.0454	1.0454	0.0000	1,996.4276	1,996.4276	0.5534		2,010.2619
Total	**1.8807**	**17.5235**	**13.2718**	**0.0207**		**1.1234**	**1.1234**		**1.0454**	**1.0454**	**0.0000**	**1,996.4276**	**1,996.4276**	**0.5534**		**2,010.2619**

3.4 Solar PV, Equipment, Conduit - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0804	2.5717	0.6572	6.2000e-003	0.1622	0.0154	0.1776	0.0467	0.0147	0.0614		665.7564	665.7564	0.0528		667.0754
Worker	1.0705	0.6431	8.0969	0.0234	2.4069	0.0170	2.4239	0.6384	0.0157	0.6541		2,325.8801	2,325.8801	0.0621		2,327.4322
Total	**1.1509**	**3.2148**	**8.7541**	**0.0296**	**2.5692**	**0.0324**	**2.6016**	**0.6851**	**0.0304**	**0.7155**		**2,991.6365**	**2,991.6365**	**0.1148**		**2,994.5077**

3.4 Solar PV, Equipment, Conduit - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6867	15.8653	13.0291	0.0207		0.9692	0.9692		0.9017	0.9017		1,996.6086	1,996.6086	0.5501		2,010.3618
Total	**1.6867**	**15.8653**	**13.0291**	**0.0207**		**0.9692**	**0.9692**		**0.9017**	**0.9017**		**1,996.6086**	**1,996.6086**	**0.5501**		**2,010.3618**

3.4 Solar PV, Equipment, Conduit - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0674	2.3150	0.5933	6.1500e-003	0.1622	6.4500e-003	0.1687	0.0467	6.1700e-003	0.0529		661.4057	661.4057	0.0506		662.6714
Worker	1.0035	0.5793	7.4828	0.0226	2.4069	0.0167	2.4236	0.6384	0.0154	0.6538		2,256.0679	2,256.0679	0.0566		2,257.4830
Total	**1.0709**	**2.8943**	**8.0761**	**0.0288**	**2.5692**	**0.0231**	**2.5923**	**0.6851**	**0.0215**	**0.7066**		**2,917.4735**	**2,917.4735**	**0.1072**		**2,920.1544**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6867	15.8653	13.0291	0.0207		0.9692	0.9692		0.9017	0.9017	0.0000	1,996.6086	1,996.6086	0.5501		2,010.3618
Total	**1.6867**	**15.8653**	**13.0291**	**0.0207**		**0.9692**	**0.9692**		**0.9017**	**0.9017**	**0.0000**	**1,996.6086**	**1,996.6086**	**0.5501**		**2,010.3618**

3.4 Solar PV, Equipment, Conduit - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0674	2.3150	0.5933	6.1500e-003	0.1622	6.4500e-003	0.1687	0.0467	6.1700e-003	0.0529		661.4057	661.4057	0.0506		662.6714
Worker	1.0035	0.5793	7.4828	0.0226	2.4069	0.0167	2.4236	0.6384	0.0154	0.6538		2,256.0679	2,256.0679	0.0566		2,257.4830
Total	**1.0709**	**2.8943**	**8.0761**	**0.0288**	**2.5692**	**0.0231**	**2.5923**	**0.6851**	**0.0215**	**0.7066**		**2,917.4735**	**2,917.4735**	**0.1072**		**2,920.1544**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0644	0.0805	0.8385	2.6400e-003	0.1775	1.1500e-003	0.1786	0.0470	1.0600e-003	0.0481		263.4080	263.4080	7.0100e-003		263.5833
Unmitigated	0.0644	0.0805	0.8385	2.6400e-003	0.1775	1.1500e-003	0.1786	0.0470	1.0600e-003	0.0481		263.4080	263.4080	7.0100e-003		263.5833

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	32.00	0.00	0.00	60,736	60,736
Total	32.00	0.00	0.00	60,736	60,736

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2470	1.0000e-005	1.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.5000e-003	3.5000e-003	1.0000e-005		3.7300e-003
Unmitigated	0.2470	1.0000e-005	1.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.5000e-003	3.5000e-003	1.0000e-005		3.7300e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2469					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.5000e-004	1.0000e-005	1.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.5000e-003	3.5000e-003	1.0000e-005		3.7300e-003
Total	**0.2470**	**1.0000e-005**	**1.6400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**3.5000e-003**	**3.5000e-003**	**1.0000e-005**		**3.7300e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2469					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.5000e-004	1.0000e-005	1.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.5000e-003	3.5000e-003	1.0000e-005		3.7300e-003
Total	**0.2470**	**1.0000e-005**	**1.6400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**3.5000e-003**	**3.5000e-003**	**1.0000e-005**		**3.7300e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CSUCI Solar Array Project

Ventura County APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	16.00	Acre	16.00	696,960.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Based on client schedule and assumptions re: pile driving and solar PV phases

Off-road Equipment - Equipment list from PD

Off-road Equipment - Equipment list from PD

Off-road Equipment - Equipment list from PD

Trips and VMT - Changed vendor trips to 24/day (accounts for water trucks and utility trucks from equipment list)

Grading -

Vehicle Trips - ANNUAL RUN - Assumes up to 30 days of annual maintenance trips for the purposes of panel washing (2x per year for each panel)

Consumer Products - No consumer products

Area Coating - No architectural coating proposed on-site during construction or operation

Water And Wastewater - Panel washing water demand from PD

Construction Off-road Equipment Mitigation - VCAPCD Rule 55

Energy Mitigation -

Fleet Mix - Assumed all medium duty vehicles (i.e. water trucks)

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	41818	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	50.00
tblConstructionPhase	NumDays	300.00	130.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.59	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.19	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.3510e-003	0.00

tblFleetMix	MCY	3.9040e-003	0.00
tblFleetMix	MDV	0.11	1.00
tblFleetMix	MH	1.4900e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.1640e-003	0.00
tblFleetMix	SBUS	3.8000e-004	0.00
tblFleetMix	UBUS	1.0120e-003	0.00
tblOffRoadEquipment	HorsePower	187.00	97.00
tblOffRoadEquipment	LoadFactor	0.41	0.37
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Pile Driving
tblOffRoadEquipment	PhaseName		Pile Driving
tblOffRoadEquipment	PhaseName		Solar PV, Equipment, Conduit
tblOffRoadEquipment	PhaseName		Solar PV, Equipment, Conduit
tblOffRoadEquipment	PhaseName		Solar PV, Equipment, Conduit
tblTripsAndVMT	VendorTripNumber	114.00	24.00
tblTripsAndVMT	VendorTripNumber	114.00	24.00
tblVehicleTrips	CC_TTP	0.00	100.00

tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	2.00
tblWater	OutdoorWaterUseRate	0.00	273,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.1792	25.0736	21.9190	0.0510	6.6591	1.4155	8.0746	3.3958	1.3022	4.6980	0.0000	5,066.8851	5,066.8851	0.8291	0.0000	5,087.6115
2021	2.8968	18.8558	20.9885	0.0482	2.5692	0.9927	3.5619	0.6851	0.9236	1.6087	0.0000	4,788.5417	4,788.5417	0.6586	0.0000	4,805.0059
Maximum	**3.1792**	**25.0736**	**21.9190**	**0.0510**	**6.6591**	**1.4155**	**8.0746**	**3.3958**	**1.3022**	**4.6980**	**0.0000**	**5,066.8851**	**5,066.8851**	**0.8291**	**0.0000**	**5,087.6115**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.1792	25.0736	21.9190	0.0510	3.0553	1.4155	4.4708	1.5437	1.3022	2.8459	0.0000	5,066.8851	5,066.8851	0.8291	0.0000	5,087.6115
2021	2.8968	18.8558	20.9885	0.0482	2.5692	0.9927	3.5619	0.6851	0.9236	1.6087	0.0000	4,788.5417	4,788.5417	0.6586	0.0000	4,805.0059
Maximum	**3.1792**	**25.0736**	**21.9190**	**0.0510**	**3.0553**	**1.4155**	**4.4708**	**1.5437**	**1.3022**	**2.8459**	**0.0000**	**5,066.8851**	**5,066.8851**	**0.8291**	**0.0000**	**5,087.6115**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**39.05**	**0.00**	**30.97**	**45.38**	**0.00**	**29.37**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2470	1.0000e-005	1.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.5000e-003	3.5000e-003	1.0000e-005		3.7300e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0610	0.0943	0.8420	2.5200e-003	0.1775	1.1500e-003	0.1786	0.0470	1.0600e-003	0.0481		251.1582	251.1582	6.8700e-003		251.3300
Total	**0.3080**	**0.0943**	**0.8436**	**2.5200e-003**	**0.1775**	**1.1600e-003**	**0.1786**	**0.0470**	**1.0700e-003**	**0.0481**		**251.1617**	**251.1617**	**6.8800e-003**	**0.0000**	**251.3337**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.2470	1.0000e-005	1.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.5000e-003	3.5000e-003	1.0000e-005		3.7300e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0610	0.0943	0.8420	2.5200e-003	0.1775	1.1500e-003	0.1786	0.0470	1.0600e-003	0.0481		251.1582	251.1582	6.8700e-003		251.3300
Total	**0.3080**	**0.0943**	**0.8436**	**2.5200e-003**	**0.1775**	**1.1600e-003**	**0.1786**	**0.0470**	**1.0700e-003**	**0.0481**		**251.1617**	**251.1617**	**6.8800e-003**	**0.0000**	**251.3337**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/1/2020	9/14/2020	5	10	
2	Pile Driving	Building Construction	9/15/2020	11/23/2020	5	50	
3	Solar PV, Equipment, Conduit	Building Construction	11/24/2020	5/24/2021	5	130	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 0

Acres of Paving: 16

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	97	0.37
Site Preparation	Rollers	1	8.00	80	0.38
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation	Sweepers/Scrubbers	1	8.00	64	0.46
Pile Driving	Bore/Drill Rigs	1	8.00	221	0.50
Pile Driving	Cranes	1	7.00	231	0.29
Pile Driving	Forklifts	2	8.00	89	0.20
Pile Driving	Sweepers/Scrubbers	1	8.00	64	0.46
Pile Driving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Solar PV, Equipment, Conduit	Air Compressors	1	8.00	78	0.48
Solar PV, Equipment, Conduit	Cranes	1	7.00	231	0.29
Solar PV, Equipment, Conduit	Forklifts	2	8.00	89	0.20
Solar PV, Equipment, Conduit	Sweepers/Scrubbers	1	8.00	64	0.46
Solar PV, Equipment, Conduit	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Solar PV, Equipment, Conduit	Trenchers	1	8.00	78	0.50

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pile Driving	6	293.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Solar PV, Equipment, Conduit	7	293.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.5495	25.0402	12.5351	0.0230		1.4147	1.4147		1.3015	1.3015		2,229.8316	2,229.8316	0.7212		2,247.8609
Total	**2.5495**	**25.0402**	**12.5351**	**0.0230**	**6.5523**	**1.4147**	**7.9671**	**3.3675**	**1.3015**	**4.6690**		**2,229.8316**	**2,229.8316**	**0.7212**		**2,247.8609**

3.2 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0538	0.0335	0.3508	9.9000e-004	0.1068	7.5000e-004	0.1076	0.0283	6.9000e-004	0.0290		98.1989	98.1989	2.6600e-003		98.2654
Total	**0.0538**	**0.0335**	**0.3508**	**9.9000e-004**	**0.1068**	**7.5000e-004**	**0.1076**	**0.0283**	**6.9000e-004**	**0.0290**		**98.1989**	**98.1989**	**2.6600e-003**		**98.2654**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	2.5495	25.0402	12.5351	0.0230		1.4147	1.4147		1.3015	1.3015	0.0000	2,229.8316	2,229.8316	0.7212		2,247.8609
Total	**2.5495**	**25.0402**	**12.5351**	**0.0230**	**2.9486**	**1.4147**	**4.3633**	**1.5154**	**1.3015**	**2.8169**	**0.0000**	**2,229.8316**	**2,229.8316**	**0.7212**		**2,247.8609**

3.2 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0538	0.0335	0.3508	9.9000e-004	0.1068	7.5000e-004	0.1076	0.0283	6.9000e-004	0.0290		98.1989	98.1989	2.6600e-003		98.2654
Total	**0.0538**	**0.0335**	**0.3508**	**9.9000e-004**	**0.1068**	**7.5000e-004**	**0.1076**	**0.0283**	**6.9000e-004**	**0.0290**		**98.1989**	**98.1989**	**2.6600e-003**		**98.2654**

3.3 Pile Driving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4155	15.0041	10.2743	0.0228		0.7927	0.7927		0.7293	0.7293		2,204.1583	2,204.1583	0.7129		2,221.9801
Total	**1.4155**	**15.0041**	**10.2743**	**0.0228**		**0.7927**	**0.7927**		**0.7293**	**0.7293**		**2,204.1583**	**2,204.1583**	**0.7129**		**2,221.9801**

3.3 Pile Driving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0850	2.5739	0.7409	6.0500e-003	0.1622	0.0158	0.1780	0.0467	0.0151	0.0618		649.4750	649.4750	0.0562		650.8800
Worker	1.2136	0.7539	7.9063	0.0222	2.4069	0.0170	2.4239	0.6384	0.0157	0.6541		2,213.2518	2,213.2518	0.0600		2,214.7514
Total	**1.2986**	**3.3278**	**8.6472**	**0.0283**	**2.5692**	**0.0328**	**2.6020**	**0.6851**	**0.0308**	**0.7159**		**2,862.7268**	**2,862.7268**	**0.1162**		**2,865.6315**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4155	15.0041	10.2743	0.0228		0.7927	0.7927		0.7293	0.7293	0.0000	2,204.1583	2,204.1583	0.7129		2,221.9801
Total	**1.4155**	**15.0041**	**10.2743**	**0.0228**		**0.7927**	**0.7927**		**0.7293**	**0.7293**	**0.0000**	**2,204.1583**	**2,204.1583**	**0.7129**		**2,221.9801**

3.3 Pile Driving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0850	2.5739	0.7409	6.0500e-003	0.1622	0.0158	0.1780	0.0467	0.0151	0.0618		649.4750	649.4750	0.0562		650.8800
Worker	1.2136	0.7539	7.9063	0.0222	2.4069	0.0170	2.4239	0.6384	0.0157	0.6541		2,213.2518	2,213.2518	0.0600		2,214.7514
Total	**1.2986**	**3.3278**	**8.6472**	**0.0283**	**2.5692**	**0.0328**	**2.6020**	**0.6851**	**0.0308**	**0.7159**		**2,862.7268**	**2,862.7268**	**0.1162**		**2,865.6315**

3.4 Solar PV, Equipment, Conduit - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8807	17.5235	13.2718	0.0207		1.1234	1.1234		1.0454	1.0454		1,996.4276	1,996.4276	0.5534		2,010.2619
Total	**1.8807**	**17.5235**	**13.2718**	**0.0207**		**1.1234**	**1.1234**		**1.0454**	**1.0454**		**1,996.4276**	**1,996.4276**	**0.5534**		**2,010.2619**

3.4 Solar PV, Equipment, Conduit - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0850	2.5739	0.7409	6.0500e-003	0.1622	0.0158	0.1780	0.0467	0.0151	0.0618		649.4750	649.4750	0.0562		650.8800
Worker	1.2136	0.7539	7.9063	0.0222	2.4069	0.0170	2.4239	0.6384	0.0157	0.6541		2,213.2518	2,213.2518	0.0600		2,214.7514
Total	**1.2986**	**3.3278**	**8.6472**	**0.0283**	**2.5692**	**0.0328**	**2.6020**	**0.6851**	**0.0308**	**0.7159**		**2,862.7268**	**2,862.7268**	**0.1162**		**2,865.6315**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8807	17.5235	13.2718	0.0207		1.1234	1.1234		1.0454	1.0454	0.0000	1,996.4276	1,996.4276	0.5534		2,010.2619
Total	**1.8807**	**17.5235**	**13.2718**	**0.0207**		**1.1234**	**1.1234**		**1.0454**	**1.0454**	**0.0000**	**1,996.4276**	**1,996.4276**	**0.5534**		**2,010.2619**

3.4 Solar PV, Equipment, Conduit - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0850	2.5739	0.7409	6.0500e-003	0.1622	0.0158	0.1780	0.0467	0.0151	0.0618		649.4750	649.4750	0.0562		650.8800
Worker	1.2136	0.7539	7.9063	0.0222	2.4069	0.0170	2.4239	0.6384	0.0157	0.6541		2,213.2518	2,213.2518	0.0600		2,214.7514
Total	**1.2986**	**3.3278**	**8.6472**	**0.0283**	**2.5692**	**0.0328**	**2.6020**	**0.6851**	**0.0308**	**0.7159**		**2,862.7268**	**2,862.7268**	**0.1162**		**2,865.6315**

3.4 Solar PV, Equipment, Conduit - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6867	15.8653	13.0291	0.0207		0.9692	0.9692		0.9017	0.9017		1,996.6086	1,996.6086	0.5501		2,010.3618
Total	**1.6867**	**15.8653**	**13.0291**	**0.0207**		**0.9692**	**0.9692**		**0.9017**	**0.9017**		**1,996.6086**	**1,996.6086**	**0.5501**		**2,010.3618**

3.4 Solar PV, Equipment, Conduit - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0717	2.3115	0.6710	6.0000e-003	0.1622	6.8100e-003	0.1691	0.0467	6.5100e-003	0.0532		645.1764	645.1764	0.0539		646.5229
Worker	1.1385	0.6790	7.2884	0.0216	2.4069	0.0167	2.4236	0.6384	0.0154	0.6538		2,146.7567	2,146.7567	0.0546		2,148.1211
Total	**1.2101**	**2.9905**	**7.9594**	**0.0276**	**2.5692**	**0.0235**	**2.5927**	**0.6851**	**0.0219**	**0.7070**		**2,791.9331**	**2,791.9331**	**0.1084**		**2,794.6441**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6867	15.8653	13.0291	0.0207		0.9692	0.9692		0.9017	0.9017	0.0000	1,996.6086	1,996.6086	0.5501		2,010.3618
Total	**1.6867**	**15.8653**	**13.0291**	**0.0207**		**0.9692**	**0.9692**		**0.9017**	**0.9017**	**0.0000**	**1,996.6086**	**1,996.6086**	**0.5501**		**2,010.3618**

3.4 Solar PV, Equipment, Conduit - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0717	2.3115	0.6710	6.0000e-003	0.1622	6.8100e-003	0.1691	0.0467	6.5100e-003	0.0532		645.1764	645.1764	0.0539		646.5229
Worker	1.1385	0.6790	7.2884	0.0216	2.4069	0.0167	2.4236	0.6384	0.0154	0.6538		2,146.7567	2,146.7567	0.0546		2,148.1211
Total	**1.2101**	**2.9905**	**7.9594**	**0.0276**	**2.5692**	**0.0235**	**2.5927**	**0.6851**	**0.0219**	**0.7070**		**2,791.9331**	**2,791.9331**	**0.1084**		**2,794.6441**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0610	0.0943	0.8420	2.5200e-003	0.1775	1.1500e-003	0.1786	0.0470	1.0600e-003	0.0481		251.1582	251.1582	6.8700e-003		251.3300
Unmitigated	0.0610	0.0943	0.8420	2.5200e-003	0.1775	1.1500e-003	0.1786	0.0470	1.0600e-003	0.0481		251.1582	251.1582	6.8700e-003		251.3300

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	32.00	0.00	0.00	60,736	60,736
Total	32.00	0.00	0.00	60,736	60,736

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.2470	1.0000e-005	1.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.5000e-003	3.5000e-003	1.0000e-005		3.7300e-003
Unmitigated	0.2470	1.0000e-005	1.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.5000e-003	3.5000e-003	1.0000e-005		3.7300e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2469					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.5000e-004	1.0000e-005	1.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.5000e-003	3.5000e-003	1.0000e-005		3.7300e-003
Total	**0.2470**	**1.0000e-005**	**1.6400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**3.5000e-003**	**3.5000e-003**	**1.0000e-005**		**3.7300e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2469					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.5000e-004	1.0000e-005	1.6400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		3.5000e-003	3.5000e-003	1.0000e-005		3.7300e-003
Total	**0.2470**	**1.0000e-005**	**1.6400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**3.5000e-003**	**3.5000e-003**	**1.0000e-005**		**3.7300e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CSUCI Solar Array Project

Displaced Energy Production during 30-year Project life

	8,289	MWh per year	
	8	GWh per year	
		Average Annual Displacement	8.29E+06 KWh
Assumed Heat Rate	10,000	Btu/KWh	
Annual Fuel Equivalent			
Total	82,890	MMBtu	
Natural Gas	28,937	MMBtu	34.9% of the displaced resource mix *
Coal	2,735	MMBtu	3.3% of the displaced resource mix *
Other	51,218	MMBtu	61.8% (displaced emissions not considered) *

* Generation resource mix assumptions are based on 2018 data from Total California Electrical System Power (https://ww2.energy.ca.gov/almanac/electricity_data/total_system_power.html). The Project is assumed to displace existing natural gas power generation 45.2% of the time, coal 16.6% of the

Natural Gas Turbine Emissions					
Pollutant	**AP-42 Emission Factor (lb/MMBtu)[1]**	**Controlled Emission Factor**	**Controlled Emissions (lb)**	**Controlled Emissions (ton)**	
NO_2	0.099	0.00495	143	0.07	Table 3.1-1, lean premix; Assume SCR Control Efficiency: 95%
CO	0.015	0.0015	43	0.02	Table 3.1-1, lean premix; Assume Ox. Cat. Control Efficiency: 90%
PM_{10}	0.0047	0.0047	136	0.07	Table 3.1-2a, PM (condensible)
$PM_{2.5}$	0.0019	0.0019	55	0.03	Table 3.1-2a, PM (filterable)
SO_2	0.0034	0.0034	98	0.05	Table 3.1-2a
CO_2	110	110	3,183,059	1,591.53	Table 3.1-2a

1: From EPA Air Pollution Emission Factors AP-42 Section 3.1, Stationary Gas Turbines

Coal Combustion Emissions					
Pollutant	**AP-42 Emission Factor (lb/ton)[2]**	**Controlled Emission Factor**	**Emissions (lb)**	**Emissions (ton)**	
NOx	12	12	1,368	0.68	Table 1.1-3 pulverized coal, wall fired, bituminous coal NSPS
CO	0.5	0.5	57	0.03	Table 1.1-3 pulverized coal, wall fired, bituminous coal NSPS
PM_{10}	0.46	0.084	10	0.00	Table 1.1-4, PC-fired dry bottom wall-fired, scrubber control
$PM_{2.5}$	0.12	0.06	7	0.00	Table 1.1-4, PC-fired dry bottom wall-fired, scrubber control
SO_2	2.85	0.57	65	0.03	Table 1.1-3 pulverized coal, wall fired, bituminous coal NSPS
CO_2	6040	6040	688,401	344.20	Table 1.1-20
Total NMHC	0.06	0.06	7	0.00	Table 1.1-19; assumed all hydrocarbons are reactive
CH_4	0.04	0.04	5	0.00	Table 1.1-19
N_2O	0.03	0.03	3	0.00	Table 1.1-19
2: From EPA Air Pollution Emission Factors AP-42 Section 1.1, Bituminous and Subbituminous Coal Combustion					

Assumed coal heat content =	24.0	MMBtu/ton
Therefore, displaced coal =	114	tons/yr
Assumed sulfer content =	7.5%	
Assumed coal ash content =	20%	

Total Displaced Emissions Associated With Direct Combustion		
Pollutant	tons/year[1]	tons/lifetime (30 years)
ROG (NMHC)	0.00	0.10
NO_x	0.76	22.66
CO	0.05	1.51
PM_{10}	0.07	2.18
$PM_{2.5}$	0.03	0.93
SO_x	0.08	2.45
CO_2E	1,756.58	52,697

1: CO_2E volumes are in metric tons rather than short (US) tons

N2O Operational GHG Emission Mobile Calculations

Project Code & Title: 18-05857 CSUCI Solar

Vehicle Population Breakdown*	
516976	Gasoline vehicles
26574	Diesel vehicles
95.1%	Gasoline vehicle %
4.9%	Diesel vehicle %

VMT per Vehicle Type	
213	tput)
203	Gasoline vehicle VMT
10	Diesel vehicle VMT

Gasoline Vehicles	
95.1%	Gasoline vehicle %
0.00008	Tons per year mobile NOX emissions (annual output in CalEEMod)
0.00	Gasoline vehicle tons per year NOX emissions
0.0001	Tons per year N2O emissions for gasoline vehicles**
0.0001	Metric tons per year N2O emissions for gasoline vehicles

Diesel Vehicles	
1.60	grams N2O per gallon of fuel for diesel vehicles**
194920.28	Diesel average miles per gallon*
0.00001	grams per mile N2O for diesel vehicles
0.0	grams per year N2O for diesel vehicles
0.0000000	Metric tons per year N2O emissions for diesel vehicles

CO2e Emissions from N2O	
0.0001	Metric tons per year from gasoline + diesel vehicles
298	GWP of N2O***
0.022	**CO2e emissions per year from N2O emissions from gasoline + diesel vehicles**

Sources
***Vehicle population source:** EMFAC2017 (v1.0.2) Emissions Inventory Region Type: Air District Region: VENTURA COUNTY APCD Calendar Year: 2022 Season: Annual Vehicle Classification: EMFAC2011 Categories ****Methodology source:** EMFAC2017 Volume III - Technical Documentation https://www.arb.ca.gov/msei/emfac2011-faq.htm *****GWP source:** Intergovernmental Panel on Climate Change (IPCC). 2007. AR4 Climate Change 2007: The Physical Science Basis. Contrbution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

Appendix B

Biological Resource Assessment

Rincon Consultants, Inc.

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November 1, 2019
Project No: 18-05857

Mr. Terry M. Tarr, AIA, LEED
Associate Architect/Project Manager
Planning Design & Construction Department
California State University Channel Islands
One University Drive
Camarillo, California 93012
Via email: terry.tarr@csuci.edu

Subject: Biological Resource Assessment for the California State University, Channel Islands Solar Array Project, near the city of Camarillo, unincorporated Ventura County, California

Dear Mr. Tarr:

Rincon Consultants, Inc. was retained by California State University, Channel Islands (CSUCI) to prepare a biological resource assessment for the CSUCI Solar Array Project (project). The project involves the development of a photovoltaic (PV) system on an approximately 16-acre project site on the CSUCI campus, near the city of Camarillo, in unincorporated Ventura County, California. The assessment was completed to document existing site conditions via desktop analysis and a reconnaissance site visit, and to determine potential impacts to special-status biological resources based on current project plans.

Project Location and Surrounding Uses

The approximately 16-acre project site is located on a currently vacant 153-acre parcel (Assessor's Parcel Number 234-0-050-330) between Parking Lot A3 and Calleguas Creek in the western extent of the CSUCI campus. The CSUCI campus is located in southern Ventura County at the eastern edge of the Oxnard Plain and at the western flank of the Santa Monica Mountains. The CSUCI campus is 2.5 miles south of the city of Camarillo, northeast of the intersection of Lewis and Potrero Roads, and east of Calleguas Creek. Primary access to the CSUCI campus is provided by U.S. Highway 101 to the north, via Lewis Road and Camarillo Street, or by State Route 1 to the southwest, via Las Posas Road and Hueneme Road. Figure 1 in Attachment A depicts the study area in its regional context and Figure 2 depicts the location of the study area, which is comprised of a larger 60-acre site analyzed in a prior Constraints Analysis (Rincon Consultants, Inc. 2019). The study area is situated at an elevation of approximately 42 feet (13 meters) above mean sea level. The study area is depicted on Township 01N, Range 21W, Section 14 of the United States Geological Survey *Camarillo*, CA 7.5-minute quadrangle.

Project Description

The project involves the installation of a 3.75-megawatt (MW) ground-mounted, fixed tilt solar PV system. The PV system would consist of PV modules mounted on single axis trackers, inverters, and electrical equipment (e.g. switchboards, transformers, and meters). Solar panels and equipment would

be located on stands above the ground. Electrical equipment would be clustered to the north of the solar array, adjacent to University Drive. Farm roads currently exist off Potrero Road to access the project site, and 20-foot wide, unpaved access roads would be constructed along the perimeter of the project site and between the solar arrays.

The project includes perimeter fencing with access gates around the solar array and equipment. Additionally, six- to eight-foot tall toyon (*Heteromeles arbutifolia*) trees would be planted along 1,400 linear feet of the project site's northern boundary and 1,300 linear feet of the western boundary to obscure views of the solar panels from the adjacent roads (South Lewis Road, Calleguas Creek Road, and University Drive) and agricultural uses. Outside the proposed fence, the campus would maintain a thirty-foot fire break.

Ground-disturbing activities associated with the project include vegetation clearing prior to construction, surface grading along access roads within the project site, trenching to connect the PV system to an existing Southern California Edison point of connection, grading to create a pad for electrical equipment, installation of a fence and associated landscaping. The project would utilize existing conduits running alongside University Drive, adjacent to the project site, to connect the PV system to the preferred point of connection. Approximately 200 to 300 feet of trenching and conduit routing would be required to connect the solar array station to the vault where existing conduits begin on University Drive.

Methodology

Regulatory Overview

Regulated or sensitive resources studied and analyzed herein include special-status plant and animal species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by federal, state, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, the Trustees of the California State University).

Definition of Special-Status Species

For the purpose of this report, special-status species include:

- Species listed as threatened or endangered under the Federal Endangered Species Act (FESA); species under review may be included if there is a reasonable expectation of listing within the life of the project
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act (CESA)
- Species designated as Fully Protected, Species of Special Concern, or Watch List by the California Department of Fish and Wildlife (CDFW)
- Species designated as locally important by the Local Agency and/or otherwise protected through ordinance or local policy

Environmental Statutes

For the purpose of this report, potential impacts to biological resources were analyzed based on the following statutes (also see Attachment B):

- California Environmental Quality Act (CEQA)
- FESA
- CESA
- Federal Clean Water Act
- California Fish and Game Code
- Migratory Bird Treaty Act (MBTA)
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act

Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by the CEQA Guidelines Appendix G Initial Study Checklist, were used to evaluate potential environmental effects. Based on these criteria, the proposed project would have a significant effect on biological resources if it would:

a) *Have substantial adverse effects, 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 United States Fish and Wildlife Service.*

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or United States Fish and Wildlife Service.*

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

d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*

e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*

f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.*

Literature Review

Rincon Consultants biologists conducted a review of readily available literature and databases to obtain comprehensive information regarding state and federally listed species, sensitive communities and federally designated critical habitat known to or considered to have potential to occur within the vicinity of the project site.

The reviewed literature and databases included:

- United States Department of Agriculture (USDA) Soil Survey for the project site (USDA 2019)
- United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System: Information, Planning and Conservation System (USFWS 2019a)
- USFWS Critical Habitat Portal (USFWS 2019b)
- USFWS National Wetland Inventory (USFWS 2019c)
- CDFW California Natural Diversity Database (CNDDB) (CDFW 2019a)
- CDFW Biogeographic Information and Observation System (CDFW 2019b)
- California Native Plant Society Online Inventory of Rare, Threatened and Endangered Plants of California (California Native Plant Society 2019)
- Aerial photographs, topographic maps, and soil survey maps

The potential presence of special-status species is based on a literature review and reconnaissance site visit designed to assess habitat suitability only. Definitive surveys to confirm the presence or absence of special-status species were not performed. Definitive surveys for special-status plant and wildlife species generally require specific survey protocols and extensive field survey time, and are conducted only at certain times of the year. The findings and opinions conveyed in this report are based on this methodology.

Field Reconnaissance Survey

A biological reconnaissance survey was conducted by Rincon Consultants senior biologist, Robin Murray, on May 22, 2019, between the hours of 0830-0930. The area surveyed consisted of the approximately 60-acre study area (Figure 2). The field reconnaissance survey was limited to evaluating existing site conditions and the potential presence of special-status biological resources, including special-status plant and wildlife species, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, and habitat for nesting birds. Ms. Murray surveyed the study area on foot and recorded the biological resources present, such as plant and wildlife species. Focused special-status species surveys and a formal jurisdictional delineation were not conducted.

Existing Conditions

Physical Characteristics

The study area is relatively flat, with elevations ranging from approximately 45 to 55 feet above mean sea level. It is situated within a former agricultural field which is periodically cleared of vegetation. Based on a review of historical aerial photographs, the site and surrounding areas have been intensively used for agriculture and disturbed since at least 1947.

Soils on site consist of the following mapped soil types, none of which are hydric (Figure 3):

- Camarillo loam
- Camarillo loam, sandy substratum
- Hueneme loamy sand, loamy substratum
- Hueneme sandy loam
- Pacheco silty clay loam (USDA 2019)

Vegetation

Vegetation is overall very sparse within the study area. The vegetation which persists primarily consists of weedy non-native ruderal species (Figure 4). Commonly encountered species included castor bean (*Ricinus communis*), black mustard (*Brassica nigra*), whitetop (*Lepidium draba*), and bristly ox-tongue (*Helminthotheca echioides*). One stand of mulefat scrub was observed within the study area. This plant community is dominated by mulefat (*Baccharis salicifolia*), with coyote brush (*Baccharis pilularis*) present as a sub-dominant species. The shrub layer is relatively open. Commonly encountered herbaceous species include whitetop and bristly ox-tongue. Plant species observed within the study area are presented in Table 1. No sensitive vegetation communities were observed within the study area.

Table 1 Plant Species Observed on May 22, 2019

Scientific name	Common Name	Status
Ambrosia acanthicarpa	annual burweed	native
Baccharis pilularis	coyote brush	native
Baccharis salicifolia	mulefat	native
Brassica nigra	black mustard	non-native
Calystegia macrostegia	morning glory	native
Chenopodium album	lambs quarters	non-native
Conium maculatum	poison hemlock	non-native
Datura wrightii	jimson weed	native
Eriogonum fasciculatum	California buckwheat	native
Heliotropium curassavicum	heliotrope	native
Helminthotheca echioides	bristly ox-tongue	non-native
Heterotheca grandiflora	telegraph weed	native
Lactuca serriola	prickly lettuce	non-native
Lepidium draba	whitetop	non-native
Malacothrix saxatilis	cliff aster	native
Melilotus albus	white sweetclover	non-native
Nicotiana glauca	tree tobacco	non-native
Polypogon monspeliensis	rabbitsfoot grass	non-native
Raphanus sativa	wild radish	non-native
Ricinus communis	castor bean	non-native
Rumex crispus	curly dock	non-native

Scientific name	Common Name	Status
Sambucus nigra ssp. *caerulea*	elderberry	native
Solanum xanti	chaparral nightshade	native

General Wildlife

The study area provides habitat for wildlife species which commonly occur in Ventura County as well as some species typically found in or near riparian habitat. Avian species observed/detected during the reconnaissance survey include house finch (*Haemorhous mexicanus*), common yellowthroat (*Geothlypis trichas*), northern mockingbird (*Mimus polyglottos*), Anna's hummingbird (*Calypte anna*), and an unidentified swallow species. One California Species of Special Concern (SSC) was observed during the survey: yellow-breasted chat (*Icteria virens*).

One reptilian species, western fence lizard (*Sceloporus occidentalis*) was also observed in the study area.

Regulated Biological Resources

Based on review of aerial photographs and the field reconnaissance survey, Rincon Consultants evaluated the potential presence of regulated biological resources on and adjacent to the study area.

Special-Status Species

Local, state, and federal agencies regulate special-status species and other regulated biological resources and require an assessment of their presence or potential presence to be conducted on site prior to the approval of proposed development on a property. This section discusses sensitive biological resources observed in the study area, and evaluates the potential for the study area to support additional sensitive biological resources. Assessments for the potential occurrence of special-status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB, species occurrence records from other sites in the vicinity of the study area, previous reports for the project site, and the results of surveys of the project site. The potential for each special-status species to occur in the study area was evaluated according to the following criteria:

- **No Potential.** Habitat within and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on the site if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site. Protocol surveys (if conducted) did not detect species.
- **Moderate Potential**. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential.** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

- **Present.** Species is observed on the site or has been recorded (e.g., CNDDB, other reports) on the site recently (within the last 5 years).

The literature review identified 12 special-status plant species and 18 special-status wildlife species within five miles of the study area (Attachment C). Two sensitive plant communities, southern cottonwood riparian forest and southern sycamore alder riparian woodland, were identified within five miles of the site. Special-status plant and wildlife species typically have very specific habitat requirements which are generally not found on the site.

Special-Status Plants

The majority of the study area contains very sparse vegetation and is regularly disturbed. Due to the lack of specific habitat types or suitable substrates as well as the high levels of historical and existing disturbance, special-status plant species are not expected to occur on the site.

Special-Status Wildlife

The mulefat scrub habitat within the study area as well as within adjacent Calleguas Creek and Long Grade Creek provides moderate quality foraging habitat for two special-status wildlife species:

- Least Bell's vireo (*Vireo bellii pusillus*, federally endangered, state endangered). This species requires riparian habitat with dense shrub cover for concealing nests. Nesting generally occurs in willows (*Salix* sp.), mulefat, California wild rose (*Rosa californica*), poison oak (*Toxicodendron diversilobum*), mugwort (*Artemisia douglasiana*), and cottonwood (*Populus fremontii*). This species has been documented within the nearby Long Grade Canyon Creek (Rincon Consultants, Inc. 2009).
- Yellow-breasted chat (SSC). Yellow-breasted chat was observed within the mulefat scrub habitat during the survey effort. This species occurs in a variety of habitats including the edges of streams, ponds, forest edges, and abandoned agricultural fields.

The ruderal vegetation on site provides foraging habitat for white-tailed kite (*Elanus leucurus*, CDFW Fully Protected Species). This species primarily feeds on small mammals and forages by hovering over open fields and marshes.

Nesting Birds

Shrubs located within the study area provide suitable nesting habitat for common avian species. Bird nests and eggs are protected by California Fish and Game Code Section 3503 and the MBTA.

Sensitive Plant Communities

No sensitive plant communities are present within the study area.

Jurisdictional Waters and Wetlands

The study area is situated directly east of Calleguas Creek and north of Long Grade Creek. Man-made levees separate the study area from both creeks. Calleguas Creek and Long Grade Creek are subject to the jurisdiction of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW. No indicators of recent water flow or inundation were evident within the study area. The study area does not appear to be connected to any streambeds, channels, or other jurisdictional features.

Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches which allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The study area is generally open and may serve as a local wildlife movement corridor for common wildlife species. Calleguas Creek and Long Grade Creek likely provide suitable corridors for local wildlife movement as well. However, these areas generally lack appropriate cover (with the exception of the mulefat stand) and are subject to frequent disturbance. The study area is surrounded by agriculture and the CSUCI campus, as well as man-made levees and roads. The study area does not occur within an *Essential Connectivity Area* or a *Natural Landscape Block,* as determined by the California Essential Habitat Connectivity Project (Spender et al. 2010). The closest *Natural Landscape Block* is approximately 2 miles southeast of the study area near Point Mugu State Park.

Resources Protected by Local Policies and Ordinances

The study area occurs within Ventura County but is not subject to the requirements in the County of Ventura General Plan or any other local ordinances. The study area does not contain resources regulated by local policies and ordinances (e.g. protected trees).

Conservation Plans

The study area is not located within an area with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

Impact Analysis and Mitigation Measures

Special-status Species

Pursuant to Appendix G of the CEQA Guidelines, the proposed project would have a significant effect on biological resources if it would:

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 CDFW or USFWS.*

Twelve special-status plant species and 18 special-status wildlife species are known to occur or have potential to occur within a five-mile radius of the study area. Due to the absence of specific habitats or suitable substrates as well as the high levels of historical and existing disturbance, special-status plant species are not expected to occur on the study area. Therefore, no impacts to special-status plant species would result.

Of the 18 special-status wildlife species identified, 16 of these species are not expected to occur due to absence of suitable habitat. The remaining two wildlife species with potential to occur within the site

are least Bell's vireo and white-tailed kite. In addition, yellow-breasted chat was observed in the mulefat scrub during the reconnaissance visit.

Construction activities associated with the proposed project are primarily located within a disturbed area with little vegetation, and the project has been designed to avoid the mulefat scrub on site which provides potential foraging habitat for least Bell's vireo and yellow-breasted chat. Therefore, the proposed project is not expected to result in loss of suitable foraging habitat for least Bell's vireo or yellow-breasted chat. The project would result in the removal of a relatively small area of suitable foraging habitat for white-tailed kite; however, the study area is surrounded by agricultural fields which provide long-term sources of suitable foraging habitat. Therefore, potential impacts to white-tailed kite foraging habitat would be less than significant.

Suitable nesting habitat for common and protected bird species occurs within the study area, particularly the mulefat scrub habitat. Direct or indirect impacts to nesting birds could occur if they are nesting on or near the site at the time of construction.

Implementation of standard Best Management Practices (BMPs), including pre-construction nesting bird surveys, establishment of no-work buffers as appropriate, and fencing for avoidance of suitable special-status species habitat, would avoid and/or minimize impacts to special-status wildlife species. With implementation of recommended measures, impacts to special-status wildlife species and nesting birds would be less than significant.

Recommended Mitigation Measures

PRECONSTRUCTION SURVEYS FOR NESTING BIRDS

To avoid disturbance of nesting and special-status birds, including raptorial species protected by the MBTA and California Fish and Game Code, activities related to construction of the proposed project, including, but not limited to vegetation removal, ground disturbance, and construction and demolition, should occur outside of the nesting season (February 1 through September 15). If construction activities must occur during the nesting season, a pre-construction nesting bird survey shall be conducted no more than seven days prior to initiation of ground disturbance and vegetation removal activities. The survey shall be conducted on foot to visually assess the entire project site, including a 300-foot line-of-site buffer (500-foot for raptors) using binoculars to the extent practical. The survey shall be conducted by a qualified biologist familiar with the identification of avian species known to occur in southern California coastal communities. If nests are found, an avoidance buffer (dependent upon the species, the proposed work activity, and existing disturbances associated with land uses outside of the site) shall be determined and demarcated by the biologist using bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and instructed to avoid entering the buffer zone during the nesting season. No construction activities shall occur within this buffer until the biologist has confirmed breeding / nesting is complete and the young have fledged. Encroachment into the buffer shall occur only at the discretion of the qualified biologist. If least Bell's vireo or other threatened or endangered species are observed nesting within the 300- to 500-foot survey buffer during the survey, no construction activities shall occur until the project proponent has consulted with USFWS and/or CDFW, as appropriate, for additional guidance regarding take avoidance.

MULEFAT SCRUB AVOIDANCE

Mulefat scrub which provides potentially suitable foraging habitat for special-status wildlife species (i.e., least Bell's vireo, yellow-breasted chat) occurs adjacent to the project site. To avoid impacts to special-status species habitat, the extent of this habitat shall be demarcated in the field with highly visible orange construction fencing, or similar material prior to construction. A qualified biologist shall provide oversight during the installation of the fence and he or she, or a designee (e.g., construction foreman) shall survey the site once per week for the duration of construction activities to verify the fence remains intact.

Sensitive Plant Communities

Pursuant to Appendix G of the CEQA Guidelines, the proposed project would have a significant effect on biological resources if it would:

b) *Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS.*

The site does not contain riparian habitat or other sensitive natural communities. Therefore, no impacts to sensitive plant communities would occur.

Jurisdictional Waters and Wetlands

Pursuant to Appendix G of the CEQA Guidelines, the proposed project would have a significant effect on biological resources if it would:

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.*

The study area does not contain any jurisdictional drainages or wetlands. Calleguas Creek is located west of the study area and Long Grade Creek is located south of the study area. The proposed activities are located outside of the adjacent creeks and the creeks would not be impacted by the proposed project based on the project design. Therefore, no impacts to jurisdictional waters and wetlands would occur.

Wildlife Movement

Pursuant to Appendix G of the CEQA Guidelines, the proposed project would have a significant effect on biological resources if it would:

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.*

The study area is generally open and may serve as a suitable movement corridor for common wildlife species; however, it generally lacks appropriate cover (with the exception of the mulefat stand) and is subject to frequent disturbance. The study area does not occur within an Essential Connectivity Area or a Natural Landscape Block. It is surrounded by agriculture and the CSUCI campus. Installation of a fence to protect the mulefat stand would be temporary and would not pose a significant barrier to wildlife movement. Therefore, impacts to wildlife movement will be less than significant.

Local Policies and Ordinances

Pursuant to Appendix G of the CEQA Guidelines, the proposed project would have a significant effect on biological resources if it would:

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

As discussed above, the study area occurs within Ventura County but is not subject to the requirements outlined in the County of Ventura General Plan or any other ordinances. Further, the project site does not contain resources regulated by local policies or ordinances. Therefore, the proposed project would not conflict with local policies and ordinances.

Conservation Plans

Pursuant to Appendix G of the CEQA Guidelines, the proposed project would have a significant effect on biological resources if it would:

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.

The study area is not subject to any Habitat Conservation Plan, Natural Conservation Community Plan, or other local, regional, or state habitat conservation plan. Therefore, the proposed project would not conflict with the provisions of adopted or approved conservation plans.

Please do not hesitate to contact Rincon Consultants with any questions regarding this biological resource assessment.

Sincerely,

Rincon Consultants, Inc.

Amy Leigh Trost
Associate Biologist

Robin Murray
Senior Biologist

Steven J. Hongola
Principal Biologist

Attachments

Attachment A	Figures
Attachment B	Regulatory Setting
Attachment C	CNDDB Special-Status Resources

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Attachment A

Figures

Figure 1 Regional Location

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Project Location

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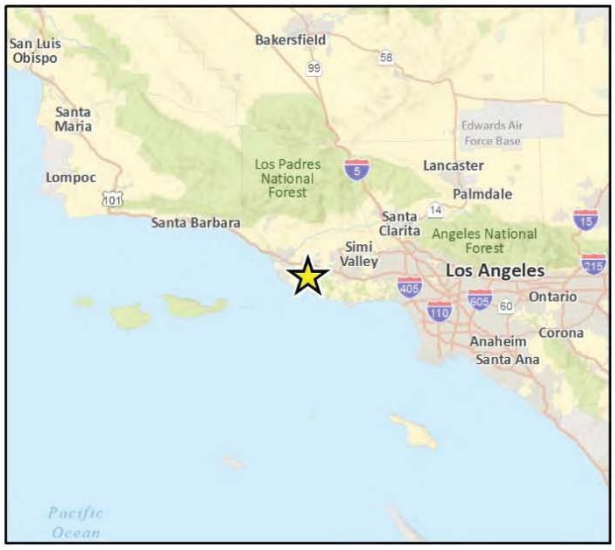
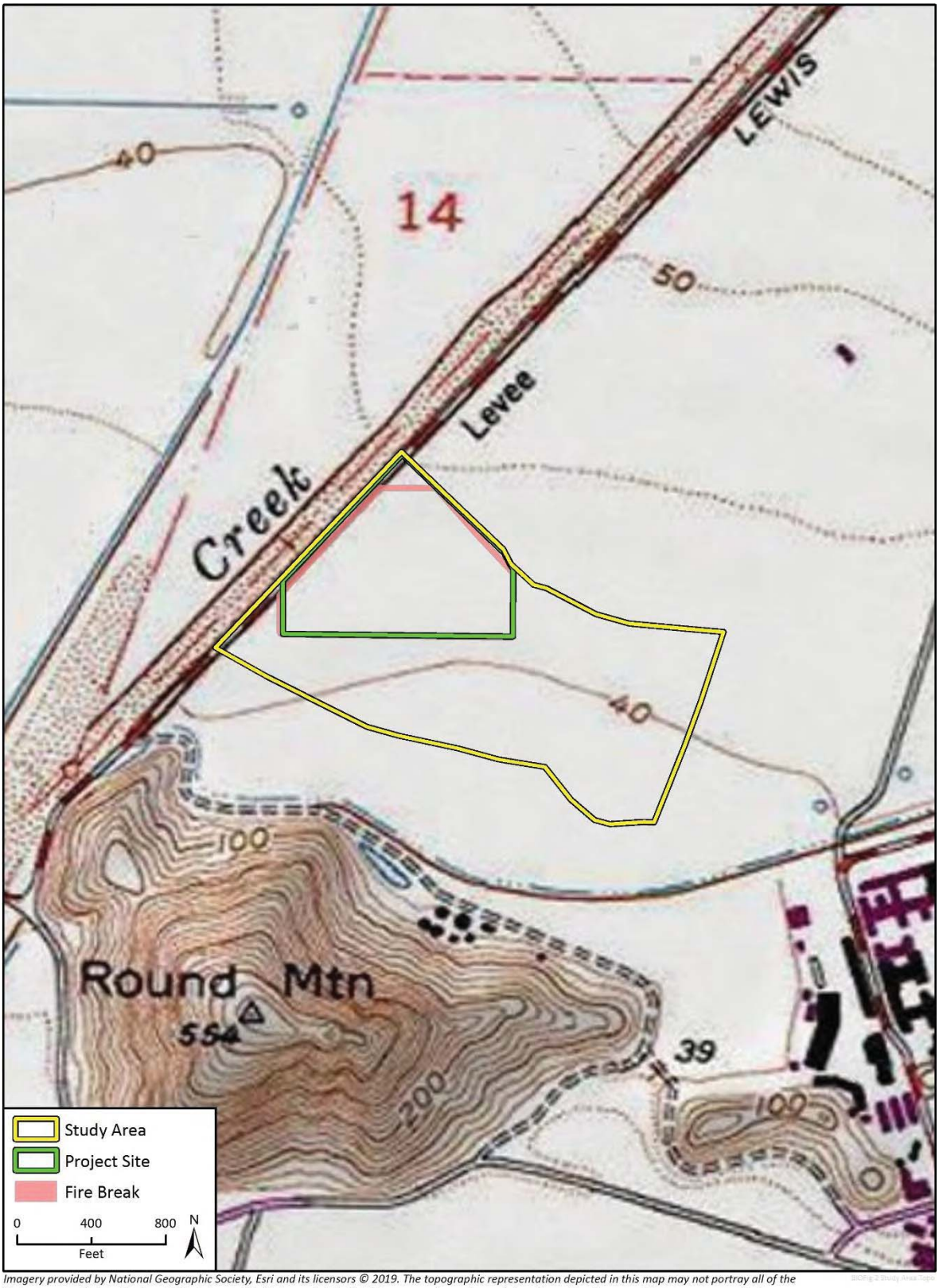


Figure 2 Study Area Map

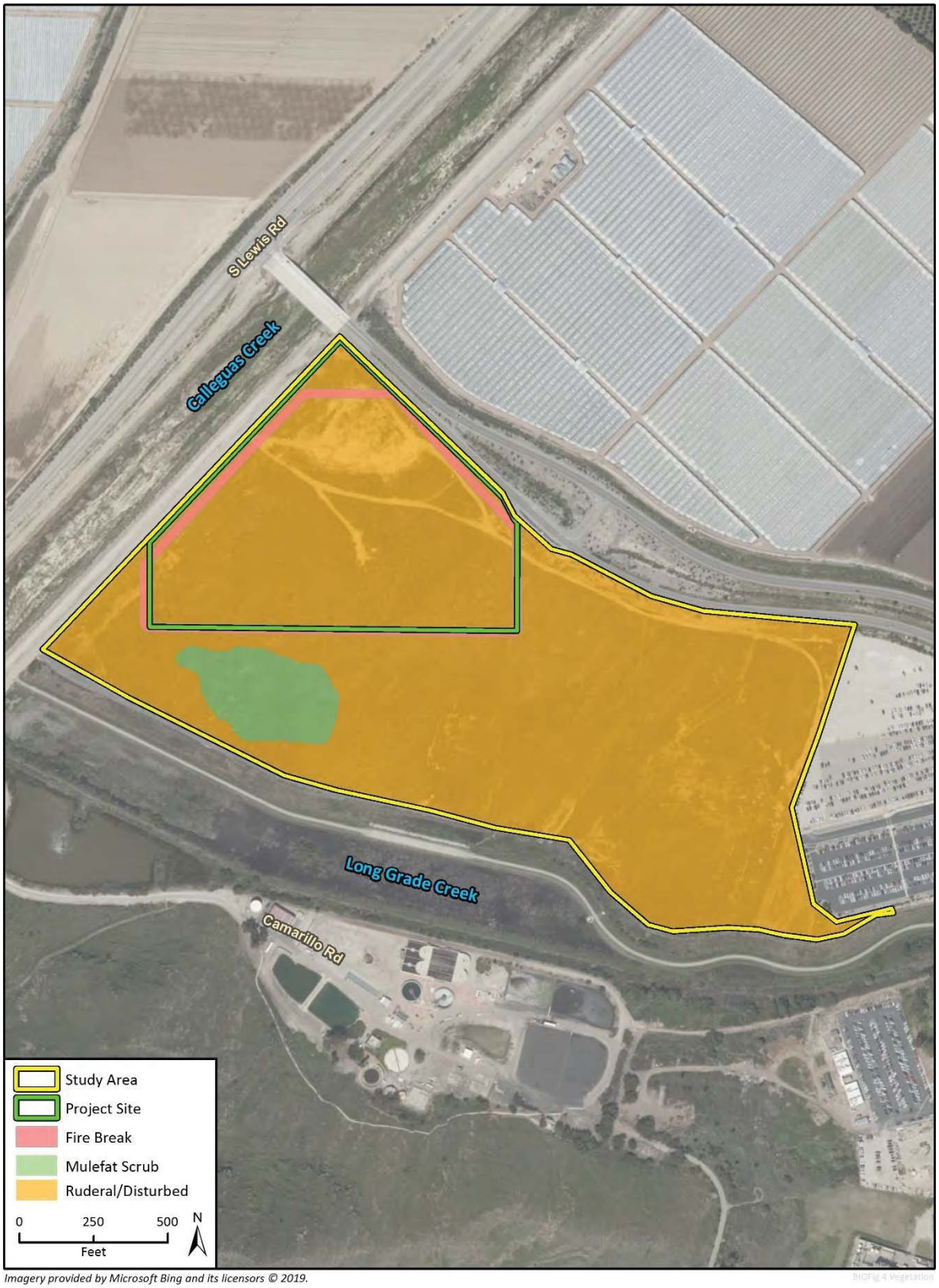


Imagery provided by National Geographic Society, Esri and its licensors © 2019. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.

Figure 3 Soils within the Study Area

Imagery provided by Microsoft Bing and its licensors © 2019.
Additional data provided by SSURGO, 2018.

Figure 4 Vegetation Communities within the Study Area



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Attachment B

Regulatory Setting

1 Regulatory Setting

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure which guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the project site include:

- United States Army Corps of Engineers (USACE) (wetlands and other waters of the United States)
- Los Angeles Regional Water Quality Control Board (RWQCB) (waters of the State)
- United States Fish and Wildlife Service (USFWS) (federally listed species and migratory birds)
- California Department Fish and Wildlife (CDFW) (riparian areas, streambeds, and lakes; state listed species; Species of Special Concern; nesting birds)

Special-status habitats are vegetation types, associations, or sub-associations which support concentrations of special-status plant or animal species, are of relatively limited distribution, or are of particular value to wildlife.

Listed species are those taxa formally listed as endangered or threatened by the federal government (e.g., USFWS), pursuant to the Federal Endangered Species Act (FESA) or as endangered, threatened, or rare (for plants only) by the State of California (i.e. California Fish and Game Commission), pursuant to the California Endangered Species Act (CESA) or the California Native Plant Protection Act (CNPS). Some species are considered rare (but not formally listed) by resource agencies, organizations with biological interests/expertise (e.g. Audubon Society, CNPS, The Wildlife Society), and the scientific community.

1.1 United States Army Corps of Engineers

Under Section 404 of the Clean Water Act, the USACE has authority to regulate activities which could discharge fill of material into wetlands or other "waters of the United States." Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters (typically a navigable water). The USACE also implements the federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetland value or acres. In achieving the goals of the Clean Water Act, the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any fill of wetlands hydrologically connected to jurisdictional waters would require a permit from the USACE prior to the start of work. Typically, when a project involves impacts to waters of the United States, the goal of no net loss of wetland acres or values is met through avoidance and minimization to the extent practicable, followed by compensatory mitigation involving creation or enhancement of similar habitats.

1.2 Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and the local RWQCB have jurisdiction over "waters of the State," pursuant to the Porter-Cologne Water Quality Control Act, which are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements regarding discharges to "isolated" waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General Waste Discharge Requirements for

Dredged or Fill Discharges to Waters Deemed by the U.S. Army Corps of Engineers to be Outside of Federal Jurisdiction). The RWQCB administers actions under this general order for isolated waters not subject to federal jurisdiction, and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the Clean Water Act for waters subject to federal jurisdiction.

1.3 United States Fish and Wildlife Service

The USFWS implements the Migratory Bird Treaty Act (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the FESA (16 USC § 153 et seq.). Generally, the USFWS implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadramous species. Projects which would result in "take" of any federally threatened or endangered species are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of the FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of the FESA; however, the USFWS and NMFS advise project applicants that proposed or candidate species could be elevated to listed status at any time.

1.4 California Department of Fish and Wildlife

The CDFW derives its authority from the California Fish and Game Code. The CESA (California Fish and Game Code Section 2050 et. seq.) prohibits take of state listed threatened or endangered species. Take under CESA is restricted to direct mortality of a listed species and the law does not prohibit indirect harm by way of habitat modification. Where incidental take would occur during construction or other lawful activities, CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, impacts to the species have been minimized and fully mitigated.

The CDFW also enforces Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code, which prohibits take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided.

California Fish and Game Code sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Section 3513 makes it a state-level office to take any bird in violation of the federal Migratory Bird Treaty Act. CDFW administers these requirements.

Species of Special Concern is a category used by the CDFW for those species which are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except that which may be afforded by the California Fish and Game Code as noted above. The Species of Special Concern category is intended by the CDFW for use as a management tool to include these species in special consideration when decisions are made concerning the development of natural lands. The CDFW also has authority to

administer the Native Plant Protection Act (NPPA) (California Fish and Game Code Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Effective in 2015, CDFW promulgated regulations (14 California Code of Regulations 786.9) under the authority of the NPPA, applying the CESA's permitting procedures to plants listed under the NPPA as "Rare." With this change, there is little practical difference for the regulated public between plants listed under the CESA and those listed under the NPPA.

Perennial, intermittent, and ephemeral streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. Section 1600 *et seq*. of the California Fish and Game Code (Lake and Streambed Alteration Agreements) gives the CDFW regulatory authority over activities which divert, obstruct, or alter the channel, bed, or bank of any river, stream or lake.

Attachment C

Special-Status Species Potential for Occurrence Table

Special-Status Species Potential for Occurrence Table

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Study Area	Habitat Suitability/ Observations
Plants and Lichens				
Astragalus brauntonii Braunton's milk-vetch	Endangered/None G2/S2 1B.1	Chaparral, coastal scrub, valley and foothill grassland. Recent burns or disturbed areas; usually on sandstone with carbonate layers. Soil specialist; requires shallow soils to defeat pocket gophers and open areas, preferably on hilltops, saddles or bowls between hills. 3-640 m. perennial herb. Blooms Jan-Aug	Not expected	Majority of study area is nearly devoid of vegetation. Remaining vegetation within the study area does not provide suitable habitat for the species due to the density of shrub and herbaceous layers. Suitable soils for this species are not present within the study area
Calochortus plummerae Plummer's mariposa-lily	None/None G4/S4 4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire. 60-2500 m. perennial bulbiferous herb. Blooms May-Jul	Not expected	Study area is nearly devoid of vegetation and suitable habitat for this species is not present.
Dudleya blochmaniae ssp. *blochmaniae* Blochman's dudleya	None/None G3T2/S2 1B.1	Coastal scrub, coastal bluff scrub, chaparral, valley and foothill grassland. Open, rocky slopes; often in shallow clays over serpentine or in rocky areas with little soil. 5-450 m. perennial herb. Blooms Apr-Jun	Not expected	Study area is nearly devoid of vegetation and suitable habitat for this species is not present.
Dudleya parva Conejo dudleya	Threatened/None G1/S1 1B.2	Coastal scrub, valley and foothill grassland. In clay or volcanic soils on rocky slopes and grassy hillsides. 90-380 m. perennial herb. Blooms May-Jun	Not expected	Study area is nearly devoid of vegetation and suitable habitat for this species is not present.
Dudleya verityi Verity's dudleya	Threatened/None G1/S1 1B.1	Chaparral, cismontane woodland, coastal scrub. On volcanic rock outcrops in the Santa Monica Mountains. 60-335 m. perennial herb. Blooms May-Jun	Not expected	Study area is nearly devoid of vegetation and suitable habitat for this species is not present.
Eriogonum crocatum conejo buckwheat	None/Rare G1/S1 1B.2	Chaparral, coastal scrub, valley and foothill grassland. Conejo volcanic outcrops; rocky sites. 90-580 m. perennial herb. Blooms Apr-Jul	Not expected	Study area is nearly devoid of vegetation and suitable habitat for this species is not present.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Study Area	Habitat Suitability/ Observations
Monardella sinuata ssp. *gerryi* Gerry's curly-leaved monardella	None/None G3T1/S1 B.1	Coastal scrub. Sandy openings. 150-245 m. annual herb. Blooms Apr-Jun	Not expected	Study area is nearly devoid of vegetation and suitable habitat for this species is not present.
Pseudognaphalium leucocephalum white rabbit-tobacco	None/None G4/S2 2B.2	Riparian woodland, cismontane woodland, coastal scrub, chaparral. Sandy, gravelly sites. 35-515 m. perennial herb. Blooms (Jul)Aug-Nov(Dec)	Not expected	Study area is nearly devoid of vegetation and suitable habitat for this species is not present.
Quercus dumosa Nuttall's scrub oak	None/None G3/S3 1B.1	Closed-cone coniferous forest, chaparral, coastal scrub. Generally on sandy soils near the coast; sometimes on clay loam. 15-640 m. perennial evergreen shrub. Blooms Feb-Apr(May-Aug)	Not expected	Study area is nearly devoid of vegetation and suitable habitat for this species is not present.
Senecio aphanactis chaparral ragwort	None/None G3/S2 2B.2	Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. 20-855 m. annual herb. Blooms Jan-Apr(May)	Not expected	Study area is nearly devoid of vegetation and suitable habitat for this species is not present.
Suaeda esteroa estuary seablite	None/None G3/S2 1B.2	Marshes and swamps. Coastal salt marshes in clay, silt, and sand substrates. 0-80 m. perennial herb. Blooms (May)Jul-Oct(Jan)	Not expected	Study area is nearly devoid of vegetation and suitable habitat for this species is not present.
Texosporium sancti-jacobi woven-spored lichen	None/None G3/S1 3	Chaparral. Open sites; in California with Adenostoma fasciculatum, Eriogonum, Selaginella. At Pinnacles, on small mammal pellets. 290-660 m. crustose lichen (terricolous).	Not expected	Study area is nearly devoid of vegetation and suitable habitat for this species is not present.
Fish				
Eucyclogobius newberryi tidewater goby	Endangered/None G3/S3 SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	Not expected	Study area is entirely upland. Suitable habitat for this species is not present.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Study Area	Habitat Suitability/ Observations
Gila orcuttii arroyo chub	None/None G2/S2 SSC	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave & San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	Not expected	Study area is entirely upland. Suitable habitat for this species is not present.
Oncorhynchus mykiss irideus pop. 10 steelhead - southern California DPS	Endangered/None G5T1Q/S1	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	Not expected	Study area is entirely upland. Suitable habitat for this species is not present.
Reptiles				
Anniella stebbinsi southern California legless lizard	None/None G3/S3 SSC	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Not expected.	Species is known from several occurrences within the banks of Calleguas Creek within 5 miles of the study area. Soils within the study area are compact and do not contain suitable vegetation to support this species.
Emys marmorata western pond turtle	None/None G3G4/S3 SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Not expected	Study area is entirely upland. Suitable habitat for this species is not present.
Thamnophis hammondii two-striped gartersnake	None/None G4/S3S4 SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Not expected	Study area is entirely upland. Suitable habitat for this species is not present.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Study Area	Habitat Suitability/ Observations
Birds				
Athene cunicularia burrowing owl	None/None G4/S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Not expected	Suitable open grasslands or shrublands are not present within the study area.
Buteo regalis ferruginous hawk	None/None G4/S3S4 WL	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	Not expected	Suitable grassland or woodland habitat for this species is not present within the study area.
Elanus leucurus white-tailed kite	None/None G5/S3S4 FP	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	High	Species may utilize the project area for foraging, but suitable nesting habitat for this species is not present within the study area.
Eremophila alpestris actia California horned lark	None/None G5T4Q/S4 WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Not expected	Suitable grassland habitat for this species is not present within the study area.
Falco peregrinus anatum American peregrine falcon	Delisted/Delisted G4T4/S3S4 FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Not expected	Species may utilize the project area for foraging, but suitable nesting habitat for this species is not present within the study area.
Passerculus sandwichensis beldingi Belding's savannah sparrow	None/Endangered G5T3/S3	Inhabits coastal salt marshes, from Santa Barbara south through San Diego County. Nests in *Salicornia* on and about margins of tidal flats.	Not expected	Suitable tidal flat habitat is not present within the study area.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Study Area	Habitat Suitability/ Observations
Pelecanus occidentalis californicus California brown pelican	Delisted/Delisted G4T3T4/S3 FP	Colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	Not expected	No suitable habitat for this marine-associated species is present within the study area.
Polioptila californica californica coastal California gnatcatcher	Threatened/None G4G5T2Q/S2 SSC	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	Not expected	Suitable coastal sage scrub habitat is not present within the study area.
Vireo bellii pusillus least Bell's vireo	Endangered/ Endangered G5T2/S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	High	Suitable foraging habitat is present within the mulefat scrub habitat within the survey area. High quality foraging and nesting habitat is present within the riparian vegetation of Calleguas and Long Grade Creeks. Species was observed in 2009 less than 1 mile from the study area.
Mammals				
Microtus californicus stephensi south coast marsh vole	None/None G5T1T2/S1S2 SSC	Tidal marshes in Los Angeles, Orange and southern Ventura counties.	Not expected	No suitable habitat is present within the study area.
Sorex ornatus salicornicus southern California saltmarsh shrew	None/None G5T1?/S1 SSC	Coastal marshes in Los Angeles, Orange and Ventura counties. Requires dense vegetation and woody debris for cover.	Low	Moderately suitable habitat is present within the riparian vegetation in San Antonio Creek. Species was observed in 1907 approximately 3 miles from study area.
Taxidea taxus American badger	None/None G5/S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Not expected	Study area does not provide suitable burrowing habitat for the species.

Scientific Name Common Name	Status	Habitat Requirements	Potential to Occur in Study Area	Habitat Suitability/ Observations
Special-status Natural Communities				
Southern Coast Live Oak Riparian Forest	None/None G4/S4	-	Absent	Coast live oak trees are not present within the study area.
Southern Coastal Salt Marsh	None/None G2/S2.1	-	Absent	Salt marshes are not present within the study area.
Southern Sycamore Alder Riparian Woodland	None/None G4/S4	-	Absent	Sycamore and alder trees are not present within the study area.
Valley Needlegrass Grassland	None/None G3/S3.1	-	Absent	Valley needlegrass is not present within the study area.

[1] Notes:

"?"denotes an inexact numeric rank

FE = Federal Endangered

FT = Federal Threatened

SE = State Endangered

FP = CDFW Fully Protected

SSC = California Species of Special Concern

CRPR (California Rare Plant Rank)

1B = Rare, Threatened, or Endangered in California and elsewhere

2B = Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension

.1 = Seriously threatened in California (> 80% of occurrences threatened/high degree and immediacy of threat)

.2 = Moderately threatened in California (20-80% occurrences threatened/ Moderate degree and immediacy of threat)

CDFW Rare

G1 or S1 = Critically Imperiled Globally or Subnationally (State)

G2 or S2 = Imperiled Globally or Subnationally (State)

G3 or S3 = Vulnerable to extirpation or extinction Globally or Subnationally (State)

G4/5 or S4/5 = Apparently secure, common and abundant

Appendix C

Phase 1 Cultural Resources Study and AB 52 Consultation Documentation

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October 30, 2019
Project No: 18-05857

Mr. Terry M. Tarr, AIA, LEED
Associate Architect/Project Manager
Planning Design & Construction Department
California State University Channel Islands
One University Drive
Camarillo, California 93012
Via email: terry.tarr@csuci.edu

Subject: Phase 1 Cultural Resources Study for the California State University, Channel Islands Solar Array Project, near the city of Camarillo, unincorporated Ventura County, California

Dear Mr. Tarr:

Rincon Consultants, Inc. (Rincon) was retained by California State University, Channel Islands (CSUCI) to conduct a Phase 1 Cultural Resources Assessment for the CSUCI Solar Array Project (project). The project would involve the development of a photovoltaic (PV) system on an approximately 16-acre project site on the CSUCI campus, near the city of Camarillo, in unincorporated Ventura County, California. The purpose of this letter report is to document the results of the tasks performed by Rincon, specifically a cultural resources record search, Native American outreach, a field survey, extended Phase 1 (XPI) testing, and development of management recommendations. This project is subject to the California Environmental Quality Act (CEQA); the Board of Trustees of the California State University, on behalf of CSUCI, is the lead agency under CEQA.

Project Location

The approximately 16-acre project site is located on a currently vacant, approximately 153-acre parcel (Assessor's Parcel Number 234-0-050-330) between Parking Lot A3 and Calleguas Creek near the western edge of the CSUCI campus (Figure 1, Attachment A). An inactive agricultural well pump house is currently located near the middle of the project site. The project site is depicted on Township 1 North, Range 21 West, Section 14 of the United States Geological Survey *Camarillo,* CA 7.5-minute quadrangle and encompasses part of the historical Rancho Guadalasca land grant (Bureau of Land Management 2019).

Project Description

The project involves the installation of a 3.75-megawatt ground-mounted, fixed tilt PV system. The inactive pump house located on the project site would remain, unaltered by the current project. The PV system would consist of PV modules mounted on fixed tilt racking, inverters, and electrical equipment. Solar panels and equipment would be located on piles ranging from a height of approximately 9 feet above the ground at the southern edge of the project site to 4 feet above the ground at the northern

edge of the project site. Solar panels would be located on piles driven into the ground to a depth of 10 to 14 feet and supports would be bolted onto the piles. The PV modules are an additional 4.5 feet above the piles. The project also includes six-foot high perimeter fencing with barbed wire and access gates around the solar array and equipment. Finally, six- to eight-foot tall toyon trees would be planted along 1,400 linear feet of the parcel's northern boundary and 1,300 linear feet of the western boundary to obscure views of the solar panels from the adjacent roads and agricultural uses. The location of the toyon tree plantings are depicted in Figure 1 (Attachment A). Outside the proposed fence, the campus would maintain a thirty-foot fire break (see Figure 6, Attachment A).

Ground-disturbing activities associated with the project include vegetation clearing prior to construction, surface grading along access roads within the project site, trenching to connect the PV system to existing CSUCI switchgear as a point of connection (POC) on campus, minor grading to create two raised pads for electrical equipment, installation of a fence, and associated landscaping. The CSUCI switchgear feeds to the campus main switchgear, which then feeds to the Southern California Edison (SCE) sub-station on campus. The project would utilize existing conduits running alongside University Drive, adjacent to the project site, to connect the PV system to the preferred POC. Approximately 200 to 300 feet of trenching and conduit routing will be required to get from the solar array station to the vault where existing conduits begin on University Drive.

Project Personnel

Rincon Senior Archaeologist, Tiffany Clark, PhD, Registered Professional Archaeologist, managed the cultural resources study and served as Principal Investigator. Rincon Archaeologist, Mary Pfeiffer, conducted the cultural resources survey and the XPI testing with the assistance of Archaeological Field Technician, Breanna Rotella. Matthew Vestuto of the Barbareño/Ventureño Band of Mission Indians served as the Native American monitor and observed all ground-disturbing activities conducted for the XPI investigation. GIS Analyst, Allysen Valencia, prepared the graphics. Rincon Principal, Jennifer Haddow, PhD, reviewed the report for quality control.

Regulatory Setting

California Environmental Quality Act

CEQA (Public Resources Code [PRC] Section 21084.1) requires a lead agency to determine whether a project could have a significant effect on historical resources. A *historical resource* is a resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR) (PRC Section 21084.1), a resource included in a local register of historical resources (Section 15064.5[a][2] of the CEQA Guidelines), or any object, building, structure, site, area, place, record, or manuscript, which a lead agency determines to be historically significant (Section 15064.5[a][3] of the CEQA Guidelines).

PRC Section 5024.1, Section 15064.5 of the CEQA Guidelines, and PRC Sections 21083.2 and 21084.1 were used as the basic guidelines for this cultural resources study. PRC Section 5024.1 requires an evaluation of historical resources to determine their eligibility for listing in the CRHR. The purpose of the register is to maintain listings of the state's historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources in the CRHR were expressly developed in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP), enumerated below.

According to PRC Section 5024.1(c)(1–4), a resource is considered *historically significant* if it: 1) retains substantial integrity, and 2) meets at least one of the following California Register criteria:

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

According to the Office of Historic Preservation guidelines, all buildings and structures constructed over 45 years ago and possessing architectural or historical significance may be considered potential historic resources. Proposed changes to these buildings or structures may require some level of environmental review. Most resources must meet the 45-year threshold for historic significance; however, resources less than 45 years in age may be eligible for listing on the CRHR if it can be demonstrated sufficient time has passed to understand their historical importance.

California Assembly Bill 52

As of July 1, 2015, California Assembly Bill 52 (AB 52) was enacted and expands CEQA by defining a new resource category called *Tribal Cultural Resources* (TCRs). AB 52 establishes that "a project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states the lead agency shall establish measures to avoid impacts which would alter the significant characteristics of a TCR, when feasible (PRC Section 21084.3).

PRC Section 21074(a)(1)(A) and (B) defines TCRs as, "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" that are either:

- Listed or eligible for listing in the CRHR, or in a local register of historical resources, as defined in PRC, Section 5020.1(k); or
- 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 PRC, Section 5024.1. In applying the criteria set forth in subdivision (c) of the PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding TCRs. The consultation process must be completed before a CEQA document can be certified or adopted. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project" when that tribe has requested notice of projects proposed within the jurisdiction of the lead agency.

Cultural Resources Record Search

On May 14, 2019, Rincon conducted a record search of the California Historical Resources Information System at the South Central Coastal Information Center (SCCIC) located at California State University, Fullerton. The purpose of the record search was to identify previously recorded cultural resources, as

well as previously conducted cultural resources studies, within the project site and a 0.5-mile radius surrounding it. As part of the literature review for the project, Rincon staff also reviewed the CRHR, NRHP, the California Historical Landmarks list, the Archaeological Determination of Eligibility list, and the California State Historic Resources Inventory list.

The SCCIC record search identified 18 previously conducted cultural resources studies within a 0.5-mile radius of the project site. Of these, eight cultural resources studies include portions of the project site. Taken together, these studies encompass the project site in its entirety. Table 1 lists the previous studies within the record search radius.

Table 1 Previous Cultural Resources Studies within 0.5-mile of the Project Site

Report Number	Author	Year	Title	Relationship to Project Site
VN-00126	William C. Clewlow, Jr.	1975	*Archaeological Resources of the Proposed Calleguas Creek Project*	**Within**
VN-00321	Robert Lopez	1978	*An Archaeological Reconnaissance of the Proposed Route of a Pipeline for the Exchange of Water and Sewer Services Between the Camrosa County Water District and the Camarillo State Hospital, Ventura County, California*	**Within**
VN-00509	Clay A. Singer	1986	*Cultural Resources in the Vicinity of Five Potential County Jail Sites in the Western Part of the Oxnard Plain, Ventura County, California – A Review of Records and Documents*	**Within**
VN-00583	James P. Brock	1987	*A Cultural Resources Overview of Lower Calleguas Creek*	**Within**
VN-01084	Chester King	1992	*Native American Placenames in the Santa Monica Mountains: First Draft*	Outside
VN-01299	Mary K. Maki	1994	*Phase I Cultural Resources Survey of 9-Acres for the Hueneme Bridge Replacement Project, County Bridge No. 280/State Bridge No. 52C10034, Ventura County, California*	Outside
VN-01375	John F. Romani	1994	*A Cultural Resource Survey for the Proposed Renovation of the Camrosa Wastewater Treatment Plant, Round Mountain, Ventura County*	Outside
VN-01403	Unknown	1994	*Phase I Archaeological Survey of the Proposed Hill Canyon 9.2 Mile Pipeline Corridor, Ventura County, California*	Outside
VN-01462	Chester King	1994	*Prehistoric Native American Cultural Sites in the Santa Monica Mountains*	Outside
VN-01496	Mary K. Maki	1994	*Replacing the Existing Hueneme Road Bridge (County Bridge No. 280/State Bridge No. 52C0034) Spanning Calleguas Creek, Ventura County*	Outside
VN-01605	Robert J. Wlodarski	1998	*A Phase I Archaeological Study and Historic Resources Review California State University Channel Islands Campus Master Plan Program Environmental Impact Report, Ventura County, California*	Outside
VN-01722	Robert J. Wlodarski	1998	*A Phase I Archaeological Study for the Lewis Road Widening Project, Ventura County, California*	**Within**

Report Number	Author	Year	Title	Relationship to Project Site
VN-01855	Robert J. Wlodarski	2000	*A Phase I Archaeological Study for Proposed Expansion Areas for a Supplemental Environmental Impact Report for the California State University Channel Islands, County of Ventura, California*	**Within**
VN-01961	Mary K. Maki	2001	*Phase I Archaeological Survey of Approximately 18 Linear Miles for the CMWD Regional Salinity Management Program, Ventura County, California*	Outside
VN-02103	Unknown	1994	*Phase I Archaeological Survey of the Proposed Hill Canyon 9.2 Mile Pipeline Corridor, Ventura County, California*	Outside
VN-02247	Mary K. Maki	2004	*Camrosa Water Reclamation Facility Expansion Project, Camarillo, Ventura County*	Outside
VN-02978	Jim Sharpe and Lori Durio	2004	*Groundwater Recovery Enhancement and Treatment (GREAT) Program, Cultural Resources Inventory Report*	**Within**
VN-03230	Hannah Haas and Robert Ramirez	2014	*California State University, Channel Islands, CSUCI Special Use Facilities Project, Cultural Resources Study*	**Within**

Source: South Central Coastal Information Center 2019

The SCCIC record search identified four previously recorded cultural resources within a 0.5-mile radius of the project site (Table 2). These include three prehistoric archaeological sites and one historic district. Although no cultural resources were identified within the project site, one prehistoric site is located less than 0.25 mile from the project site. A brief description of this resource, which is recommended eligible for the CRHR, is provided below.

Table 2 Previously Recorded Cultural Resources within 0.5-mile of the Project Site

Primary Number	Trinomial	Resource Type	Description	Recorder(s) and Year(s)	NRHP/CRHR Status	Relationship to Project Site
P-56-000174	CA-VEN-000174	Prehistoric site	Village site or seasonal camp with a summer solstice shrine	Chester King and Clay Singer 1967; Robert J. Wlodarski and Dan A. Larson 1998	Unknown for NRHP; eligible for listing on the CRHR	Outside
P-56-000863	CA-VEN-000863	Prehistoric site	Village site with midden deposits	James Brock and Nina Harris 1987	Unknown for NRHP; eligible for listing on the CRHR	Outside
P-56-100397	–	Prehistoric site	Lithic scatter	Ashley Ginther 2014	Unknown	Outside
P-56-152745	–	Historic district	Former hospital buildings and structures	Robert J. Wlodarski and Dan A. Larson 1998	Recommended eligible for NRHP, CRHR and local designation	Outside

NRHP: National Register of Historic Places; CRHR: California Register of Historical Resources
Source: South Central Coastal Information Center 2019

P-56-000174/CA-VEN-174

This prehistoric archaeological resource was first recorded by Chester King and Clay Singer in 1967 as a possible seasonal village or base camp located at the base of Round Mountain, which lies to the south within the CSUCI campus. The site was recorded as being in direct association with Round Mountain (*Satwiwa*), which contains a summer solstice shrine site. A site update was later completed by Wlodarski and Larson (1998). Due to its association with *Satwiwa*, the boundary of CA-VEN-174 was expanded to encompass the entirety of Round Mountain. Although grading from road construction and maintenance activities may have destroyed some potential features at the site, Wlodarski and Larson (1998) noted CA-VEN-174 retains its importance as a summer solstice observation point/shrine. According to the Final Program Environmental Impact Report prepared for the California State University, Channel Islands Campus Master Plan (CSUCI 1998:5.4-2), the site is considered significant under CEQA. AB 52 consultation conducted as part of the CEQA process for the Specific Reuse Plan Amendment and Phase 2 Development of the East Campus Residential Neighborhood Project (CSUCI 2017) resulted in the identification of Round Mountain as a Tribal Cultural Resource by local Chumash groups.

Native American Outreach

Rincon contacted the Native American Heritage Commission (NAHC) on August 8, 2019 to request a search of the Sacred Lands File (SLF) of the project site. A response was received from the NAHC on August 12, 2019 stating the SLF search had been completed with negative results (see Attachment B). No further outreach with Native American groups was undertaken as part of the Phase 1 cultural resources assessment.

CSUCI conducted AB 52 consultation for the project as required by CEQA. CSUCI staff prepared and sent AB 52 notification letters to ten Native American individuals on September 18, 2019. Under AB 52, tribes have 30 days to respond and request consultation. Patrick Tumamait of the Barbareño/ Ventureño Band of Mission Indians contacted CSUCI staff with a question regarding whether the cultural resource studies were being prepared in accordance with State guidelines, but he did not request formal consultation under AB 52. As of October 23, 2019, no tribes have responded to the AB 52 notification letters with a request for consultation.

Archival Map Review

A review of historical maps and aerial photographs available on-line at NETRonline (2019) indicates development in the area began as early as 1904 with a single building depicted east of Calleguas Creek within the vicinity of the current project site. By 1943, Old Hueneme Road had been built running adjacent to the creek and much of the project site and surrounding areas were under cultivation; the building depicted on the 1904 map is no longer extant. Other development at this time includes the Camarillo State Hospital, which was established southeast of the project site and is the present-day site of the CSUCI core campus. The Camarillo State Hospital slowly expanded in the following decades with the land encompassing the project site continuing to be used for agricultural purposes. A single structure is shown on the project site in a 1967 aerial photograph; the structure likely represents the abandoned pump house which is still present on the project site. The current alignment of University Drive was constructed between 2010 and 2012.

Field Survey

A pedestrian survey of the project site, proposed tree planting area, and fire break perimeter was completed by Ms. Pfeiffer on August 9, 2019. In the following section, a summary of the survey methods and findings is provided.

Methods

Transect intervals were spaced no more than 10 meters apart with 5-meter intervals used in areas with dense vegetation. All exposed ground surfaces were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire-affected rock), ecofacts (marine shell and bone), soil discoloration which might indicate the presence of a cultural midden, soil depressions, and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations) or historic debris (e.g., metal, glass, ceramics). Ground disturbances such as burrows and drainages were also visually inspected. Survey accuracy was maintained using a handheld Global Positioning Satellite (GPS) unit and a georeferenced map of the project site. Site characteristics and survey conditions were documented using field records and a digital camera. Copies of the survey notes and digital photographs are maintained at the Rincon Ventura office.

Findings

Ground visibility across the project site averaged 60 to 65 percent with portions of the area obscured by vegetation consisting of buckwheat, mustard, thistle, seasonal grasses and other scrubs (Figure 2, Attachment A). The terrain was relatively flat with a 0 to 2 degree slope and northern aspect. Exposed soils were characterized by a light to medium brown compacted fine-grained silty sand with granitic material intermixed.

An abandoned pump house was identified in the project site (Figure 3, Attachment A). The small semi-permanent building is rectilinear in plan, sheathed in corrugated metal sheeting, and capped by a flat roof punctuated with a turbine ventilator. The building is surrounded by a metal chain link fence. Because the pump house will remain on the site and is semi-permanent in construction, a formal evaluation of the building was not conducted. The proposed project would not require any modifications to the building and would therefore have no direct impact.

The survey also identified two dispersed low-density shell scatters within the northern portion of the project site (Figures 4 and 5, Attachment A). The larger of the scatters measured approximately 97 by 68 meters in size and was located south of University Drive (Figure 6, Attachment A). A smaller linear shell scatter, approximately 30 meters in length and 3 meters in width, was identified along the western edge of the project site adjacent to the dirt road. No prehistoric artifacts, features, or midden-like sediments (i.e., darker, organic-rich soils) were found to be associated with either of the shell scatters.

The entire project site shows evidence of having been previously disturbed by agricultural activities with drip irrigation lines and sprinkler heads visible on the northeastern boundary of the project site. Other disturbances noted include tire tracks and waste piles. Modern refuse was observed along the northeast and northwest boundary of the project site and consisted of bottle glass, paper, broken brick, modern ceramics, and concrete.

Extended Phase 1 (XPI) Testing

The discovery of the two shell scatters on the project site prompted the development and implementation of an XPI testing program. The primary purpose of the XPI testing was to determine if substantial subsurface archaeological deposits were associated with the shell scatters. The XPI test excavations were conducted in accordance with the XPI Plan prepared for the study (Duran and Clark 2019).

The field work for the XPI study was completed on September 24 and 25, 2019 by Ms. Pfeiffer and Ms. Rotella. Mr. Vestuto served as the Native American monitor and observed the XPI excavations. Colleen Delaney, PhD, Associate Professor of Anthropology at CSUCI, was present during portions of the testing program and assisted with the field work.

On September 24, 2019, archaeological and Native American monitoring of geotechnical boring excavations were conducted concurrently with the XPI test excavations. No artifacts or archaeological materials were identified in any of boring samples excavated for the geotechnical study. The findings of the monitoring effort are summarized in a separate report (Clark and Haddow 2019).

Methods

The XPI testing program consisted of the hand excavation of 10 circular shovel test pits (STPs), each of which had a diameter of 30 centimeters (Figure 7, Attachment A). The STPs were spaced 20 to 40 meters apart within and immediately adjacent to the larger shell scatter (Figure 6, Attachment A). The STPs were excavated in 20-centimeter, arbitrary levels with excavated soils from each STP screened through 3-millimeter (1/8 inch) wire mesh screen. STP forms were completed to record all data recovered and observations made, including the depths of recovered materials and soil descriptions. All excavation locations were recorded using a submeter-accuracy handheld GPS unit. Rincon excavated each STP to a minimum depth of 40 centimeters. Hand augering was conducted at the base of five STPs to obtain information on more deeply buried sediments. STP 6 was exclusively excavated with a hand auger due to the high density of gravel and rock found in this portion of the project site.

Findings

The findings of the STP excavations indicate the project site is characterized by sediments which are light to medium brown in color and composed of a mix of silty sand, sandy silt, and silty clay, with some sandy gravel and clay deposits. Five of the STPS (2-5 and 8) contained shell in the upper 40 to 60 centimeters of sediment with STPs 3 and 4 exhibiting the largest numbers of recovered shell. No prehistoric artifacts, features, or midden-like sediments were identified in association with the shell. However, a variety of modern refuse, including brick, plastic, wood, asphalt, and glass fragments, were found intermixed with the shell. Table 3 provides a summary of the STPs including soils and disturbances encountered.

Conclusions and Recommendations

A pedestrian field survey identified a historic-period abandoned pump house structure and two possibly prehistoric shell scatters in the project site. The inactive pump house will remain on site and will not be impacted by the project. XPI excavations indicate the shell scatters are likely the result of the redeposition of detention basin sediments containing freshwater shell fragments which had been

Table 3 Summary of STP Excavations

STP	Maximum Depth (centimeters below surface [cmbs])	Soil	Disturbances	Possible Cultural Constituents
1	40 cmbs	Silty sand (0-40 cmbs)	Gravel, asphalt, and brick pieces	None
2	100 cmbs (auger from 60-100 cmbs)	Sandy silt (0-20 cmbs) Silty sand (20-40 cmbs) Silty clay (40-80 cmbs) Silty clay (80-1000 cmbs)	Gravel, asphalt, plastic, and brick pieces	19 shell fragments (0-60 cmbs)
3	80 cmbs (auger from 60-80 cmbs)	Silty sand (0-80 cmbs)	Wood, plastic, and brick pieces	58 shell fragments (0-40 cmbs)
4	55 cmbs (auger from 40-55 cmbs)	Silty sand (0-55 cmbs)	Glass, plastic, gravel, and rocks	171 shell fragments (0-55 cmbs)
5	80 cmbs (auger from 40-80 cmbs)	Silty sand (0-60 cmbs) Silty clay (60-80 cmbs)	Glass, plastic, gravel, and rocks	18 shell fragments (0-40 cmbs)
6	40 cmbs (auger from 0-40 cmbs)	Sandy gravel (0-50 cmbs)	Gravels and rock	None
7	40 cmbs	Silty sand (0-40 cmbs)	Asphalt, gravel, and wood	None
8	60 cmbs	Sandy silt (0-40 cmbs) Silty sand (40-60 cmbs)	Brick, asphalt, glass, and gravel	1 shell fragment (0-20 cmbs)
9	40 cmbs (auger from 20-40 cmbs)	Sandy silt (0-40 cmbs)	Brick, asphalt, glass, and gravel	None
10	40 cmbs	Silty sand (0-20 cmbs) Clay (20-40 cmbs)	Brick, rock, and gravel	None

intentionally placed on the project site as fill. As such, the shell does not represent archaeological remains reflecting prehistoric use of the area.

Although no archaeological materials were identified by the Phase 1 study, record search data indicate three prehistoric archaeological resources are located within the project vicinity. Two of these sites appear to be village locations suggesting relatively intensive use of the area by prehistoric groups. Given these findings, the project site appears to have a moderate sensitivity for containing buried prehistoric archaeological remains.

The results of the field survey revealed surficial deposits throughout much of the project site have been disturbed by agricultural activities and the deposition of detention basin clean-out sediments. These previous ground-disturbing activities appear to be limited to the upper few feet of sediment. Given the depth of ground disturbance for the solar array project will extend 14 feet below the current ground surface, it is anticipated the solar panel installation will extend into undisturbed native sediments. These excavations have the potential to impact buried prehistoric archaeological resources.

Based on the results of the current Phase 1 study, Rincon recommends a finding of ***no impact to historical resources*** and ***less than significant impact to archaeological resources with mitigation incorporated*** under CEQA with adherence to the following measures. The project is also required to adhere to regulations regarding the unanticipated discovery of human remains, detailed below.

Initial Monitoring of Ground Disturbance

Initial project-related ground-disturbing activities (including, but not limited to site preparation, grading, excavation, and trenching) conducted within the project site shall be observed by an archaeological monitor and Native American monitor. The archaeological monitor shall be under the direction of a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for prehistoric archaeology (National Park Service 1983). Archaeological monitoring may be reduced or halted at the discretion of the qualified archaeologist as warranted by conditions such as encountering culturally sterile sediments or bedrock, sediments being excavated are identified as fill materials, or negative findings during initial ground-disturbing activities. If monitoring is reduced, spot-checking shall occur when ground-disturbance moves to a new location or when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock).

Unanticipated Discovery of Archaeological Resources

If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall halt and the Board of Trustees of the California State University shall be notified. A qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to assess the nature, extent, and potential significance of any cultural remains. If the resources are determined to be Native American in origin, the archaeologist shall consult with the Board of Trustees of the California State University to begin Native American consultation procedures, as appropriate. If the discovery is determined to be not significant, work would be permitted to continue in the area. Potentially significant resources may require a Phase II subsurface testing program to determine the resource boundaries within the project site, assess the integrity of the resource, and evaluate the site's significance through a study of its features and artifacts. If, in consultation with the Board of Trustees of the California State University, a discovery is determined to be significant, a mitigation plan would be prepared and carried out in accordance with CEQA guidelines. If the resource cannot be avoided, a data recovery plan would be developed to ensure collection of sufficient information to address archaeological and historical research questions, with results presented in a technical report describing field methods, materials collected, and conclusions. Unless otherwise agreed upon with consulting Native American representatives, any cultural material collected as part of an assessment or data recovery effort would be property of the University and curated at a qualified facility as directed by the University.

Human Remains

The discovery of human remains is always a possibility during ground-disturbing activities. If human remains are found, the California Health and Safety Code Section 7050.5 states no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission, which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site and provide recommendations for treatment to the landowner within 48 hours of being granted access.

Please do not hesitate to contact Rincon Consultants with any questions regarding this cultural resources study.

Sincerely,
Rincon Consultants, Inc.

Tiffany Clark, PhD, RPA
Principal Investigator and Senior Archaeologist

Jennifer Haddow, PhD
Principal Environmental Scientist

Attachments

Attachment A Figures

Attachment B NAHC SLF Results

References

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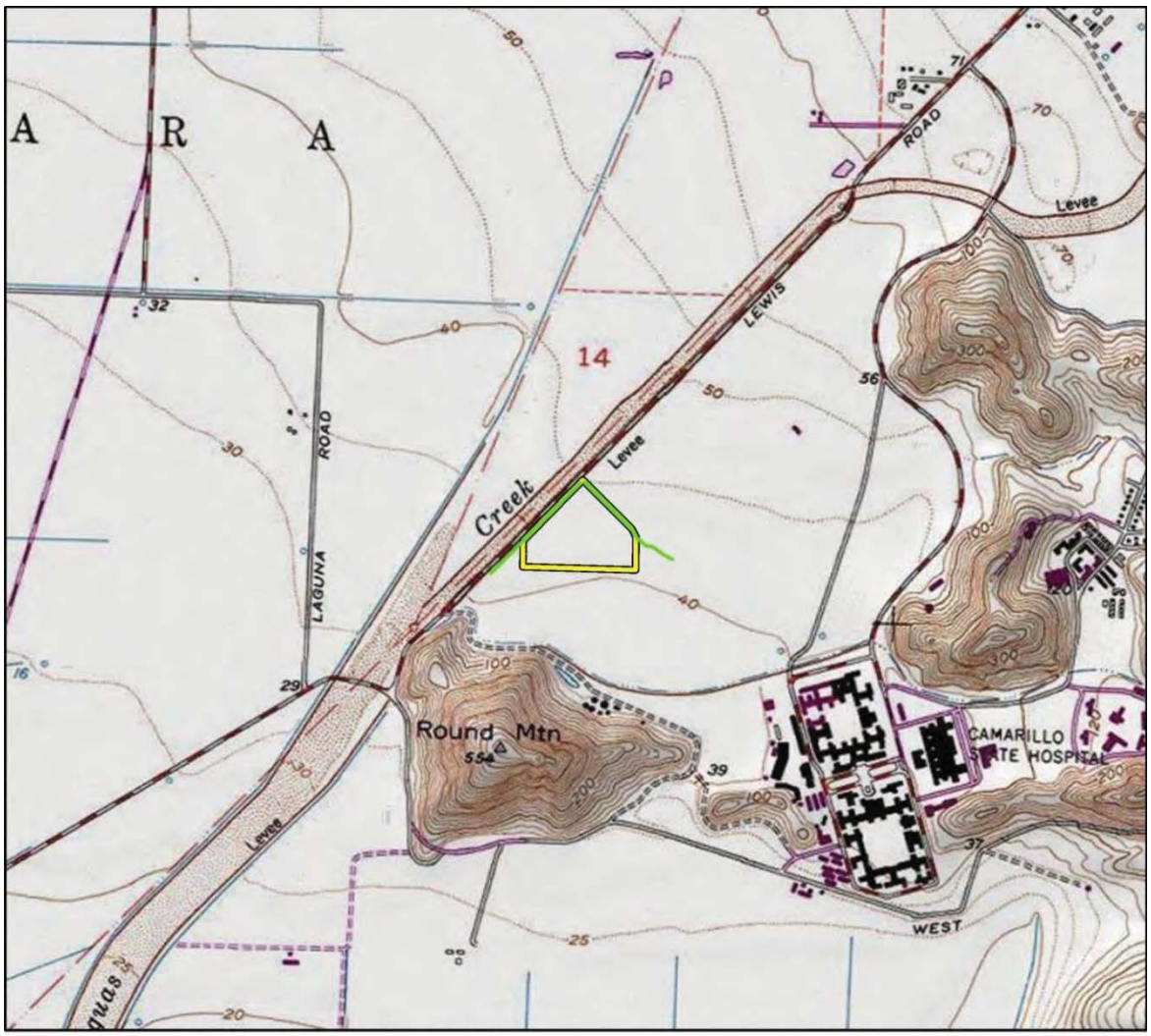
Attachment A

Figures

Figure 1 Project Location Map



Imagery provided by National Geographic Society, Esri and its licensors © 2019. Camarillo Quadrangle. T01N R21W S14. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may havechanged since the original topographic map was assembled.

Project Location
Tree Planting Area

0 1,000 2,000 Feet

N

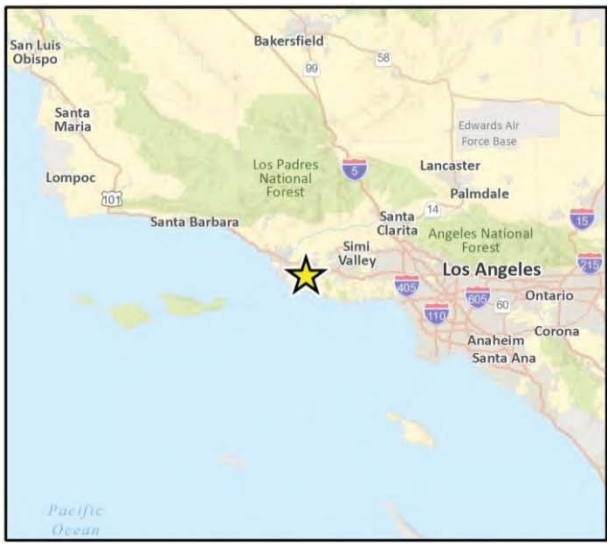


Figure 2 Project Overview, Facing South

Figure 3 Abandoned Pump House, Facing East

Figure 4 Overview of Dispersed Shell Scatter, Facing West

Figure 5 Close-up of Shell Identified within Scatter

Figure 6 Project Location Map Showing Shell Scatters and STP Locations

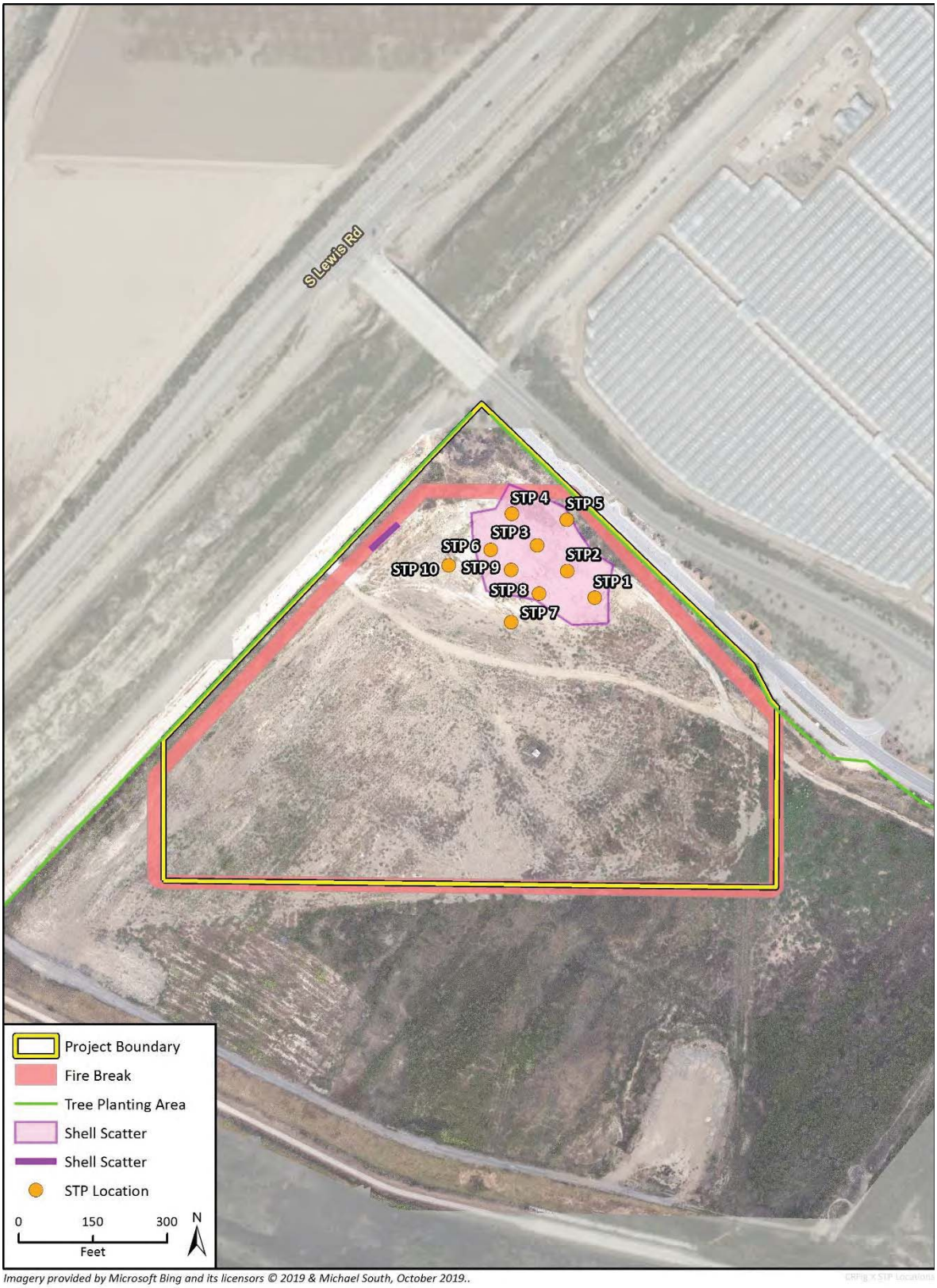


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Figure 7 Overview of Representative STP (STP 2)

Attachment B

NAHC SLF Results

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

August 12, 2019

Mary Pfeiffer
Rincon Consultants, Inc.

VIA Email to: mpfeiffer@rinconconsultants.com

RE: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, California State University, Channel Islands (CSUCI) Solar Farms Project, Ventura County

Dear Ms. Pfeiffer:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

> Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;

- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;

- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and

- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

   - Any report that may contain site forms, site significance, and suggested mitigation measures.

     All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.
4. Any ethnographic studies conducted for any area including all or part of the APE; and

5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Staff Service Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Ventura County
8/12/2019

Barbareno/ Ventureno Band of Mission Indians
Raudel Banuelos,
331 Mira Flores — Chumash
Camarillo, CA, 93012
Phone: (805) 427 - 0015

Barbareno/Ventureno Band of Mission Indians
Julie Tumamait-Stenslie,
Chairperson
365 North Poli Ave — Chumash
Ojai, CA, 93023
Phone: (805) 646 - 6214
jtumamait@hotmail.com

Barbareno/ Ventureno Band of Mission Indians
Patrick Tumamait,
992 El Camino Corto — Chumash
Ojai, CA, 93023
Phone: (805) 216 - 1253

Barbareno/ Ventureno Band of Mission Indians
Eleanor Arrellanes,
P. O. Box 5687 — Chumash
Ventura, CA, 93005
Phone: (805) 701 - 3246

Chumash Council of Bakersfield
Julio Quair, Chairperson
729 Texas Street — Chumash
Bakersfield, CA, 93307
Phone: (661) 322 - 0121
chumashtribe@sbcglobal.net

Coastal Band of the Chumash Nation
Gino Altamirano, Chairperson
P. O. Box 4464 — Chumash
Santa Barbara, CA, 93140
cbcn.consultation@gmail.com

Northern Chumash Tribal Council
Fred Collins, Spokesperson
P.O. Box 6533 — Chumash
Los Osos, CA, 93412
Phone: (805) 801 - 0347
fcollins@northernchumash.org

San Luis Obispo County Chumash Council
Mark Vigil, Chief
1030 Ritchie Road — Chumash
Grover Beach, CA, 93433
Phone: (805) 481 - 2461
Fax: (805) 474-4729

Santa Ynez Band of Chumash Indians
Kenneth Kahn, Chairperson
P.O. Box 517 — Chumash
Santa Ynez, CA, 93460
Phone: (805) 688 - 7997
Fax: (805) 686-9578
kkahn@santaynezchumash.org

yak tityu tityu yak tiłhini – Northern Chumash Tribe
Mona Tucker, Chairperson
660 Camino Del Rey — Chumash
Arroyo Grande, CA, 93420
Phone: (805) 748 - 2121
olivas.mona@gmail.com

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

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed California State University, Channel Islands (CSUCI) Solar Farm Project, Ventura County.

September 18, 2019

[Contact Name]
[Contact Address]

RE: Assembly Bill 52 Consultation for the California State University, Channel Islands (CSUCI) Solar Farm Project, near the city of Camarillo, unincorporated Ventura County, California

Dear [Contact Name]:

California State University, Channel Islands (CSUCI) is preparing an Initial Study for the California State University, Channel Islands Solar Farm Project (project). The project would involve the installation of a 3.75 megawatt ground mounted, fixed tilt solar photovoltaic (PV) system. The PV system would consist of PV modules mounted on single axis trackers, inverters, and electrical equipment (e.g. switchboards, transformers, and meters). Ground-disturbing activities associated with the project include vegetation clearing prior to construction, surface grading along access roads within the project site, trenching to connect the PV system to an existing Southern California Edison point of connection (POC), grading to create a pad for electrical equipment, installation of a fence and associated landscaping. The project would utilize existing conduits running alongside University Drive, adjacent to the project site, to connect the PV system to the preferred POC. Approximately 200 to 300 feet of trenching and conduit routing will be required to get from the solar array station to the vault where existing conduits begin on University Drive. The proposed project is subject to the California Environmental Quality Act (CEQA), and CSUCI is the lead agency for the project.

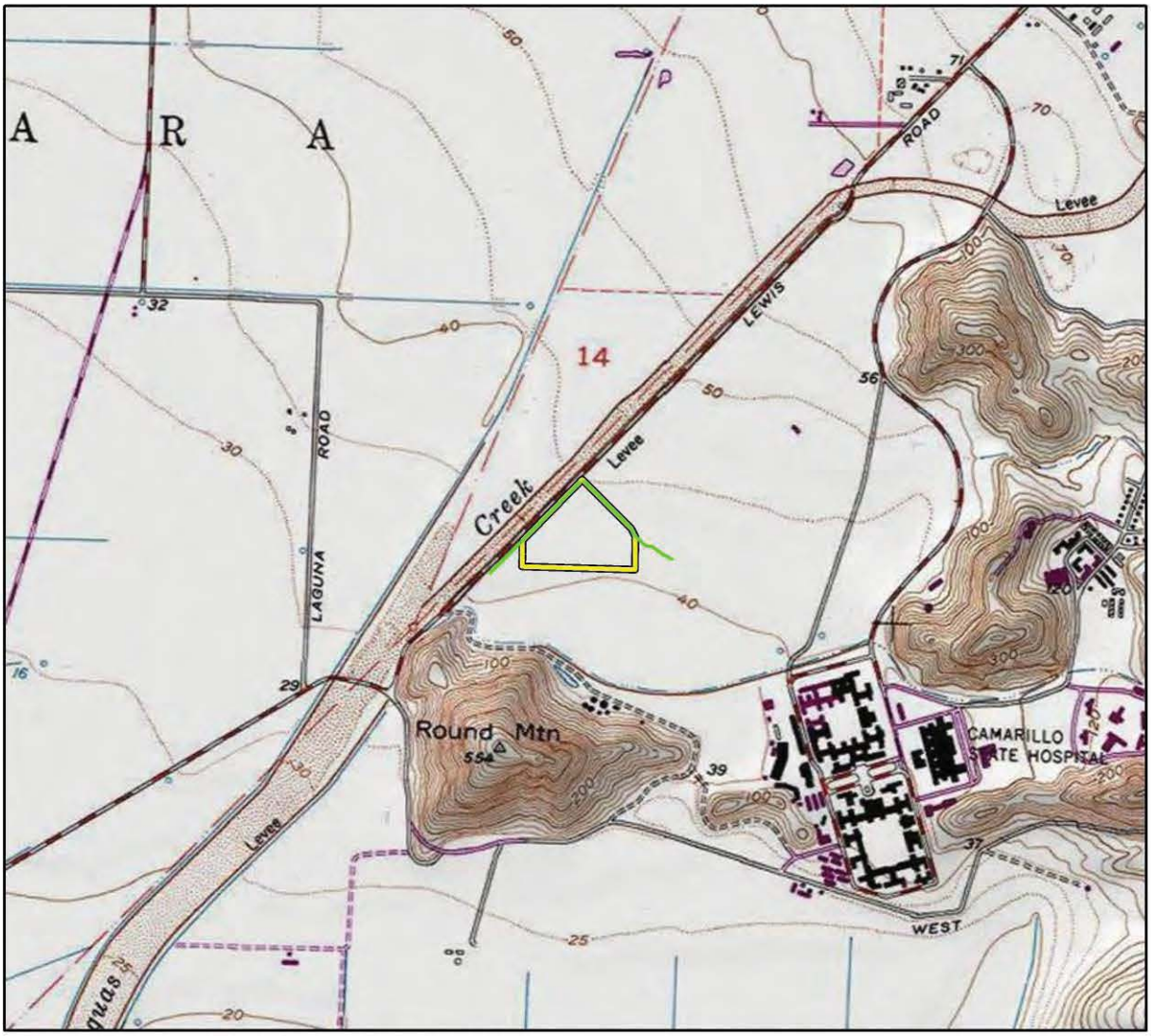
The proposed Project must comply with California Public Resources Code § 21080.3.1 (Assembly Bill [AB] 52 of 2014), which requires local governments to conduct meaningful consultation with California Native American tribes that have requested to be notified by lead agencies of proposed projects in the geographic area with which the tribe is traditionally and culturally affiliated.

The input of the [Native American Tribal Name] is important to CSUCI's planning process. Under AB 52, you have 30 days from receipt of this letter to respond in writing if you wish to consult on the proposed project. If you require any additional information or have any questions, please contact me at (805) 437-2018 or via e-mail at terry.tarr@csuci.edu. Thank you for your assistance.

Sincerely,

Mr. Terry M. Tarr, AIA, LEED AP
Associate Architect / Project Manager
Planning Design & Construction Department
California State University Channel Islands

Enclosure: Project Location Map



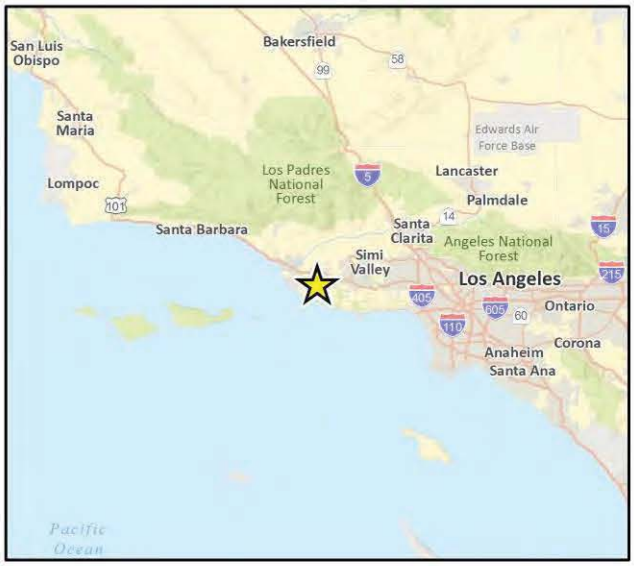
Imagery provided by National Geographic Society, Esri and its licensors © 2019. Camarillo Quadrangle. T01N R21W S14. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may havechanged since the original topographic map was assembled.

Project Location

Tree Planting Area

0 1,000 2,000 Feet

N



AB 52 Mailing List

Raudel Banuelos
Barbareño/ Ventureño Band of Mission Indians
331 Mira Flores
Camarillo, California 93012

Julie Tumamait-Stenslie, Chairperson
Barbareño/ Ventureño Band of Mission Indians
365 North Poli Avenue
Ojai, California 93023

Patrick Tumamait
Barbareño/ Ventureño Band of Mission Indians
992 El Camino Corto
Ojai, California 93023

Eleanor Arrellanes
Barbareño/ Ventureño Band of Mission Indians
P.O. Box 5687
Ventura, California 93005

Julio Quair, Chairperson
Chumash Council of Bakersfield
729 Texas Street
Bakersfield, California 93307

Gino Altamirano, Chairperson
Coastal Band of the Chumash Nation
P.O. Box 4464
Santa Barbara, California 93140

Fred Collins, Spokesperson
Northern Chumash Tribal Council
P.O. Box 6533
Los Osos, California 93412

Mark Vigil, Chief
San Luis Obispo County Chumash Council
1030 Ritchie Road
Grover Beach, California 93433

Kenneth Kahn, Chairperson
Santa Ynez Band of Chumash Indians
P.O. Box 517
Santa Ynez, California 93460

Mona Tucker, Chairperson
Yak tityu tityu yak tilhini – Northern Chumash Tribe
660 Camino Del Rey
Arroyo Grande, California 93420

Appendix D

Energy Calculations

CSUCI Solar Array Project

Last Updated: October 21, 2019

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Rubber Tired Dozer	1	8	247	0.40	Site Preparation	417.80
Grader	1	8	97	0.37	Site Preparation	168.72
Roller	1	8	80	0.38	Site Preparation	142.91
Sweepers/Scrubbers	1	8	64	0.46	Site Preparation	138.40
Rubber Tired Loader	1	8	203	0.36	Site Preparation	309.03
Crane	1	7	231	0.29	Pile Driving	1,239.36
Drill Rig	1	8	221	0.50	Pile Driving	2,336.37
Reach Forklift	1	8	89	0.20	Pile Driving	418.40
Shop Forklift	1	8	89	0.20	Pile Driving	418.40
Sweepers/Scrubbers	1	8	64	0.46	Pile Driving	692.01
Tractors/Loaders/Backhoes	1	7	97	0.37	Pile Driving	738.17
Air Compressors	1	8	78	0.48	System Installation	2,288.14
Crane	1	7	231	0.29	System Installation	3,222.33
Sweepers/Scrubbers	1	8	64	0.46	System Installation	1,799.22
Tractors/Loaders/Backhoes	1	7	97	0.37	System Installation	1,919.23
Trencher	1	8	78	0.50	System Installation	2,383.48
Reach Forklift	1	8	89	0.20	System Installation	1,087.84
Shop Forklift	1	8	89	0.20	System Installation	1,087.84
					Total Fuel Used	**20,807.66**
						(Gallons)

Construction Phase	Days of Operation
Site Preparation	10
Pile Driving	50
System Installation	130
Total Days	190

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Site Preparation	24.0	13	10.8	58.50
Pile Driving	24.0	293	10.8	6592.50
System Installation	24.0	293	10.8	17140.50
			Total	**23,791.50**

HAULING AND VENDOR TRIPS				
VENDOR TRIPS				
Demolition	7.4	0	0.0	0.00
Site Prep Phase	7.4	24	7.3	1183.78
Grading Phase	7.4	24	7.3	3077.84
			Total	**4,261.62**

Total Gasoline Consumption (gallons)	**23,791.50**
Total Diesel Consumption (gallons)	**25,069.28**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2018. *National Transportation Statistics 2018* . Available at: https://www.bts.gov/sites/bts.dot.gov/files/docs/browse-statistical-products-and-data/national-transportation-statistics/223001/ntsentire2018q4.pdf.

CSUCI Solar Array Project

Last Updated: October 21, 2019

Populate one of the following tables (Leave the other blank):

Annual VMT		OR	Daily Vehicle Trips	
Annual VMT:	304		Daily Vehicle Trips:	
			Average Trip Distance:	

Fleet Class	Fleet Mix
Light Duty Auto (LDA)	0.000000
Light Duty Truck 1 (LDT1)	0.000000
Light Duty Truck 2 (LDT2)	0.000000
Medium Duty Vehicle (MDV)	1.000000
Light Heavy Duty 1 (LHD1)	0.000000
Light Heavy Duty 2 (LHD2)	0.000000
Medium Heavy Duty (MHD)	0.000000
Heavy Heavy Duty (HHD)	0.000000
Other Bus (OBUS)	0.000000
Urban Bus (UBUS)	0.000000
School Bus (SBUS)	0.000000
Motorhome (MH)	0.000000
Motorcycle (MCY)	0.000000

Fuel Economy (MPG)	
Passenger Vehicles	24.0
Light-Med Duty Trucks	17.4
Heavy Trucks/Other	7.4
Motorcycles	43.9

Fleet Mix

Vehicle Type	Percent	Fuel Type	Annual VMT: VMT	Vehicle Trips: VMT	Fuel Consumption (Gallons)
Passenger Vehicles	*0.00%*	*Gasoline*	0	0.00	0.00
Light-Medium Duty Trucks	*100.00%*	*Gasoline*	304	0.00	17.47
Heavy Trucks/Other	*0.00%*	*Diesel*	0	0.00	0.00
Motorcycle	*0.00%*	*Gasoline*	0	0.00	0.00

Total Gasoline Consumption (gallons)	**17.47**
Total Diesel Consumption (gallons)	**0.00**

Appendix E

Noise and Vibration Modeling Results

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 10/21/2019
Case Description: CSUCI Solar Array Project - Site Preparation

**** Receptor #1 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Modoc Hall	Residential	65.0	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	2400.0	0.0
Grader	No	40	85.0		2400.0	0.0
Roller	No	20		80.0	2400.0	0.0
Front End Loader	No	40		79.1	2400.0	0.0
Vacuum Street Sweeper	No	10		81.6	2400.0	0.0

Results

Equipment	Calculated (dBA) Lmax	Calculated (dBA) Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Dozer	48.0	44.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	51.4	47.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	46.4	39.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	45.5	41.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vacuum Street Sweeper	48.0	38.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	51.4	50.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 10/21/2019
Case Description: CSUCI Solar Array Project - Pile Driving

**** Receptor #1 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Modoc Hall	Residential	65.0	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	2400.0	0.0
Auger Drill Rig	No	20		84.4	2400.0	0.0
Man Lift	No	20		74.7	2400.0	0.0
Man Lift	No	20		74.7	2400.0	0.0
Vacuum Street Sweeper	No	10		81.6	2400.0	0.0
Tractor	No	40	84.0		2400.0	0.0

Results

	Calculated (dBA)		Noise Limits (dBA)				Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	46.9	39.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Auger Drill Rig	50.7	43.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	41.1	34.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	41.1	34.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vacuum Street Sweeper	48.0	38.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	50.4	46.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	50.7	49.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 10/21/2019
Case Description: CSUCI Solar Array Project - System Installation

**** Receptor #1 ****

Baselines (dBA)

Description	Land Use	Daytime	Evening	Night
Modoc Hall	Residential	65.0	45.0	45.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	2400.0	0.0
Crane	No	16		80.6	2400.0	0.0
Vacuum Street Sweeper	No	10		81.6	2400.0	0.0
Tractor	No	40	84.0		2400.0	0.0
Slurry Trenching Machine	No	50		80.4	2400.0	0.0
Man Lift	No	20		74.7	2400.0	0.0
Man Lift	No	20		74.7	2400.0	0.0
Concrete Saw	No	20		89.6	2400.0	0.0

Results

Equipment	Calculated (dBA) Lmax	Calculated (dBA) Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Noise Limit Exceedance (dBA) Day Leq	Noise Limit Exceedance (dBA) Evening Lmax	Noise Limit Exceedance (dBA) Evening Leq	Noise Limit Exceedance (dBA) Night Lmax	Noise Limit Exceedance (dBA) Night Leq
Compressor (air)	44.0	40.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	46.9	39.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vacuum Street Sweeper	48.0	38.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	50.4	46.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Slurry Trenching Machine	46.7	43.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	41.1	34.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	41.1	34.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	56.0	49.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	56.0	52.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Combined Construction Noise Levels

Addition				
	Site Preparation	Pile Driving	System Installation	Total Summed Noise Level (dBA)
1	50.0	49.0	52.0	55.3

Combined Operational Noise Levels

Addition									
	Inverters				Transformers				Total Summed Noise Level (dBA)
1	39.0	39.0	39.0	39.0	34.0	34.0	34.0	34.0	45.9

Groundborne Noise and Vibration Modeling

Notes
The reference distance is measured from the nearest anticipated point of construction equipment to the nearest structure.

	Reference Level Inputs			
Equipment	**PPV_{ref} (in/sec)**	**Lv_{ref} (VdB)**	**RMS_{ref} (in/sec)**	**Reference Distance**
Vibratory Roller	0.21	94	0.050	25
Large bulldozer	0.089	87	0.022	25
Caisson drilling	0.089	87	0.022	25
Loaded trucks	0.076	83	0.014	25

	Vibration Level at Receiver			
Equipment	**Distance (feet)**	**PPV_x (in/sec)**	**Lv_x (VdB)**	**RMS_x (in/sec)**
Vibratory Roller	1750	0.0020	53	0.000
Large bulldozer	1750	0.0008	46	0.000
Caisson drilling	1750	0.0008	46	0.000
Loaded trucks	1750	0.0007	42	0.000

Source
California Department of Transportation (Caltrans). 2013. Transportation and Construction Last Updated: 4/11/2019