# KINGS COUNTY PLANNING COMMISSION

**Regular Meeting**
**7:00 P.M.**

**Government Center**
**Hanford, California**

***In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Community Development Agency at (559) 852-2680 by 4:00 p.m. on the Thursday prior to this meeting. Agenda backup information and any public records provided to the Commission after the posting of the agenda for this meeting will be available for public review at the Kings County Community Development Agency, Building No. 6, Kings County Government Center, 1400 W. Lacey Blvd., Hanford, California.***

## AGENDA
## October 6, 2014

This meeting will be held in the Board of Supervisors Chambers, Administration Building No. 1, Kings County Government Center, 1400 W. Lacey Boulevard, Hanford, California. Pursuant to California Government Code Section 65009, subdivision (b), if you challenge a decision of the Planning Commission in court, you may be limited to raising only those issues you or someone else raised at the public hearing, or in written correspondence delivered to the Planning Commission at, or prior to, the public hearing.

## I. CALL TO ORDER - Kings County Planning Commission Meeting

1. **REQUEST THAT CELL PHONES BE TURNED OFF**
2. **PLEDGE OF ALLEGIANCE**
2. **SUMMARY OF THE AGENDA** - Staff
3. **UNSCHEDULED APPEARANCES**
   Any person may address the Commission on any subject matter within the jurisdiction or responsibility of the Commission at the beginning of the meeting; or may elect to address the Commission on any agenda item at the time the item is called by the Chair, but before the matter is acted upon by the Commission. Unscheduled comments will be limited to five minutes.
4. **APPROVAL OF MINUTES - Meeting of September 16, 2014.**

## II. OLD BUSINESS None

## III. NEW BUSINESS

1. **ADDEDNUM NO. 1 TO CONDITIONAL USE PERMIT NO. 11-03 (SUNPOWER)** – The purpose of the Addendum is to: 1) eliminate Mitigation Measure AQ-6 since updated emission estimates show that the potential impacts related to nitrogen oxides ($NO_x$) are now below the San Joaquin Valley Air Pollution Control District's regional thresholds of significance and 2) adding additional detail concerning the off-site Pacific Gas and Electric Company's switching station facility. The applicant proposes to construct a 136 Megawatt solar photovoltaic energy facility located at 17515 20th Avenue, Lemoore, CA, Assessor's Parcel Numbers 024-170-007; 026-050-012; and 026-060-019, 021, 023, and 025.

A. Staff Report
B. Public Hearing
C. Decision

2. **CONDITIONAL USE PERMIT NO. 14-04 (AT&T)** – A proposal to establish a new 100-foot monopole wireless communication facility with a fenced lease area for ground equipment located at 15834 17th Avenue, Lemoore, Assessor's Parcel Number 024-150-008.

A. Staff Report
B. Public Hearing
C. Decision

## IV. MISCELLANEOUS

**1. FUTURE MEETINGS** - The next regular meeting of the Planning Commission is scheduled for Monday, November 3, 2014.

**2. CORRESPONDENCE**

**3. STAFF COMMENTS**

A. 2015 Planning Commission Calendar

**4. COMMISSION COMMENTS**

## V. ADJOURNMENT



**NOTICE OF RIGHT TO APPEAL: For projects where the Planning Commission's action is final, actions are subject to appeal by the applicant or any other directly affected person or party and no development proposed by the application may be authorized until the final date of the appeal period. An appeal may be filed with the Community Development Agency at 1400 W. Lacey Blvd., Building #6, Hanford, CA, on forms available at the Community Development Agency. A filing fee of $320.00 must accompany the appeal form. The appeal must be filed within 8 days of the Planning Commission's decision date, not including the date of the decision. If no appeal is received, the Planning Commission's action is final. There is no right of appeal for projects for which the Planning Commission's action is advisory to the Board of Supervisors.**

# KINGS COUNTY PLANNING COMMISSION
# MINUTES

District 1 Commissioner – Riley Jones** District 2 Commissioner – Bob Bajwa
District 3 Commissioner – R.G. Trapnell District 4 Commissioner – Jim Gregory*
District 5 Commissioner – Steven Dias
*Chairman **Vice-Chairman

## September 8, 2014

**CALL TO ORDER:** The meeting of the Kings County Planning Commission was called to order by Vice-Chairman Jones, on September 8, 2014, at 7:00 p.m. in the Board of Supervisors Chambers, Administration Building, Kings County Government Center, Hanford, California. The Pledge of Allegiance was recited.

**COMMISSIONERS PRESENT:** Riley Jones, R.G. Trapnell, Bob Bajwa, Steven Dias

**COMMISSIONERS ABSENT:** Jim Gregory

**STAFF PRESENT:** Greg Gatzka – Director, Erik Kaeding – County Counsel, Chuck Kinney – Deputy Director – Planning, Terri Yarbrough – Executive Secretary, Sandy Roper – Principle Planner, Dan Kassik - Planner

**VISITORS PRESENT:** Sue Weisenhaus, Crystal Hernandez, Albert VanDerGraaf, Anthony Loza, MaryAnne Ford Sherman, Olga Clark, Melissa Martinez, Vickie Lin, Jason Powers, Billy Mueller, Lori Keen, Hannah Gales, Angie Dow, Dan Surface, Jesse Nickell, Curtis Moore, Nathan Boespflug, Jose Martin III, Dawn Marple

**SUMMARY OF THE AGENDA:** Mr. Gatzka summarized the agenda for the Commission.

**UNSCHEDULED APPEARANCES:** No one spoke during this portion of the meeting.

**APPROVAL OF MINUTES:** A motion was made and seconded (Trapnell/Bajwa) to approve the minutes of the August 4, 2014 meeting. Motion carried unanimously with Gregory absent.

## OLD BUSINESS

1. **Conditional Use Permit No. 14-02 (Champions Recovery)**
This item was continued from the August 4, 2014 meeting. Mr. Kassik provided a brief overview of a proposal to establish a 49 bed residential substance abuse treatment facility within an exiting building located at 11517 15th Avenue, Lemoore, Assessor's Parcel Number 017-310-047. Mr. Kassik reported that a meeting was held with Kings County Behavioral Health, Kings County Sheriff Department, Kings County Probation Department and the Kings County Community Development Agency. During that meeting the applicant offered solutions to the issues brought forth by the residents and as a result staff added additional conditions to Resolution 14-07. He also reported that the applicant held an open house and five residents attended.

Vice-Chairman Jones continued the public hearing and asked if there was anyone wishing to speak in favor of the project. Patrick Mitchell, Nathan Boespflug, Lori Keen and Jose Marin spoke in favor of the project. Sue Weisenhaus and Crystal Hernandez, representing Champions Recovery, provided a PowerPoint presentation addressing concerns that were brought up at the previous on August 4, 2014. Angie Dow, representing KART, clarified that the new KART stop has been recommended and is awaiting their Board's approval and they don't anticipate any issues. Vice-Chairman Jones asked if there was anyone wishing to speak against the project. Albert VanDerGraaf asked that parking be prohibited on 15th Avenue due to concerns that visitors to the facility would park in his orchard or block access to the orchard. Vice-Chairman Jones asked if there was anyone else wishing to speak

stalls on the facility and there would be no reason to park on the street. Vice-Chairman Jones then closed the Public Hearing.

A motion was made and seconded (Trapnell/Bajwa) to adopt Planning Commission Resolution 14-07 approving the proposal to establish a 49 bed residential substance abuse treatment facility. Motion carried unanimously with Gregory absent.

## NEW BUSINESS:

1. **Conditional Use Permit No. 12-08 (CON EDISON)**
   Mr. Roper provided an overview of a proposal to modify Conditional Use Permit (CUP) 10-03 for the CED Corcoran Solar 2 Project by adding 40 acres and 11.25 megawatts (MW) to the previously approved solar energy generating facility located at 6734 Nevada Avenue, Corcoran, CA, Assessor's Parcel Number 028-290-043 and to establish a new 20 MW solar energy generating facility for the CED Corcoran Solar 3 Project on 130 aces located at 7094 Nevada Avenue, Corcoran, CA, Assessor's Parcel Numbers 028-290-041 and 043. Mr. Roper reported that the projects are located within an AG40 Zone designation and it is not designated as prime farm land, unique farmland, or farmland of statewide importance. APN's 028-290-041 and 043 are restricted by Williamson Act contracts which would be cancelled prior to the issuance of building permits. Commissioner Jones asked if there was a ten foot setback between structures. Mr. Roper explained that there is a minimum setback of ten feet between structures. He also stated that it has been determined by the Building Official that solar panels are mechanical equipment and are not subject to structure setbacks.

   Vice-Chairman Jones opened the public hearing and asked if there was anyone wishing to speak in favor of the project. Dawn Marple, representing Provost and Prichard, spoke in favor of the project. Vice-Chairman Jones asked if there was anyone wishing to speak against the project. Seeing none, he closed the Public Hearing.

   A motion was made and seconded (Trapnell/Bajwa) to adopt Planning Commission Resolution 14-08 approving CUP 12-08 for the modification of CUP 10-03 to add 40 acres and 11.25 MW and for the establishment of a new 20 MW solar energy generating facility.

## MISCELLANEOUS

1. **FUTURE MEETINGS**: The next regular meeting of the Planning Commission is scheduled for Monday, October 6, 2014.
2. **CORRESPONDENCE:** None
3. **STAFF COMMENTS:** None
4. **COMMISSION COMMENTS:** None

**ADJOURNMENT** – The meeting was adjourned at 8:24 p.m.

Respectfully Submitted,

**KINGS COUNTY PLANNING COMMISSION**

**Gregory R. Gatzka, Commission Secretary**

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# KINGS COUNTY PLANNING COMMISSION
# STAFF REPORT

## CUP Addendum No. 1
## Conditional Use Permit No. 11-03
## Zoning Ordinance No. 269.69
## October 6, 2014

**APPLICANT:** Parrey, LLC, c/o SunPower Corporation, 1414 Harbour Way South, Richmond, CA 94804

**PROPERTY OWNERS:**
1) RCI-RWI Solar Investors, LLC, 3001 I Street, Suite 200, Sacramento, CA 95816 [Assessor's Parcel Numbers (APNs) 024-170-007 and 026-060-019, 021, 023, and 025)]
2) River West Investments, Inc., 3001 I Street, Suite 200, Sacramento, CA 95816 (APN: 026-050-012)

**LOCATION:** 17515 20th Avenue, Lemoore, CA (Assessor's Parcel Numbers 024-170-007, 026-050-012, 026-060-019, 021, 023, and 025)

**GENERAL PLAN DESIGNATION:** General Agriculture (AG-20)

**ZONE DISTRICT CLASSIFICATION:** General Agriculture (AG-20)

**CONDITIONAL USE PROPOSED:** The applicant is proposing to construct and operate a 136-megawatt alternating current (MWac) photovoltaic (PV) electricity generating facility and associated infrastructure on approximately 836 acres in northwestern Kings County near the unincorporated community of Stratford to be known as the SunPower Henrietta Solar Project (project). The project may be constructed in multiple phases. Power generated by the project would be delivered to the high voltage transmission system owned by PG&E for delivery to California electric customers, in furtherance of the goals of the California Renewable Energy Portfolio Standard and other similar renewable energy programs in the state. The proposed project would operate year-round and generate electricity during daylight hours when electricity demand is at its peak, and would provide for the annual electricity needs of approximately 49,000 residences.

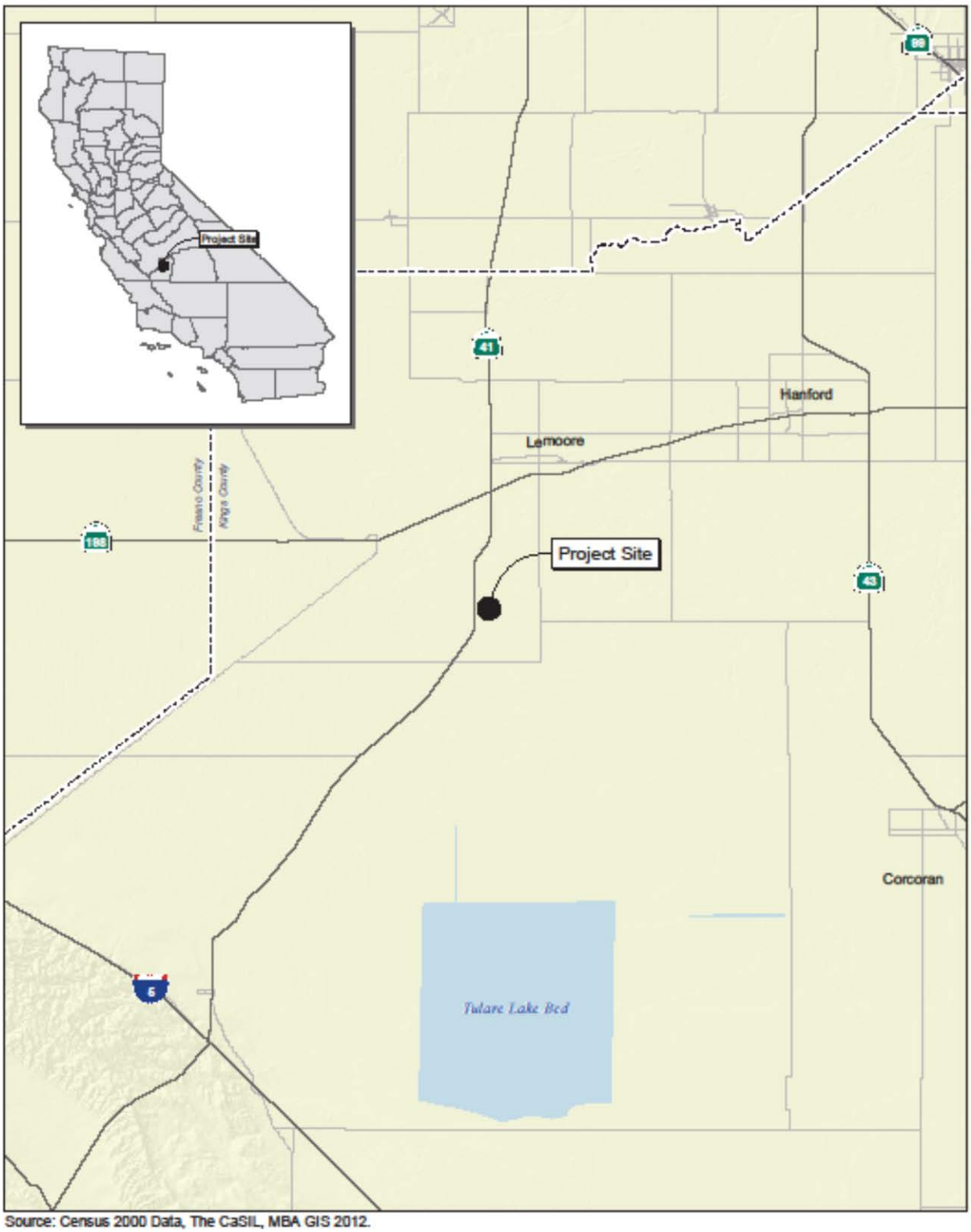
**DISCUSSION:**

On September 4, 2014, CUP Addendum No. 1 was received to revise CUP 11-03 (Parrey, LLC). Addendum No. 1 is attached to Planning Commission Resolution No. 14-09 as Exhibit No. 1. The purpose of the Addendum is to: 1) eliminate Mitigation Measure AQ-6 since updated emission estimates show that the potential impacts related to nitrogen oxides (NOx) are now below the San Joaquin Valley Air Pollution Control District's regional thresholds of significance and 2) adding additional detail concerning the off-site Pacific Gas and Electric Company's switching station facility.

Conditional Use Permit ("CUP") No. 11-03 was originally approved by the Kings County Planning Commission on August 6, 2012 when Resolution No. 12-09 was adopted. CUP No. 11-03 was approved to construct a 136 Megawatt solar photovoltaic energy facility on 836 acres located at 17515 20th Avenue, Lemoore, CA, Assessor's Parcel Numbers 024-170-007; 026-050-012; and 026-060-019, 021, 023, and 025.

The original Applicant for the Henrietta Project was River West Investments, Inc. (RWI). As noted in a letter from RWI to the County dated August 9, 2014, RWI has transferred all of its rights, interests, and obligations as Applicant under the CUP to Parrey, LLC (Parrey). Therefore, Parrey is now the Applicant for the solar project authorized by the CUP, as confirmed by the County in an email from Greg Gatzka, Director, Kings County Community Development Agency, to Parrey, on August 19, 2014.

As the lead agency, the County Planning Commission has the authority to approve amendments to the CUP and Mitigation Monitoring and Reporting Program (MMRP) for the solar facility. While the County does not have approval authority over PG&E's switching station facility, which is under the sole discretionary jurisdiction of the California Public Utilities Commission (CPUC), the County's Initial Study/Mitigated Negative Declaration (IS/MND) includes an assessment of the direct and reasonably foreseeable indirect physical changes resulting from the PG&E's switching station facility in addition to the project's solar facility.




Source: Census 2000 Data, The CaSIL, MBA GIS 2012.

Michael Brandman Associates

NORTH

5 2.5 0 5 Miles

**Exhibit 1**
**State and Regional Location Map**

40270001 • 06/2012 | 1_regional.mxd

RIVER WEST INVESTMENTS, INC. • SUN POWER SOLAR PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION


Source: NAIP Kings County, CA (2009).

Michael Brandman Associates

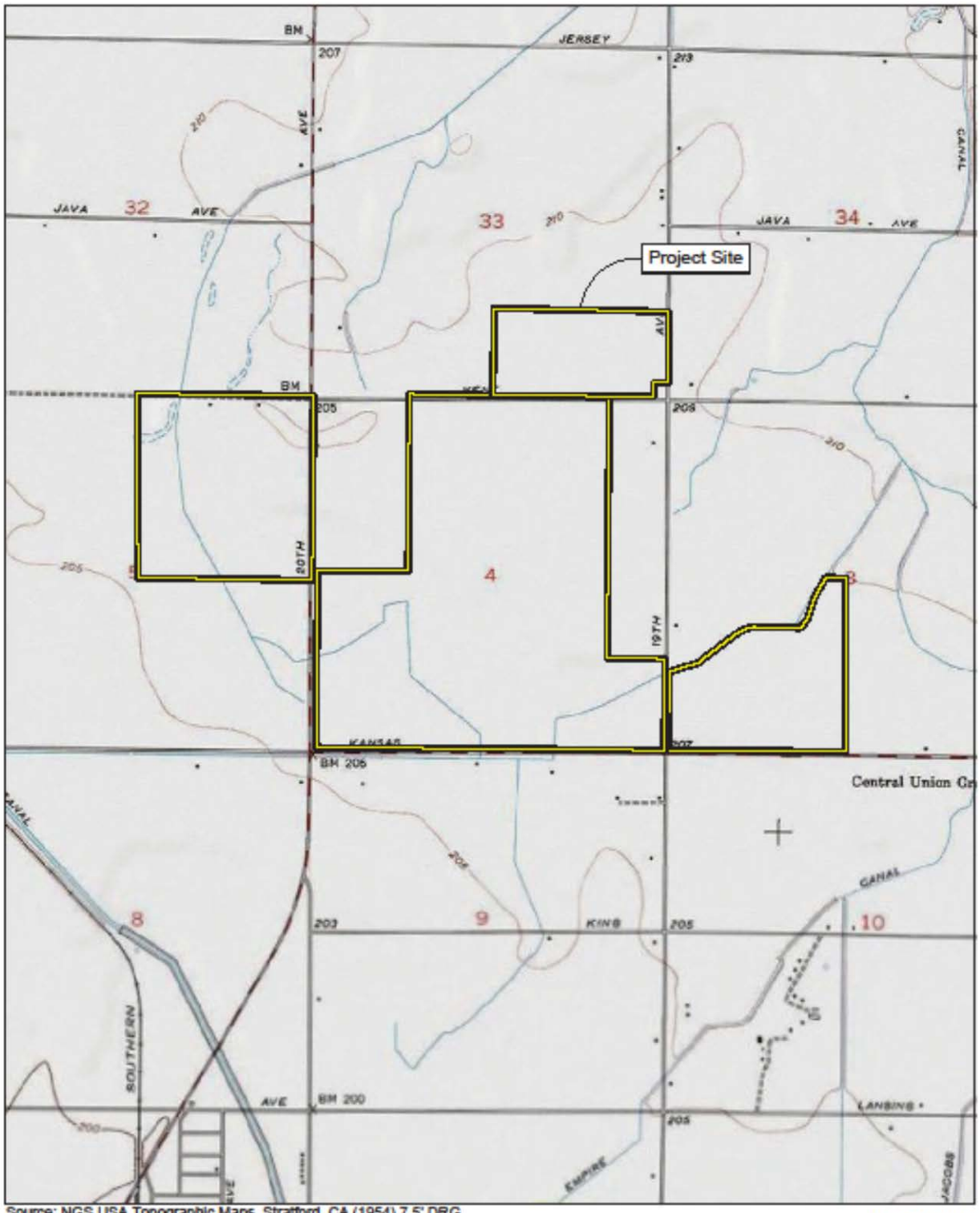
NORTH

2,000 1,000 0 2,000 Feet

40270001 • 06/2012 | 2_local_aerial.mxd

Exhibit 2
Local Vicinity Map
Aerial Base

RIVER WEST INVESTMENTS, INC. • SUN POWER SOLAR PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION




Source: NGS USA Topographic Maps, Stratford, CA (1954) 7.5' DRG.

Exhibit 3
Local Vicinity Map
Topographic Base

NORTH
2,000 1,000 0 2,000
Feet

Michael Brandman Associates

40270001 • 06/2012 | 3_local_topo.mxd

RIVER WEST INVESTMENTS, INC. • SUN POWER SOLAR PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

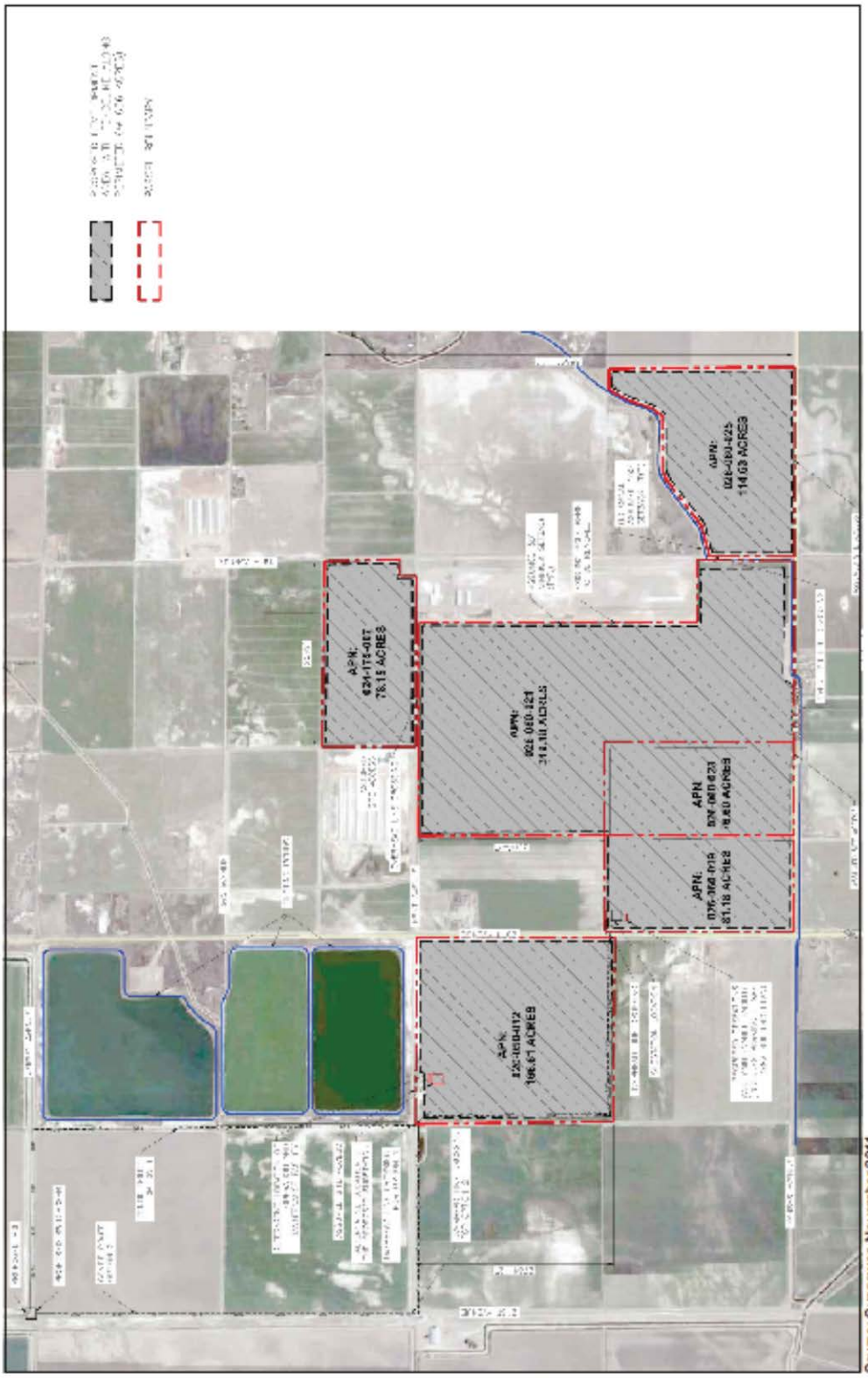
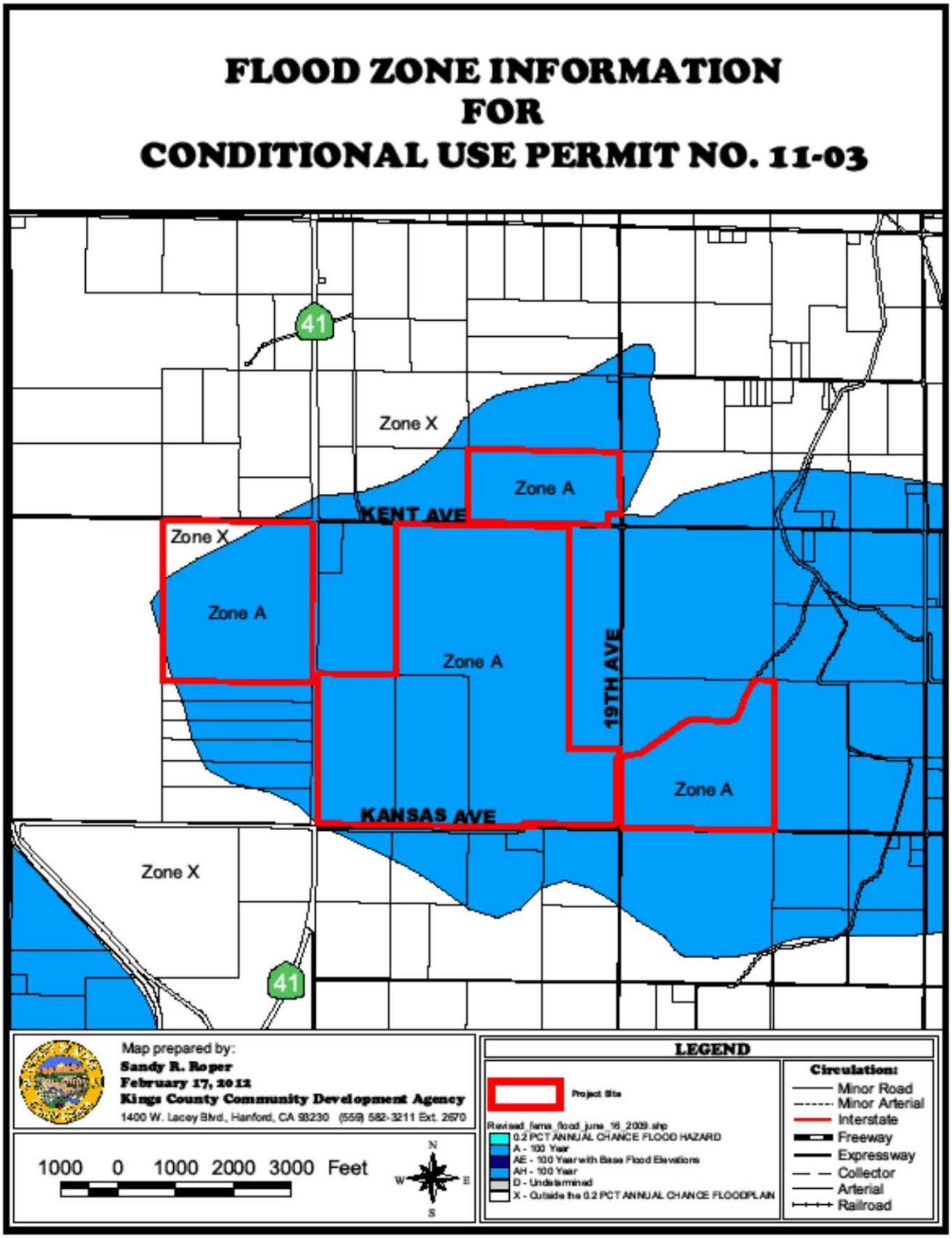



**Exhibit 4**
**Site Plan**

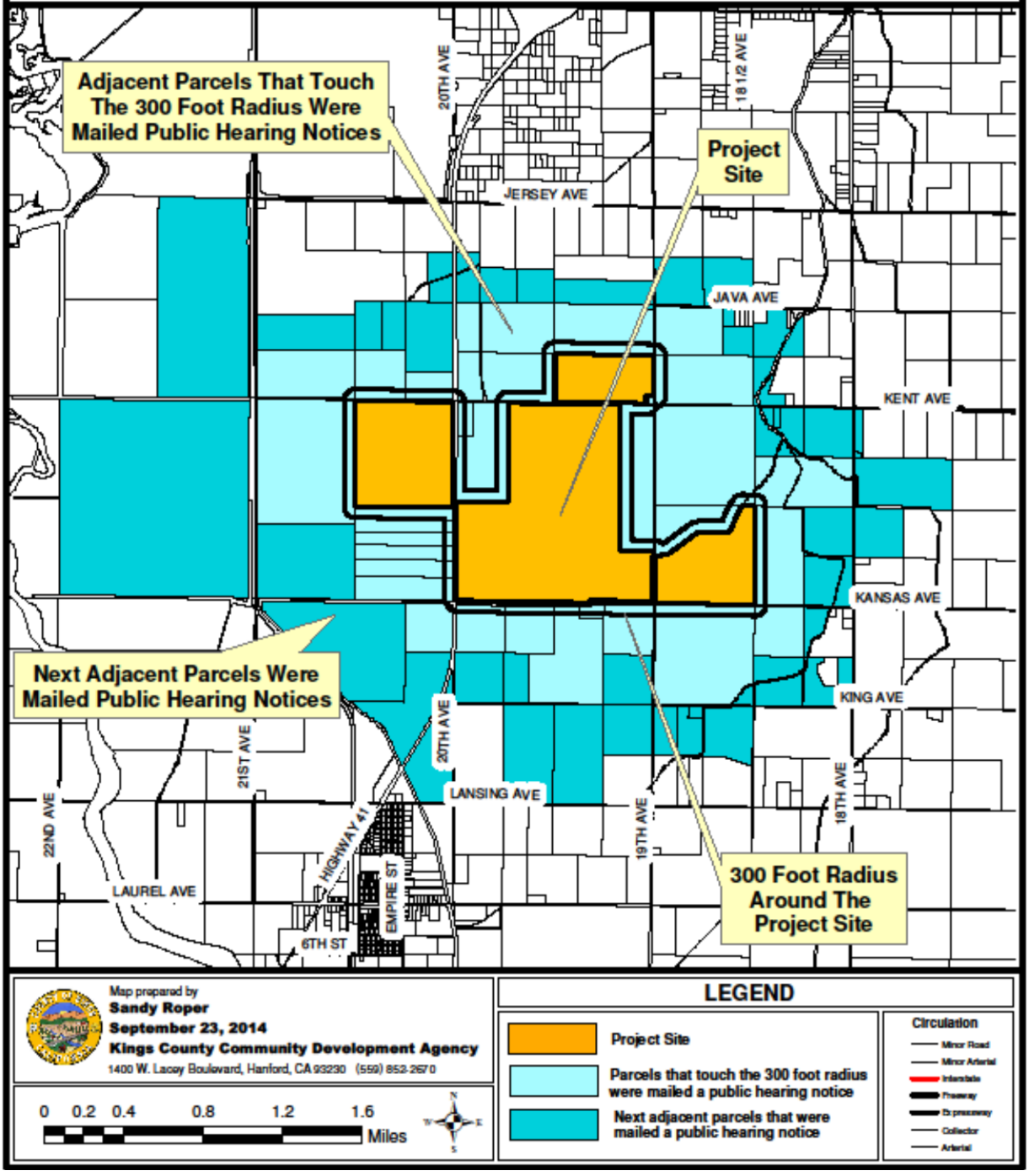
RIVER WEST INVESTMENTS, INC. • SUNPOWER HENRIETTA SOLAR PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Michael Brandman Associates
40270001 • 06/2012 | 4_site_plan.cdr


FLOOD ZONE INFORMATION
FOR
CONDITIONAL USE PERMIT NO. 11-03
41
Zone X
Zone A
KENT AVE
Zone X
Zone A
Zone A
19TH AVE
Zone A
KANSAS AVE
Zone X
41
Map prepared by:
Sandy R. Roper
February 17, 2012
Kings County Community Development Agency
1400 W. Lacey Blvd., Hanford, CA 93230 (559) 582-3211 Ext. 2670
1000 0 1000 2000 3000 Feet
N
W
E
S
LEGEND
Project Site
Revised_fema_flood_june_16_2009.shp
0.2 PCT ANNUAL CHANCE FLOOD HAZARD
A - 100 Year
AE - 100 Year with Base Flood Elevations
AH - 100 Year
D - Undetermined
X - Outside the 0.2 PCT ANNUAL CHANCE FLOODPLAIN
Circulation:
Minor Road
Minor Arterial
Interstate
Freeway
Expressway
Collector
Arterial
Railroad

With

# Site Location and Mailing List Map for Addendum No. 1 to Conditional Use Permit No. 11-03



**Modifications to Mitigation Monitoring and Reporting Program:**

Based on the preliminary construction plans available at the time, the original emissions analysis used to support the IS/MND concluded that construction emissions could exceed the SJVAPCD's regional thresholds of significance. The MMRP included mitigation measures designed to reduce the Project's potential impact on air resources to below a level of significance. Specifically, use of cleaner engines (Tier 2 and Tier 3) and use of a VERA were applied to reduce Project construction emissions of reactive organic gases (ROG) and NOx to less than significant.

The following mitigation measure (MM AQ-6), which was adopted through Resolution No. 12-09 as part of the MMRP, was developed to address impacts from $NO_x$ emissions based on preliminary emissions estimates for the Project that were analyzed in the IS/MND:

> **MM AQ-6:** Prior to commencing Construction, the Applicant shall enter into a Voluntary Emission Reduction Agreement (VERA) with the San Joaquin Valley Air Pollution Control District to reduce nitrogen oxides ($NO_x$) emissions from project construction by the amount required to reduce emissions to less than 10 tons per year after implementation of all onsite mitigation measures (currently estimated at 7.78 tons of $NO_x$). The VERA reduction amount shall be determined through an emission analysis of construction equipment proposed for use during construction and refined construction activity estimates approved by the San Joaquin Valley Air Pollution Control District. VERA mitigation fees will be based on the Rule 9510 cost per ton of $NO_x$ reduction in place at the time of fee payment. At this time, approximately 7.78 tons of $NO_x$ would need to be reduced at $9,350 per ton resulting in a cost of $72,743.

The Applicant has subsequently refined its construction plans and developed updated emissions estimates using information that was not available at the time the IS/MND was prepared. As detailed in Addendum No. 1 to CUP No. 11-03, the updated emissions analysis based on refined construction plans demonstrates that the Project's construction emissions would be less than the SJVAPCD's regional thresholds; therefore potential impacts related to $NO_x$ would no longer be considered potentially significant.

The refined construction plans used in the updated air analysis took into consideration refined construction scheduling and equipment use, which resulted in reduced emissions estimates. In addition, the use of newer air models, which are preferred by SJVAPCD, and which have lower emission and load factors, resulted in significantly reduced emissions estimates. These revised emissions estimates are expected to be more representative of activities that are planned for Project construction and operations.

A comparison of the Project construction emissions output from the original analysis and the updated analysis is provided in Table 1 of Addendum No. 1 to CUP No. 11-03. As shown, the updated analysis demonstrates the Project's construction emissions for NOx would be less than 10 tons during each year of construction. In addition, ROG emission estimates are reduced from the original estimate of 11.39 total tons to less than 1 ton per year of construction, well below the 10-ton per year SJVAPCD significance threshold.

The purpose of the VERA requirement specified in mitigation measure MM AQ-6 was to mitigate for construction-generated NOx emissions in excess of 10 tons per year. As shown in Addendum No. 1 to CUP No. 11-03, the updated analysis demonstrates that the Project's estimated construction emissions are already below the SJVAPCD's regional threshold of significance of 10 tons per year for $NO_x$.

Because substantial evidence indicates that the Project's construction phase emissions estimates of $NO_x$ are below the applicable thresholds of significance, entering into a VERA with the SJVAPCD is not necessary and mitigation measure MM AQ-6 would no longer be required.

**Modification of the PG&E Switching Station Facility:**

PG&E has adopted measures that will be implemented as standard best management practices, which are the same or similar to those mitigation measures that are applicable to the solar facility, as applicable, to avoid or reduce impacts from the switching station to a level that is less than significant.

***PG&E Switching Station Components – Original Design***

The IS/MND described that the Project would include a 115-kV electrical switchyard adjacent to the point of interconnection. The switchyard was described as an approximately 160,000 square foot (400 feet long by 400 feet wide) area (or approximately 3.7 acres) located near the southeast corner of Jersey and 21st Avenues, which would be fenced with an 8-foot-high cyclone (chain-link) fence topped with barbed wire.

Within the switchyard, the IS/MND described a 1,600 square foot control building containing power circuit breaker equipment and metering equipment for delivery of the output from the Project to the grid, as well as an electrical ground safety grid and concrete pads to support the switchyard equipment. The control building was described as a pre-engineered steel building approximately 17 feet high at its peak.

***PG&E Switching Station Construction – Original Design***

The IS/MND estimated that construction of the switching station would take 6 months, with the switching station construction planned to occur within the 18-month overall Project construction timeframe. As described, switching station construction would be staged within both the solar facility site and the switchyard site.

PG&E crews and contractors would perform construction work within the PG&E switchyard site, including site preparation (e.g., site clearance, grading, and security fence installation) and installation of substructures and electrical equipment. It also stated that switchyard materials and equipment would be delivered to and stored at the switchyard site during construction.

The IS/MND also stated that the PG&E switchyard would be constructed with conventional grading and construction equipment, and minor excavation would provide concrete footings for the switching station equipment.

***PG&E Switching Station Operations and Maintenance – Original Design***

The IS/MND noted that the PG&E transmission line and switching station were planned to be energized in 2014. It stated that PG&E would conduct routine transmission line and switching station maintenance, including routing inspections. In addition, PG&E would replace equipment damaged by vandalism and maintain vegetation, if needed, to prevent interference with the transmission lines.

***PG&E Switching Station Components – Modified Design***

Refinements to the construction of the 115-kV switching station facility, which will be known as the PG&E Leprino Switching Station, are required to allow for its safe operations. The final design of the switching station conforms to PG&E Standard 073131, Bus configuration Design Criteria. PG&E would construct, own, and maintain the switching station, which would be unmanned and automated.

The revised switching station design includes a slightly larger footprint, now estimated to be approximately 5 acres. See Figure 1. The control room for the 115 kV switching station remains about the same area at approximately 1,600 square feet, but the dimensions will be approximately 100 feet by 16 feet. There will also be a small battery building estimated to be about 20 feet by 40 feet, which will contain a standard utility-grade battery charger and DC lead-acid battery.

Key components of the switching station facility include the following:

- A single story control building (approximately 100 feet by 16 feet) and a single story battery building (up to about 20 feet by 40 feet)
- Circuit breakers and mounting hardware
- Approximately eight to ten new tubular steel poles (TSPs), up to approximately 120 feet tall, to connect the switchyard to the new gen-tie line and to the existing 115-kV transmission line
- Driveways from Jersey Avenue and 21st Avenue
- Drive aisles within the switchyard fence line
- Storm water retention basins
- A microwave tower for communication with other PG&E facilities (approximately 100 feet tall)
- An approximately 8- to 9-foot high chain-link perimeter fence topped with about 1 foot of barbed wire
- Security lighting controlled by motion detectors
- Telecommunication facilities (underground and aboveground fiber optic telecommunication lines)

In addition, minimal disturbance will occur outside the planned fenced switchyard, within the area directly west, east, and south of it, to facilitate the connection between the switching station and the existing PG&E transmission lines and new gen-tie lines.

***PG&E Switching Station Construction – Modified Design***

While the majority of construction of the switching station facility is planned to take place in the first 3 to 5 months, total construction is estimated to take up to 11 to 12 months, including activities that are lower intensity in nature, such as finish work on and inside the structures, testing, and commissioning. Construction of the switching station facility is expected to overlap with construction of the solar facility.

Construction staging would take place within the boundaries of the PG&E switching station. The site is mostly flat and extensive grading will not be required. Materials will be imported to complete the switchyard construction, such as yard rock, road base, and asphalt, as well as potentially some fill. PG&E will comply with SJVAPCD dust control requirements for all grading activities.

Following site preparation, below grade construction would occur, including installation of concrete foundations, construction of two storm water retention basins, and installation of underground conduit. Reinforced concrete subsurface footings and concrete slabs would be installed along with the grounding grid. The storm water retention basins would be sized to comply with County requirements.

Similar to what was noted in the IS/MND for the solar facility, PG&E will be required to obtain coverage under a National Pollutant Discharge Elimination System (NPDES) permit for its storm water discharges, pursuant to the Clean Water Act and associated federal regulations (Title 40 of the Code of Federal Regulations [CFR] 123.25(a)(9), 122.26(a), 122.26(b)(14)(x) and 122.26(b)(15)). Such coverage is required because construction of the switching station site will result in clearing, grading, and excavating activities that disturb more than 1 acre. In California, coverage is obtained under the General Permit for Discharges of Storm Water Associated with Construction Activity, Construction General Permit Order 2009-0009-DWQ.

The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must list best management practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Therefore, as is required for the solar facility, PG&E will also develop and implement a Construction SWPPP for construction of the switching station to comply with NPDES permit requirements.

Once the below grade construction is complete, aboveground steel structures, circuit breakers, transformers, switchgear, and associated infrastructure would be installed. Equipment would be bolted or welded to slabs and footings and connected to the ground grid. Driveways and access roads to the PG&E switching station would be located at the north and west sides of the PG&E switching station. The drive aisles within the PG&E switching station fence line would be paved.

Except for the microwave towers and TSPs, the maximum height of the PG&E equipment located at the switching station would be approximately 70 feet for the dead end structures supporting the 115-kV power line interconnection and gen-tie connection, including static wires. The control and battery buildings would be approximately 17 feet tall, and the switches and bus work would be approximately 20 to 25 feet tall.

***PG&E Switching Station Operations and Maintenance – Modified Design***

The PG&E switching station facility, including the 115-kV power line interconnection and gen-tie connection, is expected to be energized in late 2015. The PG&E facility is planned to be operated well into the future, with a useful life that is at least as long as the expected useful life of the Henrietta Project's solar facility (i.e., minimum 40 years), and likely longer.

**Modifications to Planning Division Conditions of Approval:**

A desktop study and an onsite cultural resources survey were conducted for the solar facility to support the IS/MND. The study and field survey did not identify known cultural resources at or associated with the solar facility and did not conclude there was any unique potential for discovering cultural resources during ground disturbing activities.

Nonetheless, as is standard practice in Kings County because the potential to uncover cultural resources is always present, the IS/MND included mitigation measures to reduce potential impacts on cultural resources in the event that archeological or historic resources are inadvertently unearthed during construction. Implementation of those mitigation measures may result in having a Native American monitor and archeologist onsite during ground disturbing activities if cultural resources are uncovered.

There continues to be no information demonstrating that known cultural resources are present at the solar facility. Recently, however, because of increased concern about the discovery of cultural resources in agricultural areas throughout Kings County, the County has begun requiring the presence of a Native American monitor and an archeological monitor during ground disturbing activities at construction sites as a condition of approval for an increasing number of projects.

In the event the County amends the CUP for the solar facility as requested by the Applicant, in an abundance of caution, the County intends to add a new condition of approval to require the presence of a Native American monitor and archeological monitor during ground disturbing activities at the solar facility. The County intends to add this condition of approval even though there are no changes to the solar facility's construction plans that change the Project's potential impacts to cultural resources. The Applicant has discussed the new condition of approval with the County and has voluntarily accepted it.

The proposed modifications to the Planning Division Conditions of approval would add Condition Numbers 33 and 34 as follows:

33. Prior to any ground disturbance, the applicant shall hire a Native American Monitor to monitor the project during all ground disturbing activities during both the construction and decommissioning phases of the SunPower Henrietta Solar Project.

34. Prior to any ground disturbance, a surface inspection of the project site shall be conducted by an Archaeologist. In addition, an Archaeologist shall monitor the project during all ground disturbing activities during both the construction and decommissioning phases of the SunPower Henrietta Solar Project.

**California Environmental Quality Act Guidelines section 15164:**

California Environmental Quality Act Guidelines section 15164, found in the California Code of Regulations, allows for an Addendum to an approved IS/MND to be prepared when minor technical changes or additions are necessary and if the Addendum does not meet any of the requirements stated in Section 15162. The Environmental Review section of Addendum No. 1 to CUP No. 11-03 details how the conditions of Section 15162 have not been met.

Addendum No. 1 to CUP No. 11-03, attached to Planning Commission Resolution No. 14-09 as Exhibit No. 1, provides minor alterations to PG&E switching station facility design and eliminates mitigation measure MM AQ-6 because substantial evidence indicates that the Project's construction phase emissions estimates of $NO_x$ are below the applicable thresholds of significance, entering into a VERA with the SJVAPCD is not necessary and mitigation measure MM AQ-6 would no longer be required.

The revised Project will remain a 136-MW solar facility on 836 acres of disturbed agricultural land and will connect into a local electrical power line. The main Project components would apply to the revised Project. No significant changes to the Project infrastructure, construction, maintenance, or use as described in the MND would occur. The revised Project will remain consistent with the approved CUP and will continue to be subject to the same Conditions of Approval and Mitigation Measures as previously approved by the County Planning Commission, except for the elimination of Mitigation Measure MM AQ-6 and the addition of Planning Division Condition Numbers 33 and 34 modified by Addendum No. 1.

The revised Project would not result in any effects to environmental resources that are more severe than those described in the original IS/MND. All Mitigation Measures and Conditions associated with the original Project would be applied to the revised Project, except for the elimination of Mitigation Measure MM AQ-6 and the

addition of Planning Division Condition Numbers 33 and 34 modified by Addendum No. 1. As with the approved Project, the revised Project would have a less than significant impact with the implementation of the approved mitigation identified for aesthetics, agricultural resources, biological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use planning, mineral resources, noise, and traffic and circulation. As with the approved Project, the revised Project would have no impact for forest resources. The analysis of cultural resources, population and housing, public services, recreation, and utilities and services systems are unaffected by the revised Project. Project-related impacts from greenhouse gas emission would remain beneficial with the revised Project. Air quality impacts for $NO_x$ changed from less than significant with mitigation to less than significant as a result of the revised Project. As required by CEQA Guidelines Section 15162, the County has evaluated each of these circumstances in Addendum No. 1 to CUP No. 11-03, which is attached to Planning Commission Resolution No. 14-09 as Exhibit No. 1.

**CURRENT USE OF SITE:** The project site is under private ownership, and currently consists of active row crops of alfalfa and barley, alfalfa fields, sheep grazing, and plowed fallow fields. The site and the greater project area are relatively flat, and aside from the irrigation canals that traverse the area, the topography is primarily consistent and featureless.

**LAND USE SURROUNDING SITE:** The surrounding land uses consist of agricultural, farm, and grazing land, as well as ancillary agricultural uses, including agricultural-related staging areas and scattered rural farm residences. General land uses to the north, east, south and west of the project site consist of agricultural-related areas, rural farm residences, and undeveloped open space. Specific land uses/farming operations in the immediate project area include pomegranate, cotton, and safflower farms, a poultry farm, and dairy operations.

**ENVIRONMENTAL REVIEW:**

On July 13, 2012, the environmental review period ended for this proposal. A review of this project in compliance with the *California Environmental Quality Act (CEQA)* indicates that there will not be significant adverse impacts to the environment. Evidence in the record indicates that the project has the potential for adverse effects on agricultural and forestry resources, air quality, biological resources, cultural resources, geology and soils, hydrology and water quality, and noise. To mitigate these impacts the applicant has incorporated several project design features and mitigation measures that will mitigate the environmental impacts to less than significant. The Initial Study/Mitigated Negative Declaration for CUP 11-03 was certified by the Planning Commission on August 6, 2012, and is hereby incorporated by reference.

California Environmental Quality Act Guidelines Section 15164, found in the California Code of Regulations, allows for an Addendum to an approved IS/MND be prepared when minor technical changes or additions are necessary and if the project does not meet any of the requirements stated in Section 15162. The County has determined that none of the conditions described in Section 15162, calling for the preparation of a subsequent EIR or negative declaration, have occurred as described below:

1. No substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

2. No substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
   a. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
   b. Significant effects previously examined will be substantially more severe than shown in the previous EIR or negative declaration;
   c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
   d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR or negative declaration would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

As stated in CEQA section 15164(c), an addendum need not be circulated for public review but can be included in or attached to the final EIR or adopted negative declaration.

**PROJECT REVIEW:**

Original CUP Application

| | |
|---|---|
| March 10, 2011 | Application submitted |
| December 1, 2011 | Application certified complete |
| June 13, 2012 | Begin 30-day review period for environmental review |
| July 13, 2012 | 30-day environmental review period ends |
| August 6, 2012 | Planning Commission hearing |

CUP Addendum Application No. 1

| | |
|---|---|
| September 4, 2014 | Application submitted |
| September 26, 2014 | Application certified complete |
| October 6, 2014 | Planning Commission hearing |

**STAFF ANALYSIS:**

With regard to this addendum, staff comments that:

1. CUP application 11-03 (SunPower Henrietta Solar) was found to be consistent with both the 2035 Kings County General Plan and Zoning Ordinance on August 6, 2012. This action will analyze a revision to the Project's CUP that would allow: 1) elimination of Mitigation Measure MM AQ-6 since updated emission estimates show that the potential impacts related to nitrogen oxides (NOx) are now below the San Joaquin Valley Air Pollution Control District's regional thresholds of significance and 2) adding additional detail concerning the off-site Pacific Gas and Electric Company's switching station facility.

2. All findings and adopted conditions of approval in Resolution No. 12-09 concerning CUP No. 11-03 remain in full force and effect, except for the elimination of Mitigation Measure MM AQ-6 and the addition of Planning Division Condition Numbers 33 and 34 as described in Exhibit No. 1 of Planning Commission Resolution No. 14-09.

3. The use should not be detrimental to public health and safety, nor materially injurious to properties in the vicinity. An IS/MND was approved for this Project on August 6, 2012. An addendum to the IS/MND has been prepare to analyze potential environmental impacts associated with Addendum No. 1 to CUP 11-03. No potential impacts were identified beyond those identified in the IS/MND. The proposed project may have significant adverse impacts on the environment; however, those impacts can be mitigated to an insignificant level by implementing the adopted project design features and mitigation measures identified in the Mitigation Monitoring and Reporting Plan (MMRP) adopted by the Planning Commission on August 6, 2012, and as modified in Exhibit No. 1 of Planning Commission Resolution No. 14-09. The Original IS/MND and MMRP are incorporated herein by reference. The Addendum to the IS/MND is attached to Planning Commission Resolution No. 14-09 as Exhibit No. 1.

**RECOMMENDATIONS:**

It is recommended that the Commission approve the proposed Addendum No. 1 to Conditional Use Permit No. 11-03 as described above and adopt Resolution No. 14-09. Approval of this Resolution will:

1. Find that the proposed Addendum No. 1 to CUP No. 11-03 will not have significant adverse impacts on the environment, and approve Addendum No. 1 to the adopted ***Mitigated Negative Declaration***.

2. Find that Planning Commission Resolution No. 12-09 concerning CUP No. 11-03 remains in full force and effect, except for the elimination of Mitigation Measure MM AQ-6 and the addition of Planning Division Condition Numbers 33 and 34 as described in Exhibit No. 1 of Planning Commission Resolution No. 14-09.

3. Approve Addendum No. 1 to CUP No. 11-03 with specified conditions of approval.

**PREPARATION:**

Prepared by the Kings County Community Development Agency (Sandy Roper) on September 26, 2014. Copies are available for review at the Kings County Community Development Agency, Government Center, Hanford, California, or at the Kings County Clerk's Office, Government Center, Hanford, California.

# BEFORE THE KINGS COUNTY PLANNING COMMISSION
# COUNTY OF KINGS, STATE OF CALIFORNIA

**IN THE MATTER OF ADDENDUM NO. 1 TO CONDITIONAL USE PERMIT NO. 11-03 (Parrey, LLC)**

**RESOLUTION NO. 14-09**

**RE: 17515 20th Avenue, Lemoore**

**WHEREAS,** on March 10, 2011, River West Investments, Inc. filed Conditional Use Permit No. 11-03; to construct and operate a 136-megawatt alternating current (MWac) photovoltaic (PV) electricity generating facility and associated infrastructure on approximately 836 acres in northwestern Kings County near the unincorporated community of Stratford to be known as the SunPower Henrietta Solar Project; and

**WHEREAS,** the application was determined to be complete on December 1, 2011; and

**WHEREAS,** a Notice of Intent to Adopt a Mitigated Negative Declaration was published on June 13, 2012, providing notice that the Initial Study/Mitigated Negative Declaration had been completed for the proposed Project and was available for public review and comment; and

**WHEREAS**, the Initial Study/Mitigated Negative Declaration was circulated for public review and comment on June 13, 2012; and

**WHEREAS**, on June 13, 2012 the Kings County Community Development Agency distributed copies of the Initial Study/Mitigated Negative Declaration to those public agencies that have jurisdiction by law with respect to the Project, as well as to other interested persons and agencies, and sought the comments of such persons and agencies; and

**WHEREAS,** on July 13, 2012, the thirty day public review period for the proposed Initial Study/Mitigated Negative Declaration for this project closed; and

**WHEREAS,** during the thirty day public review period for the proposed Initial Study/Mitigated Negative Declaration seven sets of comments were received from Chevron Energy Solutions; the Kings County Fire Department; the Kings County Environmental Health Department; the State of California, Governor's Office of Planning and Research; the Defenders of Wildlife; the Department of Fish and Game; and the Department of Conservation; and

**WHEREAS,** after the close of the 30-day public review and comment period the Kings County Community Development Agency received a voice message on July 17, 2012, from Friends of the Swainson's Hawk commenting on the project and the IS/MND and on July 24, 2012, the Kings County Community Development Agency received via email a letter dated July 23, 2012, from Friends of the Swainson's Hawk commenting on the project and the IS/MND; and

**WHEREAS**, following closure of the public comment period, the Initial Study/Mitigated Negative Declaration was supplemented to incorporate comments received by the Kings County Community Development Agency and the Kings County Community Development Agency's responses to such comments; and

**WHEREAS,** these comments resulted in minor changes to the Initial Study/Mitigated Negative Declaration, none of the comments identified a new, unavoidable significant effect, nor did they result in a finding that the proposed mitigation measures in the Initial Study/Mitigated Negative Declaration will not reduce potential effects to less than significant; and

**WHEREAS,** the minor changes served merely to clarify, amplify and make insignificant modifications to the IS/MND and pursuant to CEQA Guidelines § 15073.5, recirculation of the IS/MND is not required; and

**WHEREAS,** on July 27, 2012, the Kings County Community Development Agency recommended that the Mitigated Negative Declaration be approved for the proposal; and

**WHEREAS,** on July 27, 2012, the Kings County Community Development Agency staff notified the applicant of the proposed recommendation on this project; and

**WHEREAS,** on August 6, 2012, this Commission held a duly noticed public hearing to receive testimony from any interested person.

**WHEREAS,** on August 6, 2012, the Planning Commission held a duly noticed public hearing for CUP Number 11-03 in the Board of Supervisors Chambers of the Kings County Government Center, 1400 W. Lacey Blvd., Hanford, California; and

**WHEREAS**, at the August 6, 2012, public hearing the Planning Commission received 1) a report presented by County staff that included the staff recommendation, 2) testimony from the applicant, and 3) testimony from members of the general public; and

**WHEREAS**, the Planning Commission received testimony prior to the close of the public hearing; and

**WHEREAS**, on August 6, 2012, after the conclusion of public testimony the Planning Commission closed the public hearing and deliberated; and

**WHEREAS**, on August 6, 2012, the Kings County Planning Commission approved CUP No. 11-03 and made the following findings and certifications with regards to the California Environmental Quality Act: (1) The Planning Commission reviewed and considered the Initial Study/Mitigated Negative Declaration, together with the comments received during the public review and comment period, before approving the project; (2) Based on the whole record before it, including the Initial Study/Mitigated Negative Declaration and the comments received during the public review period, there was no substantial evidence in the record that the proposed Project will have a significant effect on the environment; (3) The Initial Study/Mitigated Negative Declaration for this Project was completed in compliance with CEQA and was determined to be adequate; and (4) The Initial Study/Mitigated Negative Declaration reflected the Planning Commission's independent judgment and analysis; and

**WHEREAS**, the Initial Study/Mitigated Negative Declaration identified certain significant effects on the environment that, absent the adoption of mitigation measures, would be caused by the construction and operation of the Project; and

**WHEREAS**, the Planning Commission was required, pursuant to CEQA, to adopt all feasible mitigation measures or feasible project alternatives that can substantially lessen or avoid any significant project-related environmental effects; and

**WHEREAS**, the Planning Commission was required by Public Resources Code Section 21081.6, subdivision (a), to adopt a Mitigation Monitoring and Reporting Plan to ensure that the mitigation measures adopted by the County are actually carried out; and

**WHEREAS**, as demonstrated by the Mitigation Monitoring and Reporting Plan, attached as Attachment "A" to Planning Commission Resolution 12-09, all of the Project's significant environmental effects could be either substantially lessened or avoided through the adoption of feasible mitigation measures; and

**WHEREAS**, the Planning Commission determined it appropriate to certify and adopt the Mitigated Negative Declaration, to adopt the Mitigation Monitoring and Reporting Plan, and to approved CUP Number 11-03 subject to the findings and conditions of approval contained in Planning Commission Resolution 12-09; and

**WHEREAS**, the original Applicant for the Henrietta Project was River West Investments, Inc. (RWI); and

**WHEREAS**, as noted in a letter from RWI to the County dated August 9, 2014, RWI has transferred all of its rights, interests, and obligations as Applicant under the CUP to Parrey, LLC (Parrey); therefore, Parrey is now the Applicant for the solar project authorized by the CUP, as confirmed by the County in an email from Greg Gatzka, Director, Kings County Community Development Agency, to Parrey, on August 19, 2014; and

**WHEREAS**, on September 4, 2014, CUP Addendum No. 1 was received to revise CUP No. 11-03 (Parrey, LLC) for the SunPower Henrietta Solar Project to: 1) eliminate Mitigation Measure AQ-6 since updated emission estimates show that the potential impacts related to nitrogen oxides (NOx) are now below the San Joaquin Valley Air Pollution Control District's regional thresholds of significance and 2) adding additional detail concerning the off-site Pacific Gas and Electric Company's switching station facility; and

**WHEREAS**, the California Environmental Quality Act (CEQA) Guidelines Section 15164, found in the California Code of Regulations, allows for an addendum to an approved IS/MND be prepared when minor technical changes or additions are necessary and if the project does not meet any of the requirements stated in Section 15162; and

**WHEREAS**, the CUP revision application included Addendum No. 1 to the IS/MND originally approved for CUP 11-03; and

**WHEREAS**, the County determined that none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred; and

**WHEREAS**, CEQA section 15164(c) states that an addendum need not be circulated for public review but can be included in or attached to the final EIR or adopted negative declaration; and

**WHEREAS**, the Planning Commission has reviewed Addendum No. 1 in its entirety, and determined that the document reflects the independent judgment of the Commission; and

**WHEREAS**, on October 6, 2014, the Planning Commission held a duly noticed public hearing for Addendum No. 1 to CUP Number 11-03 in the Board of Supervisors Chambers of the Kings County Government Center, 1400 W. Lacey Blvd., Hanford, California; and

**WHEREAS**, on October 6, 2014, after the conclusion of public testimony the Planning Commission closed the public hearing and deliberated; and

**WHEREAS**, on October 6, 2014, the Planning Commission adopted Resolution No. 14-09 approving Addendum No. 1 to CUP No. 11-03; and

**WHEREAS**, Addendum No. 1 to CUP No. 11-03, attached to this resolution as Exhibit No. 1, provides minor alterations to PG&E switching station facility design and eliminates mitigation measure MM AQ-6 because substantial evidence indicates that the Project's construction phase emissions estimates of NOx are below the applicable thresholds of significance, entering into a VERA with the SJVAPCD is not necessary and mitigation measure MM AQ-6 would no longer be required; and

**WHEREAS**, the revised Project will remain a 136-MW solar facility on 836 acres of disturbed agricultural land and will connect into a local electrical power line and the main Project components would apply to the revised Project; and

**WHEREAS**, no significant changes to the Project infrastructure, construction, maintenance, or use as described in the MND would occur and the revised Project will remain consistent with the approved CUP and will continue to be subject to the same Conditions of Approval and Mitigation Measures as previously approved by the County Planning Commission, except for the elimination of Mitigation Measure MM AQ-6 and the addition of Planning Division Condition Numbers 33 and 34; and

**WHEREAS**, the revised Project would not result in any effects to environmental resources that are more severe than those described in the original IS/MND and all Mitigation Measures and Conditions associated with the original Project would be applied to the revised Project, except for the elimination of Mitigation Measure MM AQ-6 and the addition of Planning Division Condition Numbers 33 and 34 modified by Addendum No. 1; and

**WHEREAS**, as with the approved Project, the revised Project would have a less than significant impact with the implementation of the approved mitigation identified for aesthetics, agricultural resources, biological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use planning, mineral resources, noise, and traffic and circulation; as with the approved Project, the revised Project would have no impact for forest resources; the analysis of cultural resources, population and housing, public services, recreation, and utilities and services systems are unaffected by the revised Project; Project-related impacts from greenhouse gas emission would remain beneficial with the revised Project; and Air quality impacts for NOx change from less than significant with mitigation to less than significant as a result of the revised Project; and

**WHEREAS**, as required by CEQA Guidelines Section 15162, the County has evaluated each of these circumstances in Addendum No. 1 to CUP No. 11-03, which is attached to this resolution as Exhibit No. 1.

**NOW, THEREFORE, BE IT RESOLVED AND CERTIFIED,** by the Kings County Planning Commission that:

## I. SECTION 1: Recitals

1. The above recitals are true and correct, and the Planning Commission hereby so finds.

## II. SECTION 2: Findings Related to Prior Proceedings

1. An Initial Study/Mitigated Negative Declaration was duly prepared, properly circulated, and completed in accordance with California Environmental Quality Act of 1970 (California Public Resources Code Section 21000 et seq.), as amended, and the State Guidelines thereto (California Code of Regulations Section 15000 et seq.), and approved by the Kings County Planning Commission for the proposed Project by the Lead Agency on August 6, 2012.

2. The Initial Study/Mitigated Negative Declaration was presented to this Commission, and it was independently reviewed and considered by this Commission prior to acting on the proposed Project as was originally presented on August 6, 2012.

3. The Mitigated Negative Declaration for the Project was properly completed and identified all significant environmental effects of the Project, and there are no known potential environmental effects that are not addressed in the Mitigated Negative Declaration.

4. The Project incorporated project design features and mitigation measures to eliminate significant impacts or to reduce such impacts to a level of insignificance in all instances.

5. The proposed Project may have significant adverse impacts on the environment. However, those impacts would be mitigated to an insignificant level by implementing the mitigation monitoring and reporting program attached to Planning Commission Resolution 12-09 as Attachment "A." Based on the whole record, including the Initial Study/Mitigated Negative Declaration and its Addendum, there is no substantial evidence that the proposed Project will have a significant effect on the environment. The Initial Study/Mitigated Negative Declaration and its Addendum reflects the Planning Commission's independent judgment and analysis.

6. The Planning Commission used its own independent judgment in adopting Resolution Number 12-09, in approving the Project, in adopting and certifying the Initial Study/Mitigated Negative Declaration, and in adopting the Mitigation Monitoring and Reporting Plan.

## III. SECTION 3: Acceptance of Addendum No. 1 to the Initial Study/Mitigated Negative Declaration

1. Addendum No. 1 to the adopted Initial Study/Mitigated Negative Declaration (IS/MND) for CUP 11-03 has been prepared in accordance with California Environmental Quality Act (CEQA) Guidelines Section 15164, found in the California Code of Regulations, which allows for an Addendum to an approved IS/MND be prepared when minor technical changes or additions are necessary and if the project does not meet any of the requirements stated in Section 15162.

2. It is hereby determined that none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred.

3. It is hereby determined that Addendum No. 1 has been completed in compliance with CEQA and is adequate.

4. It is hereby determined that Addendum No. 1 has been presented to the Planning Commission, which has reviewed and considered the information and analysis contained therein.

5. It is hereby determined that Addendum No. 1 reflects the independent judgment of the Planning Commission of the County of Kings.

6. The Planning Commission herby attaches Addendum No. 1 to the previously approved IS/MND for CUP 11-03.

7. The Planning Commission authorizes and directs County staff to make Addendum No. 1 available to the public and have it retained, along with the original IS/MND at the office of the Kings County Community Development Agency.

## IV. SECTION 4: Existing Conditions of Approval and CUP Time Extension

1. All findings and adopted conditions of approval in Planning Commission Resolution No. 12-09 concerning CUP No. 11-03 remain in full force and effect, except for the elimination of Mitigation Measure MM AQ-6 and the addition of Planning Division Condition Numbers 33 and 34 as described below:

    33. Prior to any ground disturbance, the applicant shall hire a Native American Monitor to monitor the project during all ground disturbing activities during both the construction and decommissioning phases of the SunPower Henrietta Solar Project.

    34. Prior to any ground disturbance, a surface inspection of the project site shall be conducted by an Archaeologist. In addition, an Archaeologist shall monitor the project during all ground disturbing activities during both the construction and decommissioning phases of the SunPower Henrietta Solar Project.

2. CUP No. 11-03 shall lapse and become null and void three (3) years following the date that Resolution No. 14-09 is adopted, unless prior to the expiration of three (3) years a building permit is issued by the Building Official and construction is commenced and diligently pursued toward completion on the site that was subject of the Conditional Use Permit application. This Conditional Use Permit may be renewed for additional periods of time, if an application (by letter) for renewal of the Conditional Use Permit is filed with the Planning Commission prior to the permit's expiration date.

The foregoing Resolution was adopted on a motion by Commissioner _____ and seconded by Commissioner _____, at a regular meeting held on October 6, 2014 by the following vote:

AYES: COMMISSIONERS
NOES: COMMISSIONERS
ABSTAIN: COMMISSIONERS
ABSENT: COMMISSIONERS

KINGS COUNTY PLANNING COMMISSION

_____
Jim Gregory, Chairperson

WITNESS, my hand this ____ day of _____, 2014.

_____
Gregory R. Gatzka
Secretary to the Commission

cc: Kings County Board of Supervisors
Kings County Counsel
Kings County Community Development Agency – Building Division
Kings County Public Works Department
Kings County Fire Department
Kings County Health Department – Division of Environmental Health Services
State of California, Governor's Office of Planning and Research
Regional Water Quality Control Board
Department of Fish and Game
San Joaquin Valley Air Pollution Control District
State of California, Department of Conservation
Defenders of Wildlife, 1303 J Street, Suite 270, Sacramento, CA 95814
Friends of the Swainson's Hawk, 717 K Street, Suite 529, Sacramento, CA 95814
Chevron Energy Solutions, 6101 Bollinger Canyon Road, San Ramon, CA 94583-2324
RCI-RWI Solar Investors, LLC, 3001 I Street, Suite 200, Sacramento, CA 95816
River West Investments, Inc., 3001 I Street, Suite 200, Sacramento, CA 95816
Parrey, LLC, c/o SunPower Corporation, 1414 Harbour Way South, Richmond, CA 94804

Exhibit No. 1: Addendum No. 1 to CUP No. 11-03

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# Conditional Use Permit No. 11-03

# HENRIETTA SOLAR PROJECT

## MITIGATED NEGATIVE DECLARATION ADDENDUM NO. 1

Addressing Proposed Project Modifications

Prepared for

Kings County Community Development Agency
Kings County Government Center
1400 West Lacey Boulevard
Hanford, CA 93230

October 2014

## 1. INTRODUCTION

Through adoption of Resolution No. 12-09 (Resolution), the Kings County Planning Commission (hereinafter, County) acting as lead agency, certified the Revised Initial Study/Mitigated Negative Declaration (IS/MND), adopted the Mitigation Monitoring and Reporting Program (MMRP), and approved Conditional Use Permit (CUP) No. 11-03 for the Henrietta Solar Project (Henrietta Project or Project) on August 6, 2012.

The CUP allows the Applicant (and any successor in interest for the life of the Project) to construct and operate a 136-megawatt alternating current (MWac) photovoltaic (PV) electricity generating facility and associated infrastructure on approximately 836 acres in northwest Kings County near the unincorporated community of Stratford.

The original Applicant for the Henrietta Project was River West Investments, Inc. (RWI). As noted in a letter from RWI to the County dated August 9, 2014, RWI has transferred all of its rights, interests, and obligations as Applicant under the CUP to Parrey, LLC (Parrey). Therefore, Parrey is now the Applicant for the solar Project authorized by the CUP, as confirmed by the County in an email from Greg Gatzka, Director, Kings County Community Development Agency, to Parrey, on August 19, 2014.

## 2. PURPOSE

This MND Addendum No. 1 (MND Addendum) describes the modification to the Henrietta Project that is being proposed by the Applicant as well as additional detail concerning Pacific Gas and Electric Company's (PG&E) switching station facility.

The change to the Project's CUP that is proposed by the Applicant is to modify the MMRP to eliminate mitigation measure MM AQ-6.

In addition to the solar facility, the County's certified IS/MND described the switching station facility, which will be constructed, owned, and operated by PG&E. The switching station facility is an integral part of the interconnection between the solar facility and PG&E's existing high-voltage transmission system. The design for the PG&E switching station facility has undergone some minor modifications since the IS/MND was prepared and certified.

As the lead agency, the County Planning Commission has the authority to approve amendments to the CUP and MMRP for the solar facility. While the County does not have approval authority over PG&E's switching station facility, which is under the sole discretionary jurisdiction of the California Public Utilities Commission (CPUC), the County's IS/MND includes an assessment of the direct and reasonably foreseeable indirect physical changes resulting from the PG&E's switching station facility in addition to the Project's solar facility.

Thus, this MND Addendum includes analysis of the potential impacts from changes to both of the project components: the solar facility and PG&E's switching station facility.

## 3. SUMMARY OF PROPOSED PROJECT MODIFICATIONS

The CUP is subject to the conditions of approval (COAs) set forth in Section XI, as well as the mitigation measures described in Exhibit A (containing the MMRP), of the County's Resolution. The mitigation measures adopted in the MMRP were developed to reduce all potentially significant impacts to below a level of significance.

Recently, the Applicant notified the County that, as a result of refined construction plans, it has updated the Project's emissions estimates. With the updated emissions estimates, the potential impacts related to nitrogen oxides ($NO_x$) are now below the San Joaquin Valley Air Pollution District's (SJVAPCD) regional thresholds of significance. Therefore, implementation of one mitigation measure (MM AQ-6) is no longer necessary to reduce impacts to below a level of significance.

The County prepared this MND Addendum to the previously certified MND to evaluate the modification of the MMRP to eliminate MM AQ-6 and thereby remove the requirement to enter into a Voluntary Emission Reduction Agreement (VERA) with the SJVAPCD.

In addition, the design for the PG&E switching station facility has undergone some minor modifications since the IS/MND was prepared and certified. Proposed refinements to the 115-kilovolt (kV) switching station, including increasing the area of the switchyard from about 3.7 acres to approximately 5 acres, allow for construction and safe operations of the PG&E facility.

Based on the information provided herein, the County has determined that the proposed modifications of the MMRP and switching station design, as further described below, would not result in new or more severe significant impacts, and that none of the conditions described in Section 15162 of the CEQA Guidelines (14 Cal. Code of Regs. § 15162) have occurred. As a result, no Subsequent MND or Supplement to the previously certified MND is required.

## 4. AUTHORITY FOR ADDENDUM

The California Environmental Quality Act (CEQA) establishes the type of environmental document that is required when changes to a project occur or new information arises after an Environmental Impact Report (EIR) or a negative declaration is certified.

An addendum to a certified EIR or MND shall be prepared if only minor technical changes or additions are necessary (CEQA Guidelines §15164). In addition, pursuant to CEQA Guidelines §15162, preparation of an Addendum to an MND is appropriate unless subsequent changes are proposed in the project, physical circumstances have changed on the subject property, or new information of substantial importance becomes available and this results in new significant impacts or a substantial increase in the severity of previously identified significant impacts.

The addendum need not be circulated for public review (CEQA Guidelines §15164[c]); however, an addendum is to be considered by the decision maker prior to making a decision on the project (CEQA Guidelines §15164[d]).

This MND Addendum demonstrates that the environmental analysis, impacts, and mitigation requirements identified in the Revised IS/MND for the Henrietta Project, including the PG&E

switching station facility, remain substantively unchanged, and supports the finding that the changes to the Project do not result in new or more significant impacts than those identified in the previously certified MND.

Therefore, the County has decided not to prepare a Subsequent MND pursuant to Section 15162 of the CEQA Guidelines. To support this decision the following discussion describes the original project description as well as the proposed project modifications and provides clarifying environmental analysis.

In addition, as evidenced below, because none of the conditions outlined in Section 15162 are present here, the County has prepared this MND Addendum to document changes to the certified MND in accordance with CEQA Guidelines Section 15164.

## 5. PROJECT MODIFICATIONS

### 5.1 Proposed Modification of the Mitigation Monitoring and Reporting Program

#### *5.1.1 Mitigation Measure MM AQ-6 as Adopted as Part of the MMRP*

Based on the preliminary construction plans available at the time, the original emissions analysis used to support the IS/MND concluded that construction emissions could exceed the SJVAPCD's regional thresholds of significance. The MMRP included mitigation measures designed to reduce the Project's potential impact on air resources to below a level of significance. Specifically, use of cleaner engines (Tier 2 and Tier 3) and use of a VERA were applied to reduce Project construction emissions of reactive organic gases (ROG) and $NO_x$ to less than significant.

The following mitigation measure (MM AQ-6), which was adopted through the County's Resolution as part of the MMRP, was developed to address impacts from $NO_x$ emissions based on preliminary emissions estimates for the Project that were analyzed in the IS/MND:

> **MM AQ-6:** Prior to commencing Construction, the Applicant shall enter into a Voluntary Emission Reduction Agreement (VERA) with the San Joaquin Valley Air Pollution Control District to reduce nitrogen oxides ($NO_x$) emissions from project construction by the amount required to reduce emissions to less than 10 tons per year after implementation of all onsite mitigation measures (currently estimated at 7.78 tons of $NO_x$). The VERA reduction amount shall be determined through an emission analysis of construction equipment proposed for use during construction and refined construction activity estimates approved by the San Joaquin Valley Air Pollution Control District. VERA mitigation fees will be based on the Rule 9510 cost per ton of $NO_x$ reduction in place at the time of fee payment. At this time, approximately 7.78 tons of $NO_x$ would need to be reduced at $9,350 per ton resulting in a cost of $72,743.

### *5.1.2 Proposed Elimination of Mitigation Measure MM AQ-6*

The Applicant has subsequently refined its construction plans and developed updated emissions estimates using information that was not available at the time the IS/MND was prepared. As detailed below, the updated emissions analysis based on refined construction plans demonstrates that the Project's construction emissions would be less than the SJVAPCD's regional thresholds; therefore potential impacts related to $NO_x$ would no longer be considered potentially significant.

The refined construction plans used in the updated air analysis took into consideration refined construction scheduling and equipment use, which resulted in reduced emissions estimates. In addition, the use of newer air models, which are preferred by SJVAPCD, and which have lower emission and load factors, resulted in significantly reduced emissions estimates. These revised emissions estimates are expected to be more representative of activities that are planned for Project construction and operations.

#### *Original Air Quality Emissions Estimates*

The Air Quality and Greenhouse Gas Emissions Study (Air Quality Study) included in the IS/MND was prepared in May 2012. The original emissions analysis consists of off-model calculations based on emission factors and formulas from URBEMIS2007, CalEEMod, OFFROAD2007, EMFAC2011, and other emissions models.

The construction-generated emissions were estimated for the following five Project construction activities: site preparation, construction of solar arrays, installation of gen-tie poles, installation of fiber optic cable, and construction of substation and O&M building. The analysis assumed 4,000 deliveries would be required to deliver panels and construction materials to the Project site during construction. The construction activity assumptions utilized were the best available information at the time of the analysis, and erred on the side of overestimation for the purposes of a conservative CEQA impact assessment.

#### *Changes to Emissions Modeling*

The Applicant has since conducted extensive review of Project design and components, and has prepared refined construction activity data including: phasing descriptions, detailed construction equipment activity use, and employee, delivery, water truck, and other truck use data. The refined construction parameters continue to represent a conservative overestimation of the activity necessary to construct the Project, but expected emissions are markedly less than those emissions estimated from the construction parameters in the original Air Quality Study. The current emissions estimate incorporates the following changes:

- **Load Factor Revisions.** The original emissions analysis used the old California Air Resources Board (ARB) offroad equipment load factor recommendations. ARB revised their offroad equipment load factor recommendations, essentially reducing the prior load factors by 33 percent. The load factor is the average power of a given piece of equipment while in operation compared with its maximum rated horsepower. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity.

Reducing the load factor by 33 percent results in a corresponding reduction in emissions generation.

- **Refined Construction Phasing and Activity.** The updated analysis contains a highly detailed break-down of construction phases, truck activity, delivery trip assumptions, and construction employee trip assumptions. Instead of five construction activities, the updated analysis reflects 26 unique construction activities. The construction equipment for each phase is identified, as well as number of equipment, horsepower, use per day, and duration of use within each phase. The Applicant has also prepared detailed employee trip generation, delivery trip generation, service truck and other truck use onsite and offsite. For example: the original analysis estimated emissions from 4,000 delivery trips, and the updated analysis contains the more accurate estimate of 2,498 delivery trips.
- **CalEEMod 2013.2.2**. The updated analysis primarily utilizes the CalEEMod version 2013.2.2 computer program, which was not available when the Air Quality Study was prepared. CalEEMod 2013.2.2 is the current version of CalEEMod.

***Updated Emissions Estimates***

The supporting construction analysis documentation, including summary tables and detailed CalEEMod output, is provided as Attachment 1. The attached construction phasing, equipment activity, and emissions analysis is accurate to the anticipated construction activity, and replaces the prior construction phasing and equipment activity included in the original analysis upon which the IS/MND was based.

All construction assumptions and activity parameters are provided for transparency and reproducibility of the emissions analysis. As shown, the analysis takes into consideration construction emissions from both the solar facility and PG&E's switching station. It assumes the use of Tier 3 equipment per mitigation measure MM AQ-1 for the solar facility construction, while conservatively assuming emissions based on an average fleet for PG&E switching station construction.

The Project's solar facility construction emissions modeling contains the following emissions sources:

- Onsite construction equipment (41 phases)
- Onsite truck (service truck, dump truck, etc.)
- Offsite employee trips
- Onsite employee trips
- Offsite delivery trips
- Onsite delivery trips
- Water truck (both onsite and offsite)

A comparison of the Project construction emissions output from the original analysis and the updated analysis is provided in Table 1. As shown, the updated analysis demonstrates the Project's construction emissions for $NO_x$ would be less than 10 tons during each year of construction. In addition, ROG emission estimates are reduced from the original estimate of 11.39 total tons to less than 1 ton per year of construction, well below the 10-ton per year SJVAPCD significance threshold.

**Table 1: Comparative Analysis – Construction Emissions**

| Construction Analysis Scenario | Pollutant Emissions (tons) | |
|---|---|---|
| | ROG | $NO_X$ |
| *Original Analysis* | | |
| One-Year Period | 11.39 | 41.95 |
| *Updated Analysis* | | |
| Construction in 2015 | 0.92 | 9.37 |
| Construction in 2016 | 0.43 | 2.2 |
| SJVAPCD Significance Threshold (annual emissions) | 10 | 10 |
| Notes:<br>ROG = reactive organic gases<br>$NO_X$ = oxides of nitrogen<br>Source of original analysis: MBA 2012[1]<br>Source of updated analysis: FirstCarbon Solutions 2014 (see Attachment 1) | | |

The purpose of the VERA requirement specified in mitigation measure MM AQ-6 was to mitigate for construction-generated $NO_x$ emissions in excess of 10 tons per year. As shown above and in the attached documentation, the updated analysis demonstrates that the Project's estimated construction emissions are already below the SJVAPCD's regional threshold of significance of 10 tons per year for $NO_x$.

Because substantial evidence indicates that the Project's construction phase emissions estimates of $NO_x$ are below the applicable thresholds of significance, entering into a VERA with the SJVAPCD is not necessary and mitigation measure MM AQ-6 would no longer be required.

## 5.2 Modification of the PG&E Switching Station Facility

Based on environmental review, and because the switching station will be on disturbed agricultural land in the vicinity of the solar facility, impacts for both facilities are expected to be the same or similar. PG&E has adopted measures that will be implemented as standard best management practices, which are the same or similar to those mitigation measures that are applicable to the solar facility, as applicable, to avoid or reduce impacts from the switching station to a level that is less than significant. Because PG&E has voluntarily adopted these best management practices, CPUC can and should impose them as conditions of approval for the switching station.

[1] Michael Brandman Associates. 2012. Initial Study and Mitigated Negative Declaration, Conditional Use Permit No. 11-03, (SunPower Henrietta Solar Project), Kings County, California; Appendix A: Air Quality and Greenhouse Gas Emissions Study.

### *5.2.1 Original Switching Station Project Description*

#### *PG&E Switching Station Components – Original Design*

The IS/MND described that the Project would include a 115-kV electrical switchyard adjacent to the point of interconnection. The switchyard was described as an approximately 160,000 square foot (400 feet long by 400 feet wide) area (or approximately 3.7 acres) located near the southeast corner of Jersey and 21st Avenues, which would be fenced with an 8-foot-high cyclone (chain-link) fence topped with barbed wire.

Within the switchyard, the IS/MND described a 1,600 square foot control building containing power circuit breaker equipment and metering equipment for delivery of the output from the Project to the grid, as well as an electrical ground safety grid and concrete pads to support the switchyard equipment. The control building was described as a pre-engineered steel building approximately 17 feet high at its peak.

#### *PG&E Switching Station Construction – Original Design*

The IS/MND estimated that construction of the switching station would take 6 months, with the switching station construction planned to occur within the 18-month overall Project construction timeframe. As described, switching station construction would be staged within both the solar facility site and the switchyard site.

PG&E crews and contractors would perform construction work within the PG&E switchyard site, including site preparation (e.g., site clearance, grading, and security fence installation) and installation of substructures and electrical equipment. It also stated that switchyard materials and equipment would be delivered to and stored at the switchyard site during construction.

The IS/MND also stated that the PG&E switchyard would be constructed with conventional grading and construction equipment, and minor excavation would provide concrete footings for the switching station equipment.

#### *PG&E Switching Station Operations and Maintenance – Original Design*

The IS/MND noted that the PG&E transmission line and switching station were planned to be energized in 2014. It stated that PG&E would conduct routine transmission line and switching station maintenance, including routing inspections. In addition, PG&E would replace equipment damaged by vandalism and maintain vegetation, if needed, to prevent interference with the transmission lines.

### *5.2.2 Proposed Modified Switching Station Project Description*

#### *PG&E Switching Station Components – Modified Design*

Refinements to the construction of the 115-kV switching station facility, which will be known as the PG&E Leprino Switching Station, are required to allow for its safe operations. The final design of the switching station conforms to PG&E Standard 073131, Bus configuration Design

Criteria. PG&E would construct, own, and maintain the switching station, which would be unmanned and automated.

The revised switching station design includes a slightly larger footprint, now estimated to be approximately 5 acres. See Figure 1. The control room for the 115 kV switching station remains about the same area at approximately 1,600 square feet, but the dimensions will be approximately 100 feet by 16 feet. There will also be a small battery building estimated to be about 20 feet by 40 feet, which will contain a standard utility-grade battery charger and DC lead-acid battery.

Key components of the switching station facility include the following:

- A single story control building (approximately 100 feet by 16 feet) and a single story battery building (up to about 20 feet by 40 feet)
- Circuit breakers and mounting hardware
- Approximately eight to ten new tubular steel poles (TSPs), up to approximately 120 feet tall, to connect the switchyard to the new gen-tie line and to the existing 115-kV transmission line
- Driveways from Jersey Avenue and 21st Avenue
- Drive aisles within the switchyard fence line
- Storm water retention basins
- A microwave tower for communication with other PG&E facilities (approximately 100 feet tall)
- An approximately 8- to 9-foot high chain-link perimeter fence topped with about 1 foot of barbed wire
- Security lighting controlled by motion detectors
- Telecommunication facilities (underground and aboveground fiber optic telecommunication lines)

In addition, minimal disturbance will occur outside the planned fenced switchyard, within the area directly west, east, and south of it, to facilitate the connection between the switching station and the existing PG&E transmission lines and new gen-tie lines.

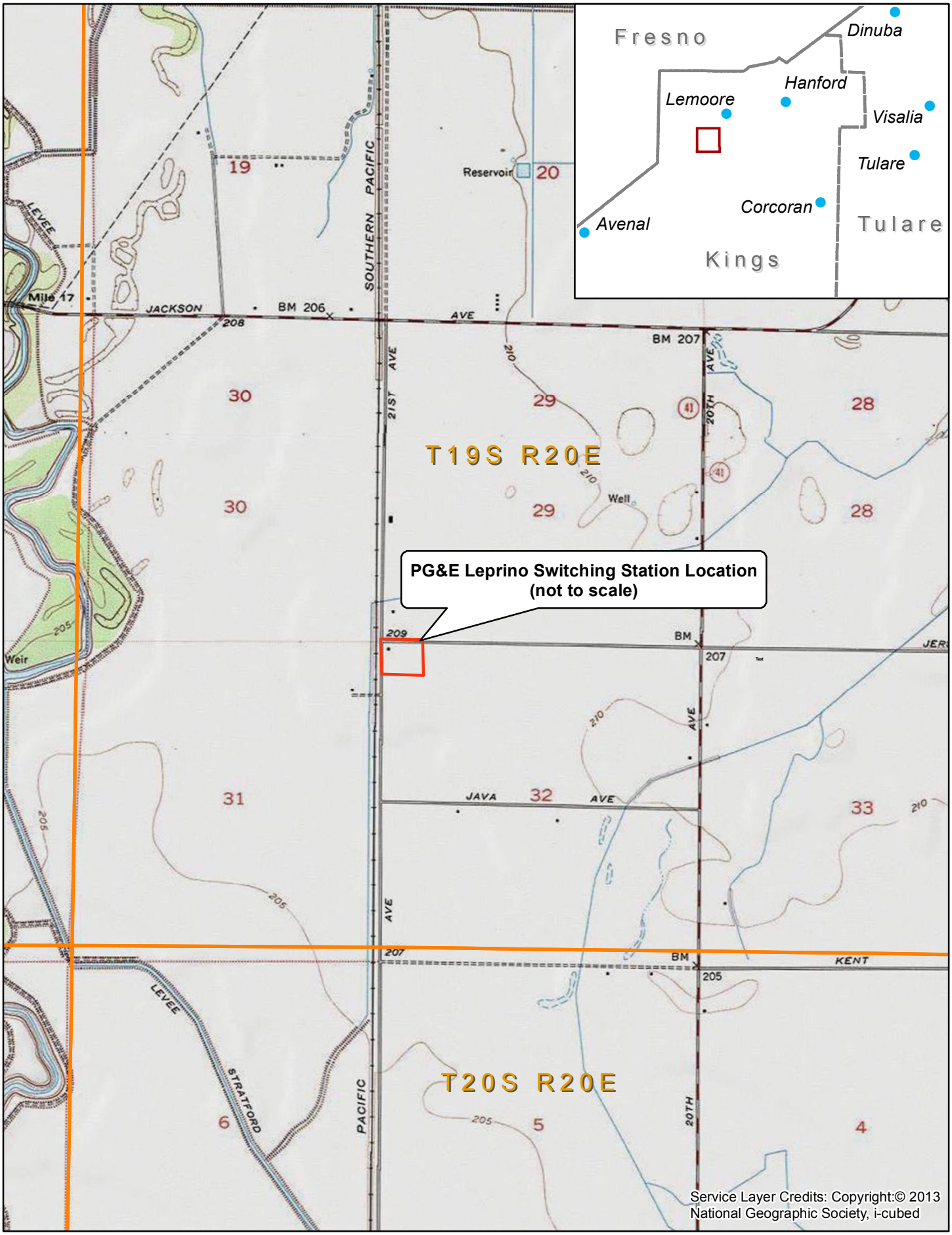


Figure 1. PG&E Leprino Switching Station Location
Kings County, California

Not to Scale
N

***PG&E Switching Station Construction – Modified Design***

While the majority of construction of the switching station facility is planned to take place in the first 3 to 5 months, total construction is estimated to take up to 11 to 12 months, including activities that are lower intensity in nature, such as finish work on and inside the structures, testing, and commissioning. Construction of the switching station facility is expected to overlap with construction of the solar facility.

Construction staging would take place within the boundaries of the PG&E switching station. The site is mostly flat and extensive grading will not be required. Materials will be imported to complete the switchyard construction, such as yard rock, road base, and asphalt, as well as potentially some fill. PG&E will comply with SJVAPCD dust control requirements for all grading activities.

Following site preparation, below grade construction would occur, including installation of concrete foundations, construction of two storm water retention basins, and installation of underground conduit. Reinforced concrete subsurface footings and concrete slabs would be installed along with the grounding grid. The storm water retention basins would be sized to comply with County requirements.

Similar to what was noted in the IS/MND for the solar facility, PG&E will be required to obtain coverage under a National Pollutant Discharge Elimination System (NPDES) permit for its storm water discharges, pursuant to the Clean Water Act and associated federal regulations (Title 40 of the Code of Federal Regulations [CFR] 123.25(a)(9), 122.26(a), 122.26(b)(14)(x) and 122.26(b)(15)). Such coverage is required because construction of the switching station site will result in clearing, grading, and excavating activities that disturb more than 1 acre. In California, coverage is obtained under the General Permit for Discharges of Storm Water Associated with Construction Activity, Construction General Permit Order 2009-0009-DWQ.[2]

The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must list best management practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.[3] Therefore, as is required for the solar facility, PG&E will also develop and implement a Construction SWPPP for construction of the switching station to comply with NPDES permit requirements.

Once the below grade construction is complete, aboveground steel structures, circuit breakers, transformers, switchgear, and associated infrastructure would be installed. Equipment would be

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2 California Environmental Protection Agency, State Water Resources Control Board. Storm Water Program website. Available at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml and accessed on September 23, 2014.

3 U.S. Environmental Protection Agency. 2007. *Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites*. EPA-833-R-06-004. May.

bolted or welded to slabs and footings and connected to the ground grid. Driveways and access roads to the PG&E switching station would be located at the north and west sides of the PG&E switching station. The drive aisles within the PG&E switching station fence line would be paved.

Except for the microwave towers and TSPs, the maximum height of the PG&E equipment located at the switching station would be approximately 70 feet for the dead end structures supporting the 115-kV power line interconnection and gen-tie connection, including static wires. The control and battery buildings would be approximately 17 feet tall, and the switches and bus work would be approximately 20 to 25 feet tall.

***PG&E Switching Station Operations and Maintenance – Modified Design***

The PG&E switching station facility, including the 115-kV power line interconnection and gen-tie connection, is expected to be energized in late 2015. The PG&E facility is planned to be operated well into the future, with a useful life that is at least as long as the expected useful life of the Henrietta Project's solar facility (i.e., minimum 40 years), and likely longer.

## 6. CEQA ANALYSIS

Analysis of the proposed modification to the MMRP to eliminate mitigation measure MM AQ-6 and revisions to the PG&E 115-kV Leprino Switching Station focuses on the following resources to determine if any new or more severe significant environmental impacts would result:

- Aesthetics
- Agricultural and Forest Resources
- Air Quality
- Greenhouse Gas Emissions
- Biological Resources
- Cultural Resources
- Hydrology and Water Quality
- Traffic and Circulation

Discussion of the potential impacts on these resources is presented below. For clarity and because the PG&E switching station facility is such a small component of the overall Project being evaluated for CEQA purposes, the CEQA analysis presented here in most cases evaluates the effects from the whole switchyard and not just the proposed changes.

As summarized in Table 2 below, the modification to the MMRP and minor modifications to the design of the switching station facility would not have a significant effect on the remaining environmental resources assessed in the certified IS/MND and are not otherwise discussed further.

**Table 2: Summary of Other Resources Not Discussed Further**

| Resource | Summary |
|---|---|
| Geology and Soils | As discussed in the IS/MND, due to the Project's location, topography, distance from mapped faults and the Alquist-Priolo Earthquake Fault Zone, the types of soils present, design in accordance with applicable building codes, and the fact that the switching station would be unmanned, potential impacts associated with geology and soils resulting from implementation of the switching station would be less than significant. |
| Hazards and Hazardous Materials | The IS/MND summarizes that hazardous materials will be present as a result of the Project, including the switching station, and notes that any hazardous substances that would be produced, used, stored, transported or disposed of as a result of the Project would be done in compliance with applicable regulations. Proposed modifications to the switching station would include the addition of a battery storage building, which will include a battery charger and flooded cell lead acid battery, which is the standard utility grade DC battery system found at substations.<br><br>As required by law, PG&E will have a Hazardous Materials Business Plan for the switching station, which will contain detailed information regarding the storage of hazardous materials to prevent or minimize impacts on public health, safety, and the environment, from a release or threatened release of a hazardous material. The HMBP also provides emergency response personnel with critical information needed to effectively and safely respond to chemical-related incidents. Therefore, potential impacts associated with hazards and hazardous materials resulting from implementation of the switching station would be less than significant. |
| Land Use Planning | The land use designation for the Project, including the switching station, is General Agriculture (20 acres), as discussed in the IS/MND. The switching station site would not physically divide an established community and there is no conservation plan covering this area. Therefore, potential impacts associated with land use planning resulting from implementation of the switching station would be less than significant. |
| Mineral Resources | As stated in the IS/MND, the Project, including the switching station, is not located in a designated Mineral Resource Zone; potential impacts associated with mineral resources resulting from implementation of the switching station would be less than significant. |
| Noise | As stated in the IS/MND, the Project site is located in a rural area of northern Kings County characterized by agricultural land uses and scattered residential uses, and there are no noise-sensitive receptors (e.g., residences) located near the switching station site. |

| | |
|---|---|
| | The nearest residence is more than 0.5 miles from the switching station site. Construction of the switching station would be temporary, and during operations the switching station will be unmanned. Therefore, potential noise impacts resulting from implementation of the switching station would be less than significant. |
| Population and Housing | As discussed in the IS/MND, implementation of the Project, including the switching station, would not result in displacing existing housing or people or induce substantial population growth. This conclusion remains unaffected by the switching station design modifications. |
| Public Services | As discussed in the IS/MND, implementation of the Project, including the switching station, would not result in the construction or expansion of additional fire, police, or other public facilities, schools, or parks. This conclusion remains unaffected by the switching station design modifications. |
| Recreation | As discussed in the IS/MND, implementation of the Project, including the switching station, would not result in the construction of new or expansion of existing recreational facilities. In addition, there would be no long-term employees and the total number of temporary employees would be minimal and would not impact the use of parks within the region. This conclusion remains unaffected by the switching station design modifications. |
| Utilities and Service Systems | As discussed in the IS/MND, the Project, including the switching station, would comply with federal, state, and local statutes and regulations related to solid waste, and it would not require wastewater treatment or result in significant environmental effects from new or expanded stormwater facilities. This conclusion remains unaffected by the switching station design modifications. |

## 6.1 Aesthetics

The switching station site is on the corner of Jersey Avenue and 21st Avenue at the point of interconnection with the existing PG&E transmission lines in an area that is currently dominated by agricultural fields. The facility would be enclosed by an 8- to 9-foot high chain link fence topped by barbed wire.

In addition, there would be an approximately 100-foot tall microwave tower, several TSPs up to approximately 120 feet tall, two stormwater retention basins, a control room and a single story battery storage room, and other electrical equipment. The poles and associated electrical lines would be similar to other transmission lines in the vicinity of the switching station site. See Figure 2 for an example of a typical switching station.

**Figure 2. Typical switching station**

The 2035 Kings County General Plan does not identify any scenic vistas. As discussed in the IS/MND, the PG&E switching station site are also not located within the Natural Lands land use category as defined in the General Plan Land Use Element. As such, the switching station is not subject to associated guiding policies related to scenic value. In addition, the switching station site is not located near the Kings River or Cross Creek natural waterways. Therefore, potential impacts to scenic vistas from construction and operation of the switching station are less than significant.

As discussed in the IS/MND, the PG&E switching station site is not located within the viewshed of any Designated or Eligible State Scenic Highways. There are no Designated State Scenic Highways within Kings County. The only Eligible State Scenic Highway within Kings County is a portion of State Route 41 south of State Route 33, which is more than 26 miles away from the switching station site. Therefore, potential impacts from construction or operation of the switching station associated with state scenic highway would be less than significant.

The switching station facility would modify the existing character of the area with the installation of electrical equipment and infrastructure, including TSPs up to 120 feet tall and a

microwave tower up to 100 feet tall. However, as discuss in the IS/MND, the majority of viewers of the switching station site is limited almost exclusively to motorists along State Route 41 (20th Avenue), Kansas Avenue, 19th Avenue, and Kent Avenue.

These motorists would have fleeting views of the switching station and a lower expectation of an aesthetically pleasing view, particularly given their perceived focus on the road ahead, as well as the general lack of scenic vistas or points-of-interest in the immediate Project area. Therefore, the switching station facility would not substantially degrade the existing visual character or quality of the area and its surroundings, and impacts from construction and operation of the switching station facility are considered less than significant.

The IS/MND also noted that there may be light and glare during construction from vehicles or the use of temporary lighting, if needed. However, as discussed, these activities would be temporary; therefore, impacts would remain less than significant. During operations, the switching station will include only motion-sensored lighting for security purposes. The TSPs would be made of steel rather than wood, but would not produce glare that would be visible to nearby motorists or residents. The control building and associated battery storage room would be painted a neutral color. Therefore, potential impacts from a new source of substantial light or glare would remain less than significant.

## 6.2 Agriculture and Forest Resources

According to the Land Use Element of the 2035 Kings County General Plan, the land use designation for the switching station facility is General Agriculture (20 acres), which is consistent with the land use described for the solar facility. The switching station would not conflict with the policies and goals set forth by the 2035 Kings County General Plan, including those pertaining to agricultural resources and farmland.

According to the California Department of Conservation (CDC), the PG&E switching station is located on Farmland of Statewide Importance[4] on land under a 20-year Farmland Security Zone contract under the Williamson Act.[5]

Kings County has adopted "Implementation Procedures for the [Williamson Act] Including Farmland Security Zones" (Procedures Manual), which was updated November 27, 2013. The County has also adopted "Uniform Rules for Agricultural Preserves in Kings County" (Uniform Rules), which is attached as Appendix A to the Procedures Manual. The Kings County agricultural preserve regulations expressly recognize certain electric facilities within agricultural lands covered by Farmland Security Zone contracts as "compatible uses." Compatible uses include "public utility and public service structures including electric transmission and distribution substations."[6]

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4 California Department of Conservation (CDC). Division of Land Resource Protection, 2012, Farmland Mapping and Monitoring Program, GIS Data for Kings County. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/2012/ and accessed on September 3, 2014.

5 CDC, Division of Land Resource Protection, 2012, Williamson Act Fiscal Year 2009/2010. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/WA/kings_09_10_WA.pdf and accessed on September 3, 2014.

6 Appendix A to the Procedures Manual, p. 9, §B.7.

The Procedures Manual's inclusion of electric facilities within the categories of compatible uses is consistent with the Williamson Act itself, which statute also includes electric facilities as a statutory compatible use. (See Gov. Code, §§ 51201(e) [defining "compatible use" to include uses defined by statute as well as uses determined to be compatible by a county or city], 51238 [expressly recognizing that "the erection, construction, alteration, or maintenance of … electric … facilities are hereby determined to be compatible uses within any agricultural preserve"].)

Because the switching station is an allowed use on land designated as Farmland Security Zone under the Williamson Act, its construction and operation would not require cancellation of a Farmland Security Zone contract. As of 2012, there are 890,785 acres of farmland in Kings County. The approximately 5 acres that will be used for the switching station represents an approximately 0.0006% loss of farmland in the county, which is considered to be a less than significant impact.[7]

It should be noted that even if the switching station facility were not considered a compatible use on agricultural land, proposed refinements for this minor component would have a *de minimis* impact when compared with the approximately 376,863 acres of Farmland of Statewide Importance within Kings County.[8] Therefore, impacts to agricultural resources would remain less than significant.

The switching station would have no impacts to forest land, timberland, or timberland zoned Timberland Production; therefore, there would be no impact to these resources.

## 6.3 Air Quality

The refined construction activity parameters described herein include consideration of both the solar facility and PG&E's switching station facility. As shown in Table 1, the results of the updated air modeling and analysis of the refined construction parameters show that emissions estimates of $NO_x$ are below SJVAPCD thresholds of significance for both construction years. Therefore, with consideration of the Project refinements, impacts from the Project on air quality are less than originally calculated in the certified IS/MND and are now determined to be less than significant without mitigation.

## 6.4 Greenhouse Gas Emissions

Greenhouse gas (GHG) would be emitted as a result of the construction and operation of the switching station. To assess impacts of the Project, including the switching station, this analysis refers to guidance from the SJVAPCD, *Guidance for Valley Land Use Agencies in Addressing GHG Emissions Impacts for New Projects Under CEQA* (SJVAPCD GHG Guidance), consistent with the assessment prepared for the certified MND.

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[7] CDOC (California Department of Conservation). 2014. Kings County Important Farmland. Historic Land Use Conversion 1984-present. Available at: http://redirect.conservation.ca.gov/dlrp/fmmp/pubs/1984-Present/kin_1984-Present.xls and accessed on September 24, 2014.

[8] CDC, Division of Land Resource Protection, 2012, Farmland Mapping and Monitoring Program, GIS Data for Kings County. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/2012/ and accessed on September 3, 2014.

SJVAPCD guidance recommends that lead agencies use Best Performance Standards (BPS) to assess the significance of greenhouse gas emissions as a result of a Project. The BPS is any combination of SJVAPCD approved, Achieved-in-Practice emissions reductions measures reducing or limiting GHG emissions by at least 29% compared to Business as Usual (BAU).

As discussed in the certified IS/MND, SJVAPCD guidance defines "business as usual" as emissions occurring in 2020 if the average baseline emissions during the 2002 and 2004 period grew to 2020 levels without additional control. Therefore, the certified IS/MND assessed 2002 to 2004 emissions factors, on a unit of activity basis, multiplied by the activity expected to occur in 2020 as a representation of 2020 business as usual. Based on this assessment, the certified IS/MND calculated the BAU conditions within the Project area to be 71 metric tons carbon dioxide equivalent ($MTCO_2e$).

Greenhouse gas emissions for the switching station would be mostly temporary, and occur primarily during the construction phase. GHG emissions associated with the temporary construction phase include emissions from construction vehicles and equipment as well as the potential for minimal sulfur hexafluoride ($SF_6$) emissions as a result of handling to charge the breakers. Construction of the switching station is anticipated to generate approximately 279 $MTCO_2e$.

During operations, emissions associated with the switching station would include GHG from vehicle use and potential $SF_6$ emissions. $SF_6$, a greenhouse gas, may be released if a circuit breaker were to fail during the operation of the switching station. However, the breakers are maintained in accordance with PG&E's maintenance guidelines and x-ray technology is used to inspect internal circuit breaker components and to limit accidental leaks.

In addition, the circuit breakers proposed at the Leprino Switching Station are designed to limit leaks. However, PG&E assumes a 0.5% annual leakage, which is equivalent to less than approximately 0.01 $MTCO_2e$. Because the Leprino Switching Station will be unmanned, overall operational emissions are expected to be *de minimis*.

With an installed capacity of 136 MW, the Project, including the switching station, is projected to offset over 109,000 $MTCO_2e$ in its first year of operations because it provides an emissions-free source of electricity, which reduces the need for development of fossil-fuel-burning facilities.

Therefore, it is estimated that the Project, including the switching station, would result in a more than 150,000% decrease from BAU conditions, and would more than offset the GHG emissions associated with its construction and maintenance. This is an off-set of well more than 29% of the Project's construction-related and long-term operation and maintenance-related GHG emissions. Therefore, Project-related impacts from GHG emissions would remain beneficial.

## 6.5 Biological Resources

Tomato crops currently provide herbaceous cover over the PG&E switching station site. The switching station site is surrounded by active agricultural fields (south and east), fallow agricultural fields (west), and a solar facility that is currently being constructed to the north. An irrigation canal is located west of the switching station site across 21st Avenue and north of the site across Jersey Avenue.

To support the analysis of the Project changes, E & E conducted a supplemental biological resources study in August 2014 of an approximately 10-acre area within which the switching station site will be constructed (herein referred to as the survey area). The study included a reconnaissance level survey for sensitive and special status plant and animal species and potentially suitable habitat, as recognized by the California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (USFWS).

The site visit, which was conducted on August 25 and 26, 2014, also included a reconnaissance level survey for potential nesting bird habitat within 0.5 miles of the switching station site. In addition, E & E conducted a desktop review of special status species occurrences that have been recorded in the vicinity of the switching station site. The study report is provided in Attachment 2.

Based on the site reconnaissance and desktop surveys, and the highly disturbed nature of the switching station site, no suitable habitat for any sensitive plant species occurs within the study area and no special status plants were observed or are known to occur within the switching station site or its vicinity.

In addition, there are no wetlands, Waters of the State, or Waters of the U.S. located within the switching station site. There is an irrigation canal, which could be considered a Water of the State and Water of the U.S., located approximately 200 feet west of the survey area across 21st Avenue and 100 feet north of the survey area across Jersey Avenue at its nearest points. However, the portions of the canal within the vicinity of the switching station site are narrow and do not provide adequate riparian habitat for tree nesting birds because there are no riparian shrubs or trees.

Small fish were observed in the canal during the reconnaissance survey. No direct impacts such as removal, filling, or hydrological interruptions to the irrigation canal are proposed. In addition, as discussed above in Section 5.2.2, PG&E will develop and implement a Construction SWPPP, which will include the controls and activities to prevent the contamination of storm water runoff leaving the site, such as installation, inspection, and maintenance of BMPs during construction. Typical BMPs include silt fences, fiber rolls, gravel, and sand bag berms.

Therefore, construction and operation of the switching station would have less than significant impacts on riparian habitat, other sensitive communities identified in local or regional plans, policies, or regulations or by the CDFW or USFWS. In addition, the switching station would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act.

A California Natural Diversity Database[9] (CNDDB) search showed no recordings of special status species within the survey area. However, several special status animal species have been documented within 0.5 miles of the survey area. No special status animal species were observed within the survey area. In addition, no nests were observed within the survey area or within a 0.5-mile buffer. Wildlife species observed during the site visit are summarized in Attachment 2.

No burrowing owls or evidence of burrowing owls were observed in the survey area. The site does not constitute burrowing owl habitat because of the presence of row crops and an absence of suitable burrows. The quality of potential bird nesting habitat within the survey area is low because the habitat is degraded and subject to continual human disturbances, specifically active agricultural cultivation.

Multiple transmission lines are located within the survey area; however, no trees or other similar potential nesting structures were observed. In addition, there is no continuous riparian habitat or scattered stands of trees that could provide adequate nesting habitat for tree-nesting birds within a half mile radius of the switching station site.

The switching station site has low to moderate potential to provide foraging habitat for wildlife. Several factors make the switching station site area less than optimal for large raptor foraging, including the height of the herbaceous cover (3–4 feet tall) present over the entire switching station site, and little evidence of high numbers of small mammals in the area. No evidence was observed of California meadow vole (*Microtus californicus*), which is a primary prey species for Swainson's hawks in this portion of the species' range. Further, California ground squirrels, normally the most numerous small diurnal mammals in this part of Kings County, are not common in the survey area.

Comparatively, much of the fallow and agricultural land adjacent to the switching station site, as well as the riparian corridor along portions of the Kings River, and within the larger region provides higher quality foraging habitat for wildlife. Therefore, construction and operation of the switching station on about 5 acres of low to moderate quality foraging habitat would have a *de minimis* impact on potential foraging habitat for wildlife.

As a standard best management practice, PG&E has adopted survey and avoidance measures to ensure impacts on nesting birds remain less than significant. Similar to mitigation measure BIO-1, which is applicable to the solar facility, PG&E's qualified biologist will conduct a preconstruction survey for nesting birds within 250 feet of construction areas. Surveys will be conducted within 30 days of first ground disturbance during the breeding season (1 February to 31 August).

Further, if PG&E observes nesting birds during the breeding season (e.g., prior to or during construction of the switching station) that have the potential to be impacted by construction activities, PG&E will implement a construction-free buffer around the active nests. A qualified biologist will determine the appropriate buffer size based on the species, but it is generally 250 feet for raptors. The buffer areas will be delineated (e.g., with temporary fencing) to ensure that

[9] California Natural Diversity Database (CNDDB). 2014. Geographic Information Systems. Available at: http://www.dfg.ca.gov/biogeodata/gis and accessed September 3, 2014.

construction equipment and workers do not enter the buffer areas. PG&E's biologist will monitor construction to ensure that any buffers around active nests are maintained for the duration of the breeding season or until the young have fledged. With PG&E's adoption and implementation of these standard best management practices, impacts on biological resources would remain less than significant.

## 6.6 Cultural Resources

### *6.6.1 Solar Facility*

A desktop study and an onsite cultural resources survey were conducted for the solar facility to support the IS/MND. The study and field survey did not identify known cultural resources at or associated with the solar facility and did not conclude there was any unique potential for discovering cultural resources during ground disturbing activities.

Nonetheless, as is standard practice in Kings County because the potential to uncover cultural resources is always present, the IS/MND included mitigation measures to reduce potential impacts on cultural resources in the event that archeological or historic resources are inadvertently unearthed during construction. Implementation of those mitigation measures may result in having a Native American monitor and archeologist onsite during ground disturbing activities if cultural resources are uncovered.

There continues to be no information demonstrating that known cultural resources are present at the solar facility. Recently, however, because of increased concern about the discovery of cultural resources in agricultural areas throughout Kings County, the County has begun requiring the presence of a Native American monitor and an archeological monitor during ground disturbing activities at construction sites as a condition of approval for an increasing number of projects.

In the event the County amends the CUP for the solar facility as requested by the Applicant, in an abundance of caution, the County intends to add a new condition of approval to require the presence of a Native American monitor and archeological monitor during ground disturbing activities at the solar facility. The County intends to add this condition of approval even though there are no changes to the solar facility's construction plans that change the Project's potential impacts to cultural resources. The Applicant has discussed the new condition of approval with the County and has voluntarily accepted it.

### *6.6.2 PG&E Switching Station*

To assess the potential for impacts to cultural resources from construction of the PG&E switching station, E & E conducted a supplemental cultural resources study (see Attachment 3). The study included a pedestrian cultural resources survey at the switching station site, San Joaquin Valley Information Center records search, and a Native American Heritage Commission (NAHC) Sacred Lands file search. The environmental setting at the switching station site relative to cultural resources is similar to that of the solar facility site.

On August 26, 2014, E & E's qualified archeologist conducted a reconnaissance level survey of a 10-acre area within which PG&E's approximately 5-acre switching station will be sited. No

cultural resources were observed during the site visit. However, due to the dense herbaceous coverage from the tomato crops growing within the proposed disturbance area, visibility within the area was very limited.

E & E submitted a request for San Joaquin Valley Information Center to conduct a records search to determine if there were any recorded resources, including archeological and historic sites, or properties on the Office of Historic Preservation Historic Properties Directory within 1 mile of the approximately 10-acre switching station study area. A review of historic maps was also requested.

The San Joaquin Valley Information Center completed its search on August 27, 2014. Records indicate no previous surveys have been undertaken on the 10-acre study area and no cultural resources have been recorded on the switching station site or within 1 mile of it. The only surveys reported within the record search area are two linear surveys that are recorded along State Route 41. Although a review of the historic maps for the area was requested, the information center responded that these were not available.

On August 26, 2014, E & E submitted a request for the NAHC to conduct a search of their Sacred Lands Files for the PG&E switching station site. A similar letter previously sent in 2011 for the Henrietta Project focused on the solar facility parcels. The July 26, 2011, response from the NAHC to that earlier request indicated that no sacred sites were recorded on the Henrietta Project parcels. Similarly, on September 4, 2014, the NAHC responded that the sacred land files do not indicate the presence of Native American cultural resources in the area of the switching station site.

The 2011 response from the NAHC also included a list of seven tribal contacts that were recommended to be contacted for information about the Project area. While continuing to wait for a response from the NAHC to the 2014 information request, E & E mailed letters to six of the previously identified tribal contacts on August 26, 2014. E & E learned that one of the previously identified contacts is now deceased. In its September 4, 2014, letter, the NAHC identified five additional tribal contacts with possible knowledge of cultural resources in the vicinity of the switching station site. On September 5, 2014, E & E sent letters to the additional tribal contacts identified.

The 11 letters were sent to the tribal contacts via fax and e-mail, when feasible, and all were also sent via U.S. mail. The letters clarified that the Henrietta Project also includes construction of a PG&E switching station, which will be located about 1 mile northwest of the solar generation facility, and requested information regarding cultural resources there.

As of September 24, 2014, two of the tribal contacts responded. The Table Mountain Rancheria responded that the switching station site is beyond the area of interest for the tribe. The Santa Rosa Rancheria of Tachi Yokuts provided comments to E & E on August 28, 2014, with the opinion that there is a high probability during ground disturbing activities of encountering cultural resources, including human remains and other culturally significant items. The comment also requested a meeting and site visit and recommended Native American cultural monitoring during ground disturbing activities during construction. PG&E and the Applicant held a meeting

and site visit at the switching station with the Santa Rosa Rancheria of Tachi Yokuts on September 18, 2014, to discuss the tribe's comments.

As part of the construction activities for their portion of the Project, PG&E has adopted the following standard best management practices that will be implemented to ensure potential impacts on cultural resources remain less than significant:

- Due to the current lack of ground surface visibility at the switching station site, PG&E will conduct a cultural resources pedestrian survey of the site following removal of the agricultural crops and prior to construction to assess the presence or absence of cultural resources on the ground surface within the planned disturbance area.
- PG&E will ensure that archeological and Native American monitoring is conducted during ground disturbing construction activities at the switching station site.
- In the event that a potential cultural resource is discovered during the preconstruction survey or during construction, PG&E will halt all activity within 100 feet of the find until it can be evaluated by a qualified archeologist. If the archeologist determines that the resource is eligible or potentially eligible for the California Register of Historic Resources, PG&E will develop a treatment plan for the resource. Treatment may include avoidance, data recovery, or a combination of the two.
- The archeologist will also determine if additional investigation, data recovery, or construction monitoring are warranted to mitigate adverse impacts from continued construction. If an unearthed cultural resource is suspected to be Native American in nature, the archeologist may contact appropriate Native American representatives identified by the NAHC to determine appropriate treatment, disposition, or curation.

As required by law, PG&E will also implement procedures in California Health and Safety Code § 7050.5 and Public Resources Code § 5097.98 if human remains are inadvertently discovered during ground-disturbing activities.

Therefore, potential impacts on cultural resources from construction of the switching station would be less than significant.

## 6.7 Hydrology and Water Quality

There are no Waters of the State or Waters of the U.S. located on the switching station site. There is an irrigation canal located approximately 200 feet west of the switching station site and 100 feet north of the site at its nearest points; however, these are located across existing roadways and would not be directly impacted by Project construction.

Drainage patterns would minimally change based on modifications to the switching station facility. The switching station facility would only contribute up to about 1 acre of impermeable surfaces. However, modifications to the switching station include the construction of two retention basins, which would be constructed within the approximately 5-acre switchyard area and would be sized to comply with the requirements of Section 404 of the Kings County Improvement Standards to retain any runoff from within the switching station boundaries.

As discussed above in Section 5.2.2, PG&E would develop and implement a Construction SWPPP for the switching station, as required for all projects which disturb more than 1 acre in size. The inclusion of the retention basins into the Project design and implementation of the SWPPP would minimize the potential for runoff; therefore, impacts on hydrology and water quality would remain less than significant.

## 6.8 Transportation/Traffic

Construction of the switching station would require truck trips to deliver materials and equipment to the site, including trips to import yard rock, road base, and asphalt, and worker trips over the temporary construction period. There would be an average of approximately 30 daily truck trips and 25 daily worker vehicle trips associated with construction of the switching station.

C Policy A1.3.1 of the Circulation Element of the 2035 Kings County General Plan requires that all major roadways and arterial intersections for rural area must be maintained at a Level of Service (LOS) D or better. In addition, Table C-3 of the Circulation Element identifies acceptable traffic circulation for 2-lane roadways as Average Daily Traffic (ADT) of 16,400 for LOS D.

The IS/MND evaluated impacts of 600 daily worker vehicle trips and 80 daily truck trips and concluded that the combination of existing conditions on Kansas Avenue between State Route 41 and 18th Avenue plus traffic from construction of the Project's solar facility would result in 2,080 ADT; therefore, Kansas Avenue would still operate at LOS B with construction of the solar facility.

The IS/MND also stated that State Route 41 adjacent to the Project site experienced 8,900 ADT and concluded that the addition of 680 trips from construction of the Project's solar facility would not impact the LOS, which would continue to operate at LOS C.

With consideration of the refined construction plans, daily worker vehicle trips during construction are now estimated at less than 300 for the solar facility and approximately 25 for the switching station, which combined is well under the previous 600 trips evaluated. Daily truck trips are now estimated to be less than 40 for the solar facility and approximately 30 for the switching station, which combined is well under the previous 80 trips evaluated.

To assess peak hour trips, this analysis assumed that 10 percent of total daily vehicle trips would occur during peak traffic hours, consistent with the IS/MND analysis. The addition of approximately six vehicle and truck trips in addition to an estimated 34 total vehicle and truck trips assumed for construction of the Project's solar facility would result in less than 100 peak hour trips during construction; therefore, preparation of an impact analysis report in accordance with C Policy A1.3.2 would not be required.

Given that existing conditions with the addition of the construction of the Project, including the switching station, would still result in peak hour ADTs that are well below the threshold identified in the Kings County Circulation Element and would result in less than 100 peak hour trips, implementation of the Project would not result in a significant impact on transportation or traffic.

## 7. CONCLUSION

Based on the information provided herein, the County has determined that the proposed modification of the Mitigation Monitoring and Reporting Program and revisions to the PG&E switching station facility would not result in new or more severe significant impacts, and that none of the conditions described in Section 15162 of the CEQA Guidelines (14 Cal. Code of Regs. § 15162) have occurred. Therefore, CEQA Guidelines Sections 15162 and 15163 have not been triggered and neither a Subsequent MND nor a Supplement to the previously certified MND is required.

# Attachment 1

# Updated CalEEMod Output for the

# Henrietta Solar Project

**CalEEMod Version 2013.2.2**

**September 2014**

**Prepared by FirstCarbon Solutions**

# Air Quality and Greenhouse Gas Emissions Methodology
# Henrietta Solar Project
# County of Kings, California

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# SECTION 1: EXECUTIVE SUMMARY

## 1.1 - Purpose and Methods of Analysis

First Carbon Solutions prepared this updated emissions analysis to quantify and evaluate the Henrietta Solar Project's (Project's) construction-generated air quality and greenhouse gas emissions based on refined construction plans. This updated analysis replaces and supersedes the air quality and greenhouse gas emissions analysis included in the May 9, 2012, Air Quality and Greenhouse Gas Analysis Report (original analysis), which was used to support the Project's Initial Study and Mitigated Negative Declaration (IS/MND).

Based on the refined construction plans, this updated analysis shows that Project construction emissions would not exceed San Joaquin Valley Air Pollution Control District thresholds of significance for any criteria pollutant. The methodology used to prepare this analysis follows San Joaquin Valley Air Pollution Control District (SJVAPCD) recommendations for quantification of emissions and evaluation of potential air quality and greenhouse gas impacts.

## 1.2 - Project Summary

### 1.2.1 - Site Location

The Project is located in Kings County, California, approximately 6 miles south of SR-198 and the City of Lemoore, 6 miles southeast of the Naval Air Station Lemoore, and 12 miles southwest of the City of Hanford. Specifically, the Project site is closest in proximity to the intersection of State Route (SR) 41 (also known as 20$^{th}$ Avenue in the Project area) and Kansas Avenue.

### 1.2.2 - Project Description

Conditional Use Permit (CUP) No. 11-03 allows the Project Applicant (and any successor in interest for the life of the Project) to construct and operate a 136-megawatt alternating current (MWac) photovoltaic (PV) electricity generating facility and associated infrastructure on approximately 836 acres in northwest Kings County near the unincorporated community of Stratford.

In addition, the Leprino Switching Station (switching station) will be constructed, owned, and operated by PG&E. The switching station facility is an integral part of the interconnection between the solar facility and PG&E's existing high-voltage transmission system. The 115 kilovolt (kV) switching station will be located on approximately 5 acres on the southeast corner of 21$^{st}$ Avenue and Jersey Avenue.

Thus, this updated emissions analysis considers development of both the solar facility and PG&E's switching station facility under the following three phases of construction:

- Solar Facility Phase I
- Solar Facility Phase II
- PG&E Leprino Switching Station

Development of Solar Facility Phase I will result in construction and disturbance on approximately 670 acres, and development of Solar Facility Phase II will result in construction and disturbance on approximately 166 acres. Development of the PG&E Switching Station will result in construction and disturbance on approximately 5 acres.

## 1.2.3 - Modifications to Emissions Modeling

### Original Air Quality Emissions Estimates

The Air Quality and Greenhouse Gas Emissions Study (original analysis) was included in Appendix A of the Project's IS/MND. The methodology used in that analysis consisted of off-model calculations based on emission factors and formulas from URBEMIS2007, CalEEMod, OFFROAD2007, EMFAC2011, and other emissions models.

The construction-generated emissions were estimated for the following five project construction activities in and adjacent to the solar facilities: site preparation, construction of solar arrays, installation of gen-tie poles, installation of fiber optic cable, and construction of the substation and operations and maintenance (O&M) building. In addition, construction-generated emissions were estimated for the 115-kV PG&E electrical switching station adjacent to the point of interconnection.

The analysis assumed 4,000 deliveries would be required to deliver panels and construction materials to the Project site during construction. The construction activity assumptions utilized were the best available information at the time of the analysis, and erred on the side of overestimation for the purposes of a conservative CEQA impact assessment.

### Changes to Emissions Modeling

The Applicant has since conducted extensive review of Project design and components, and has prepared refined construction activity data including: phasing descriptions, detailed construction equipment activity use, and employee, delivery, water truck, and other truck use data. The refined construction parameters continue to represent a conservative overestimation of the activity necessary to construct the Project, but expected emissions are markedly less than those emissions estimated from the construction parameters in the original analysis. The current emissions estimate incorporates the following changes:

- **Load Factor Revisions**. The original emissions analysis used the old California Air Resources Board (ARB) offroad equipment load factor recommendations. ARB revised their offroad equipment load factor recommendations, essentially reducing the prior load factors by 33 percent. The load factor is the average power of a given piece of equipment while in operation compared with its maximum rated horsepower. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity. Reducing the load factor by 33 percent results in a corresponding reduction in emissions generation.
- **Refined Construction Phasing and Activity**. The updated analysis contains a highly detailed break-down of construction phases, truck activity, delivery trip assumptions, and construction employee trip assumptions. Instead of five construction activities, the updated analysis reflects 41 unique construction activities for all Project components, including Solar Facility

Phase I, Solar Facility Phase II, and the PG&E Leprino Switching Station. The construction equipment for each phase is identified, as well as number of equipment, horsepower, use per day, and duration of use within each phase. The Applicant has also prepared detailed employee trip generation, delivery trip generation, service truck and other truck use onsite and offsite. For example: the original analysis estimated emissions from 4,000 delivery trips, and the updated analysis contains the more accurate estimate of 2,498 delivery trips.

- **CalEEMod 2013.2.2**. The updated analysis primarily utilizes the CalEEMod version 2013.2.2 computer program, which was not available when the original analysis was prepared. CalEEMod 2013.2.2 is the current version of CalEEMod.

## 1.3 - Summary of Updated Emissions Analysis

The construction phasing, equipment activity, and emissions analysis is accurate to the anticipated construction activity, and replaces the prior construction phasing and equipment activity included in the original analysis. This analysis focuses on the following air pollutants: reactive organic gases (ROG), oxides of nitrogen ($NO_X$) and particulate matter 10 microns or less in aerodynamic diameter ($PM_{10}$). Detailed analysis documentation, including summary tables and CalEEMod output, is provided in Appendices A, B, and C.

All construction assumptions and activity parameters used to prepare this analysis are provided in Section 2.2, Construction, for transparency and reproducibility of the emissions analysis. As stated, the emissions analysis includes construction emissions from Solar Facility Phase I construction, Solar Facility Phase II construction, and PG&E's Leprino Switching Station construction.

The emissions quantification assumes compliance with SJVAPCD Regulation VIII, which includes a series of fugitive dust control measures for construction activity. In addition, the emissions quantification assumes the use of Tier 3 equipment for certain horsepower ranges, consistent with mitigation measure MM AQ-1 for construction of Phase I and Phase II of the solar facility. For construction of the Leprino Switching Station, the analysis assumes a default construction fleet provided in CalEEMod, which is conservatively based on California state fleet averages.

The Project's solar facility construction emissions modeling contains the following emissions sources:

- Construction equipment (diesel offroad equipment)
- Material delivery trips (both onsite and offsite activity)
- Onsite trucks (service truck, dump truck, etc.)
- Employee trips (both onsite and offsite activity)
- Water trucks (both onsite and offsite)

The PG&E Leprino Switching Station construction emissions modeling contains the following emissions sources:

- Construction equipment (diesel offroad equipment)
- Material delivery trips (both onsite and offsite activity)
- Employee trips (both onsite and offsite activity)

Table 1 summarizes the updated construction-generated criteria pollutant and ozone precursor emissions for the refined Project emissions analysis based on the modifications discussed in Section 1.2.3, Changes to Emissions Modeling. In addition, Table 2 summarizes the updated construction-generated greenhouse gas emission for the refined Project emissions analysis.

**Table 1: Updated Criteria and Precursor Pollutants Construction Emissions**

| Project Component | Emissions (tons per year) | | | | |
|---|---|---|---|---|---|
| | | | $PM_{10}$ | | |
| | ROG | $NO_x$ | Dust | Exhaust | Total |
| *Year 2015* | | | | | |
| Solar Facility Phase I | 0.63 | 6.24 | 6.84 | 0.35 | 7.18 |
| Solar Facility Phase II | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| PG&E Leprino Switching Station | 0.29 | 3.13 | 0.27 | 0.15 | 0.42 |
| **Total Year 2015** | **0.92** | **9.37** | **7.10** | **0.50** | **7.60** |
| *Year 2016* | | | | | |
| Solar Facility Phase I | 0.35 | 1.44 | 5.49 | 0.04 | 5.52 |
| Solar Facility Phase II | 0.08 | 0.76 | 5.46 | 0.05 | 5.49 |
| PG&E Leprino Switching Station | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total Year 2016** | **0.43** | **2.20** | **10.95** | **0.09** | **11.02** |
| SJVAPCD Significance Threshold | 10 | 10 | N/A | N/A | 15 |
| Exceed SJVAPCD Significance Threshold? | No | No | N/A | N/A | No |

Notes:
SJVAPCD = San Joaquin Valley Air Pollution Control District
N/A = not applicable
Source: FCS, 2014.

**Table 2: Updated Construction Greenhouse Gas Emissions**

| Project Component | Emissions (Total $MTCO_2e$) |
|---|---|
| Solar Facility Phase I | 2,175 |
| Solar Facility Phase II | 207 |
| PG&E Leprino Switching Station | 279 |
| **Total $MTCO_2e$** | **2,661** |

Notes:
$MTCO_2e$ = metric tons of carbon dioxide equivalents
Source: FCS, 2014.

# SECTION 2: MODELING PARAMETERS AND ASSUMPTIONS

## 2.1 - Model Selection

The California Emissions Estimator Model (CalEEMod) version 2013.2.2 was developed in cooperation with the SJVAPCD and other air districts throughout the State. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas emissions associated with construction and operation from a variety of land uses. CalEEMod version 2013.2.2 incorporates emission factors from California Air Resources Board's (ARB) OFFROAD2011 and EMFAC2011, which are the current emission factors for offroad equipment and onroad vehicles. The latest version 2013.2.2 of CalEEMod was used to estimate the Project's updated construction emissions.

## 2.2 - Construction

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from on-site and off-site activities. On-site emissions principally consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust from disturbed soil. Off-site emissions principally consist of motor vehicle exhaust and entrained road dust.

The analysis assumes that the Project will be constructed in 2015 and 2016. The anticipated construction phasing is provided in Table 3.

**Table 3: Construction Phasing**

| Project Component | Start of Construction | End of Construction |
|---|---|---|
| Solar Facility Phase I Construction | April 2015 | August 2016 |
| Solar Facility Phase II Construction | January 2016 | August 2016 |
| PG&E Leprino Switching Station Construction | January 2015 | May 2015 |
| Source for Solar Facility Phase I Construction: SunPower, 2014a.<br>Source for Solar Facility Phase II Construction and PG&E Leprino Switching Station Construction: SunPower, 2014b. | | |

Detailed construction equipment activity was provided by the Applicant. While the majority of construction of the switching station facility is planned to take place in the first 3 to 5 months, total construction is estimated to take up to 11 to 12 months, including activities that are lower intensity in nature, such as finish work on and inside the structures, testing, and commissioning. Modeling adjustments were made to the CalEEMod inputs to account for the fact that some equipment may operate for the full duration of a construction phase while other equipment would operate for only a portion of the phase. These adjustments assured that the total hours of operation for equipment

analyzed within CalEEMod was equal to the total hours of operation identified by the Applicant. This approach is consistent with SJVAPCD recommended assessment methodology and current practice.

The emissions generation from construction equipment is based on the horsepower, load factors of the equipment, and hours of use. In general, the horsepower is the power of an engine - the greater the horsepower, the greater the power. The load factor is the average power of a given piece of equipment while in operation compared with its maximum rated horsepower. A load factor of 1.0 indicates that a piece of equipment continually operates at its maximum operating capacity.

The assumed equipment list and activity for construction of Solar Facility Phase I, Solar Facility Phase II and the PG&E Leprino Switching Station are shown in Table 4, Table 5, and Table 6, respectively. Detailed activity for Solar Facility Phase I and Solar Facility Phase II were provided by the Applicant. Detailed activity for the PG&E Leprino Switching Station was estimated based on a similar-sized PG&E switching station – Vega Switching Yard. Specifically, information from the Vega Solar PG&E Switching Yard was used to estimate emissions from grading and transmission poles. The Vega Solar PG&E Switching Yard analysis was prepared in early 2014, and utilized CalEEMod version 2013.2.2. Due to the substantial similarity in size and site conditions, use of the Vega Solar PG&E Switching Yard data is appropriate to estimate emissions from construction of the Leprino Switching Station. In addition, the Solar Facility Phase I and Solar Facility Phase II equipment activity for fencing, materials receiving, and substation construction was used to estimate construction activity on the PG&E Leprino Switching Station's fencing and materials receiving. In summary, the assumptions were intended to generate an overly conservative estimate of the actual construction activities and emissions generation.

**Table 4: Construction Equipment Assumptions – Solar Facility Phase I**

| Phase (working days) | Equipment | Number | Hours per day | Horse-power | Load Factor |
|---|---|---|---|---|---|
| Earthwork Clear & Grub (30 days) | Crawler Tractors | 1 | 7.0 | 276 | 0.43 |
| | Rubber Tired Dozers | 1 | 7.0 | 205 | 0.40 |
| | Skid Steer Loaders | 1 | 7.0 | 79 | 0.37 |
| | Tractors/Loaders/Backhoes | 1 | 7.0 | 111 | 0.37 |
| Access Roads and Equipment Pads (20 days) | Graders | 3 | 7.60 | 209 | 0.41 |
| | Pavers | 1 | 1.00 | 102 | 0.42 |
| | Rollers | 1 | 1.00 | 79 | 0.38 |
| | Rollers | 3 | 7.60 | 124 | 0.38 |
| | Rubber Tired Loaders | 3 | 7.60 | 271 | 0.36 |
| | Skid Steer Loaders | 3 | 7.60 | 79 | 0.37 |
| Erosion & Sediment Control (30 days) | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |

## Table 4 (cont.): Construction Equipment Assumptions – Solar Facility Phase I

| Phase (working days) | Equipment | Number | Hours per day | Horse-power | Load Factor |
|---|---|---|---|---|---|
| Site Demolition (20 days) | Rubber Tired Loaders | 1 | 7.00 | 271 | 0.36 |
| | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| | Tractors/Loaders/Backhoes | 1 | 7.00 | 111 | 0.37 |
| Landscaping and irrigation (10 days) | Excavators | 1 | 7.00 | 38 | 0.38 |
| | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| Fencing (15 days) | Generator Sets | 4 | 7.00 | 22 | 0.74 |
| | Skid Steer Loaders | 1 | 4.00 | 79 | 0.37 |
| Driven Piles (168 days) | Bore/Drill Rigs | 5 | 7.00 | 48 | 0.50 |
| | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| | Forklifts | 2 | 7.00 | 110 | 0.20 |
| Drive Motor Foundations (100 days) | Bore/Drill Rigs | 1 | 7.00 | 227 | 0.50 |
| | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| | Forklifts | 2 | 3.00 | 110 | 0.20 |
| | Welders | 1 | 3.00 | 23 | 0.45 |
| Metal Erection (159 days) | Air Compressors | 2 | 6.00 | 13 | 0.48 |
| | Dumpers/Tenders | 2 | 5.00 | 22 | 0.38 |
| | Forklifts | 2 | 7.00 | 110 | 0.20 |
| Cable Tray (149 days) | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| | Forklifts | 1 | 2.50 | 110 | 0.20 |
| AC Station Foundation (38 days) | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| | Skid Steer Loaders | 1 | 3.00 | 79 | 0.38 |
| | Tractors/Loaders/Backhoes | 1 | 7.00 | 111 | 0.37 |
| PV Installation (160 days) | Air Compressors | 4 | 6.00 | 13 | 0.48 |
| | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| | Forklifts | 1 | 7.00 | 110 | 0.20 |
| MV & Fiber Underground (100 days) | Forklifts | 1 | 7.00 | 110 | 0.20 |
| | Tractors/Loaders/Backhoes | 2 | 7.00 | 111 | 0.37 |
| DC & Drive Motor Underground (161 days) | Forklifts | 1 | 7.00 | 110 | 0.20 |
| | Tractors/Loaders/Backhoes | 2 | 7.00 | 111 | 0.37 |

## Table 4 (cont.): Construction Equipment Assumptions – Solar Facility Phase I

| Phase (working days) | Equipment | Number | Hours per day | Horse-power | Load Factor |
|---|---|---|---|---|---|
| String Wire Connections & Combiner (134 days) | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| | Forklifts | 1 | 3.00 | 110 | 0.20 |
| Overhead Electric (5 days) | Aerial Lifts | 4 | 7.00 | 62 | 0.31 |
| | Cranes | 4 | 7.00 | 31 | 0.29 |
| | Cranes | 1 | 4.00 | 478 | 0.29 |
| | Forklifts | 4 | 7.00 | 110 | 0.20 |
| AC Stations (77 days) | Cranes | 1 | 7.00 | 478 | 0.29 |
| | Tractors/Loaders/Backhoes | 1 | 7.00 | 111 | 0.37 |
| O&M Building (15 days) | Aerial Lifts | 2 | 7.00 | 229 | 0.31 |
| | Air Compressors | 10 | 8.00 | 13 | 0.48 |
| | Excavators | 1 | 2.30 | 38 | 0.38 |
| | Excavators | 1 | 2.30 | 185 | 0.38 |
| | Forklifts | 4 | 5.00 | 110 | 0.20 |
| | Generator Sets | 5 | 8.00 | 22 | 0.74 |
| | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| | Tractors/Loaders/Backhoes | 1 | 7.00 | 111 | 0.37 |
| Substation (20 days) | Aerial Lifts | 2 | 7.00 | 29 | 0.31 |
| | Air Compressors | 2 | 4.80 | 13 | 0.48 |
| | Cranes | 1 | 7.00 | 31 | 0.29 |
| | Cranes | 1 | 3.50 | 478 | 0.29 |
| | Excavators | 1 | 5.30 | 38 | 0.38 |
| | Forklifts | 3 | 6.40 | 110 | 0.20 |
| | Generator Sets | 4 | 4.30 | 22 | 0.74 |
| | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| | Tractors/Loaders/Backhoes | 1 | 8.80 | 111 | 0.37 |
| Materials Receiving (110 days) | Forklifts | 2 | 6.00 | 110 | 0.20 |
| General Conditions (370 days) | Dumpers/Tenders | 6 | 2.50 | 22 | 0.38 |

Source: SunPower, 2014a.

## Table 5: Construction Equipment Assumptions – Solar Facility Phase II

| Phase (working days) | Equipment | Number | Hours per day | Horse-power | Load Factor |
|---|---|---|---|---|---|
| Access Roads and Equipment Pads (9 days) | Graders | 1 | 7.00 | 209 | 0.41 |
| | Rollers | 1 | 7.00 | 124 | 0.38 |
| | Rubber Tired Loaders | 1 | 7.00 | 271 | 0.36 |
| | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| Erosion & Sediment Control (5 days) | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| Fencing (2 days) | Generator Sets | 4 | 7.00 | 22 | 0.74 |
| | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| Driven Piles (28 days) | Bore/Drill Rigs | 5 | 7.00 | 48 | 0.50 |
| | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| | Forklifts | 2 | 7.00 | 110 | 0.20 |
| Drive Motor Foundations (13 days) | Bore/Drill Rigs | 1 | 7.00 | 227 | 0.50 |
| | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| | Forklifts | 1 | 3.00 | 110 | 0.20 |
| | Welders | 1 | 2.77 | 23 | 0.45 |
| Metal Erection (12 days) | Air Compressors | 1 | 6.00 | 13 | 0.48 |
| | Dumpers/Tenders | 1 | 5.00 | 22 | 0.38 |
| | Forklifts | 1 | 7.00 | 110 | 0.20 |
| Cable Tray (20 days) | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| | Forklifts | 1 | 2.50 | 110 | 0.20 |
| AC Station Foundation (5 days) | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| | Skid Steer Loaders | 1 | 3.00 | 79 | 0.38 |
| | Tractors/Loaders/Backhoes | 1 | 7.00 | 111 | 0.37 |
| PV Installation (22 days) | Air Compressors | 2 | 6.00 | 13 | 0.48 |
| | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| | Forklifts | 1 | 7.00 | 110 | 0.20 |
| MV & Fiber Underground (13 days) | Forklifts | 1 | 7.00 | 110 | 0.20 |
| | Tractors/Loaders/Backhoes | 2 | 7.00 | 111 | 0.37 |

## Table 5 (cont.): Construction Equipment Assumptions – Solar Facility Phase II

| Phase (working days) | Equipment | Number | Hours per day | Horse-power | Load Factor |
|---|---|---|---|---|---|
| DC & Drive Motor Underground (22 days) | Forklifts | 1 | 7.00 | 110 | 0.20 |
| | Tractors/Loaders/Backhoes | 2 | 7.00 | 111 | 0.37 |
| String Wire Connections & Combiner (18 days) | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| | Forklifts | 1 | 3.00 | 110 | 0.20 |
| AC Stations (10 days) | Cranes | 1 | 7.00 | 478 | 0.29 |
| | Tractors/Loaders/Backhoes | 1 | 7.00 | 111 | 0.37 |
| Materials Receiving (15 days) | Forklifts | 1 | 6.00 | 110 | 0.20 |
| General Conditions (50 days) | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| Source: SunPower, 2014b. | | | | | |

## Table 6: Construction Equipment Assumptions – PG&E Leprino Switching Station

| Phase (working days) | Equipment | Number | Hours per day | Horse-power | Load Factor |
|---|---|---|---|---|---|
| Grading[1] (60 days) | Excavators | 1 | 12.00 | 162 | 0.38 |
| | Graders | 1 | 12.00 | 174 | 0.41 |
| | Rollers | 1 | 12.00 | 80 | 0.38 |
| | Rubber Tired Dozers | 1 | 12.00 | 255 | 0.40 |
| | Rubber Tired Loaders | 1 | 12.00 | 199 | 0.36 |
| | Tractors/Loaders/Backhoes | 1 | 12.00 | 97 | 0.37 |
| Fencing (5 days) | Generator Sets | 1 | 7.00 | 22 | 0.74 |
| | Skid Steer Loaders | 1 | 4.00 | 79 | 0.37 |
| Material Receiving (20 days) | Forklifts | 2 | 6.00 | 110 | 0.20 |

**Table 6 (cont.): Construction Equipment Assumptions – PG&E Leprino Switching Station**

| Phase (working days) | Equipment | Number | Hours per day | Horse-power | Load Factor |
|---|---|---|---|---|---|
| Transmission Poles[1] (30 days) | Bore/Drill Rigs | 1 | 12.00 | 205 | 0.50 |
| | Cranes | 1 | 12.00 | 226 | 0.29 |
| | Forklifts | 1 | 12.00 | 89 | 0.20 |
| | Rubber Tired Loaders | 1 | 12.00 | 199 | 0.36 |
| | Tractors/Loaders/Backhoes | 1 | 12.00 | 97 | 0.37 |
| Switching Station (20 days) | Aerial Lifts | 2 | 7.00 | 29 | 0.31 |
| | Air Compressors | 2 | 4.80 | 13 | 0.48 |
| | Cranes | 1 | 7.00 | 31 | 0.29 |
| | Cranes | 1 | 3.50 | 478 | 0.29 |
| | Excavators | 1 | 5.30 | 38 | 0.38 |
| | Forklifts | 3 | 6.40 | 110 | 0.20 |
| | Generator Sets | 4 | 4.30 | 22 | 0.74 |
| | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| | Tractors/Loaders/Backhoes | 1 | 8.80 | 111 | 0.37 |

Notes:
1. Assumptions based on the Vega Solar PG&E Switching Yard, which is of similar size to the PG&E Leprino Switching Station. Assumptions are appropriately conservative.

Source for Grading and Transmission Pole Phases: Merced County, 2014.
Source for Fencing, Materials Receiving, and Switching Station Phases: SunPower, 2014b.

## Equipment Tiers and Emission Factors

Equipment tiers refer to a generation of emission standards established by the US EPA and ARB that apply to diesel engines in off-road equipment. The "tier" of an engine depends on the model year and horsepower rating; generally, the newer a piece of equipment is, the greater the tier it is likely to have. Excluding engines greater than 750 horsepower, Tier 1 engines were manufactured generally between 1996 and 2003. Tier 2 engines were manufactured between 2001 and 2007. Tier 3 engines were manufactured between 2006 and 2011. Tier 4 engines are the newest and some incorporate hybrid electric technology; they were manufactured after 2007 (SCAQMD 2011b).

On July 26, 2007, the ARB adopted a regulation to reduce diesel PM and $NO_X$ emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. The regulation imposes limits on idling, requires vehicles to be reported to ARB and labeled, and restricts adding of older vehicles into fleets starting January 1, 2014. In addition, the regulation requires fleet operators to reduce their emissions by retiring, replacing, repowering older engines, or installing verified diesel emission control strategies. Implementation of this regulation effectively reduces the use of older (Tier 0, Tier 1, and even Tier 2) engines while encouraging increased fleet turnover to Tier 3 and Tier 4 engines.

CalEEMod contains an inventory of construction equipment that incorporates estimates of the number of equipment, their age, their horsepower, and equipment tier from which rates of emissions are developed. The default tier mix does not incorporate all of ARB's In-Use Offroad regulation requirement and, therefore, is conservative in comparison to actual fleets available in the San Joaquin Valley. The CalEEMod default tier mix was used in the analysis for the estimation of emissions from onsite construction equipment for PG&E Leprino Switching Station construction.

The default tier mix was modified for the Solar Facility Phase I and Solar Facility Phase II emissions. Specifically, the mix of equipment used in the analysis incorporates assumptions based on implementation of MM AQ-1. The text of MM AQ-1 is below. Implementation of ARB's In-Use Offroad regulation, discussed above, effectively negates the need to apply Tier 2 equipment to the emissions modeling. Therefore, Tier 3 engines were applied to equipment of 100 horsepower or more.

**MM AIR-1:** During construction, all off-road diesel powered construction equipment between 50 and 100 horsepower shall meet or exceed Tier 2 off-road emission standards and offroad diesel powered construction equipment between 100 and 750 horsepower shall meet or exceed Tier 3 off-road emissions standards. The well drill rig and pump may be excluded from this requirement.

## Grading

During grading activities, fugitive dust can be generated from the movement of dirt on the Project site. CalEEMod estimates dust from dozers moving dirt around, dust from graders or scrapers leveling the land, and loading or unloading dirt into haul trucks. Each of those activities is calculated differently in CalEEMod based on the number of acres traversed by the grading equipment.

Only some pieces of equipment generate fugitive dust in CalEEMod. The CalEEMod manual identifies various equipment and the acreage disturbed in an 8-hour day:

- Crawler tractors, graders, and rubber tired dozers: 0.5 acres per 8-hour day
- Scrapers: 1 acre per 8-hour day

Grading assumptions for construction of the Solar Facility Phase I included increasing the acres disturbed from the model default to 116 acres during access road and equipment pad construction. This adjustment reflects approximately 22 acres of roads, and 4 passes of the equipment per road, plus acreage for equipment pads. Default acres of disturbance assumptions were utilized for all other phases.

Grading assumptions for construction of the Solar Facility Phase II included increasing the acres disturbed from the model default to 12 acres during access road and equipment pad construction. Default acres of disturbance assumptions were utilized for all other phases.

Default grading assumptions for acreage of disturbance were used for the construction of the PG&E Leprino Switching Station. In addition, analysis assumed approximately 12,000 cubic yards of soils would be imported or exported during grading.

SJVAPCD Regulation VIII requires fugitive dust generating activities follow best available control measures to reduce emissions of fugitive dust. These measures are accounted for in CalEEMod as "mitigation" because the model categorizes the measures as "mitigation," even though they are technically not mitigation under CEQA. Dust control measures incorporated into the analysis of the Project included watering exposed areas 3 times per day, reduce vehicle speed on unpaved areas to 15 miles per hour or less, and watering areas unpaved roads to 12 percent moisture content.

## Water Truck Emissions

The water truck activity for the solar facilities utilized an assumed quantity of water to be used, distance from the water source and the Project site, and an assumed application rate in order to determine the total miles traveled by water trucks over the duration of construction. The total miles traveled was input into CalEEMod to estimate air and greenhouse gas emissions from water truck activity.

The analysis conservatively assumed that up to 125 acre-feet of water would be used during construction at a capacity of 4,000 gallons per truck. Water would be obtained from a location 2 miles from the Project site. In addition, water would be applied at a rate of 900 gallons per minute with a vehicle speed of 5 miles per hour. These assumptions result in the following vehicle miles traveled for water trucks: 40,731 vehicle miles traveled offsite, 3,771 vehicle miles traveled onsite.

## Construction Offsite Trips

Detailed materials delivery trips and employee trips were provided by the Applicant. The CalEEMod inputs were adjusted to ensure the total vehicle miles traveled for each vehicle type (such as light-duty auto or heavy-duty truck) accurately reflected trip and activity data provided by the Applicant. This analysis utilized the SJVAPCD's approved methodology for solar facilities.

### *Solar Facility Trips*

In addition to the vehicle emissions, Solar Facility Phase I construction and Solar Facility Phase II construction emissions analysis included dust generation from onsite activity for employee, delivery truck, gator, and other truck use. Emissions were estimated using detailed activity provided by the Applicant and EPA AP-42 emission factors. Detailed assumptions and calculations are provided in Appendix A and Appendix B for the Solar Facility Phase I construction and Solar Facility Phase II construction, respectively.

### *PG&E Leprino Switching Station Trips*

Construction assumptions for the PG&E Leprino Switching Station included movement of 12,000 cubic yards of soil and other materials (e.g., road base, yard rock and asphalt). CalEEMod default assumptions for haul truck capacity and haul trip length were used to estimate emissions from soils hauling. CalEEMod default assumptions resulted in estimation of emissions from 1,500 total haul trips.

In addition to soils hauling, the emissions analysis assumed an average of 2 vendor trips per day over the course of grading, for a total of 120 vendor trips. This is equal to 60 truck deliveries (round-trip).

# SECTION 3: REFERENCES

The following references were used in the preparation of this analysis and are referenced in the text and/or were used to provide the author with background information necessary for the preparation of thresholds and content.

Merced County. 2014. Vega Solar Air Quality and Greenhouse Gas Analysis Report. April 9.

San Joaquin Valley Air Pollution Control District. 2012. Draft Guide for Assessing and Mitigating Air Quality Impacts - 2012. May.

San Joaquin Valley Air Pollution Control District. 2002. Guide for Assessing and Mitigating Air Quality Impacts. January.

SunPower. 2014a. Personal Communications, e-mails from Mr. James Diven, June 19, 2014.

SunPower. 2014b. Personal Communications, e-mails from Mr. James Diven, August 28, 2014.

# Appendix A:
# Solar Facility Phase I Construction CalEEMod Output

# HENRIETTA SOLAR FACILITY PHASE I CONSTRUCTION SUPPORTING MATERIAL

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# Section 1:
# HENRIETTA SOLAR FACILITY PHASE I CONSTRUCTION EMISSIONS SUMMARIES

**Total Construction Emissions**
**OffRoad Construction Equipment**
**Truck Activity**

# Emissions Summary, Total Construction Emissions
## *Total and Annual Tons*

VERA Analysis

## Total Solar Facility Phase I Construction Emissions

| | Emissions (Tons) | | | | | Distribution | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Emissions Source** | **ROG** | **NOX** | **PM10** | | | **Year** | | | |
| **ONSITE** | **Exhaust** | **Exhaust** | **Dust** | **Exhaust** | **Total** | **2015** | **2016** | **Total** | |
| Onsite Construction Equipment | 0.24 | 3.94 | 0.06 | 0.33 | 0.39 | See Const. Equip Tab | | | |
| Onsite Truck | 0.04 | 0.43 | 0.03 | 0.01 | 0.03 | See Onsite Truck Tab | | | |
| Onsite Delivery Trips | 0.01 | 0.04 | | 0.00 | 0.00 | 54% | 47% | 100% | Note 1 |
| Onsite Employee Trips | 0.11 | 0.03 | | 0.00 | 0.00 | 54% | 47% | 100% | Note 1 |
| ***Unpaved Road Dust*** | | | | | | | | | |
| Unpaved Road Dust - Employees | | | 0.52 | | 0.52 | 54% | 47% | 100% | Note 1 |
| Unpaved Road Dust - Delivery | | | 0.49 | | 0.49 | 85% | 15% | 100% | Note 2 |
| Unpaved Road Dust - Gators | | | 4.91 | | 4.91 | 54% | 47% | 100% | Note 1 |
| Unpaved Road Dust - Onsite Truck | | | 5.00 | | 5.00 | 54% | 47% | 100% | Note 1 |
| **OFFSITE** | | | | | | | | | |
| Offsite Employees | 0.35 | 0.86 | 1.07 | 0.01 | 1.08 | 54% | 47% | 100% | Note 1 |
| Offsite Delivery Trips | 0.0896 | 1.81 | 0.19 | 0.03 | 0.22 | 85% | 15% | 100% | Note 2 |
| **COMBINED ONSITE and OFFSITE** | | | | | | | | | |
| Water Truck | 0.1353 | 0.56 | 0.03 | 0.01 | 0.04 | 54% | 47% | 100% | Note 1 |
| **TOTAL** | 0.98 | 7.67 | | | 12.68 | | | | |
| CEQA Threshold | 10 | 10.00 | | | 15.00 | | | | |
| Exceed Threshold? | No | No | | | No | | | | |

***Note 1:*** *Based on "General Conditions" Distribution*

***Note 2:*** *Based on "PV Install" Distribution*

| Distributed Emissions | | | | | |
|---|---|---|---|---|---|
| **Solar Facility Phase I Construction 2015 Emissions (Tons)** | | | | | |
| | **Emissions (Tons)** | | | | |
| **Emissions Source** | **ROG** | **NOX** | **PM10** | | |
| **ONSITE** | **Exhaust** | **Exhaust** | **Dust** | **Exhaust** | **Total** |
| Onsite Construction Equipment | 0.19 | 3.50 | 0.06 | 0.31 | 0.36 |
| Onsite Truck | 0.03 | 0.39 | 0.02 | 0.01 | 0.03 |
| Onsite Delivery Trips | 0.01 | 0.02 | | 0.00 | 0.00 |
| Onsite Employee Trips | 0.06 | 0.02 | | 0.00 | 0.00 |
| ***Unpaved Road Dust*** | | | | | |
| Unpaved Road Dust - Employees | | | 0.28 | | 0.28 |
| Unpaved Road Dust - Delivery | | | 0.42 | | 0.42 |
| Unpaved Road Dust - Gators | | | 2.63 | | 2.63 |
| Unpaved Road Dust - Onsite Truck | | | 2.67 | | 2.67 |
| **OFFSITE** | | | | | |
| Offsite Employees | 0.19 | 0.46 | 0.57 | 0.00 | 0.58 |
| Offsite Delivery Trips | 0.08 | 1.55 | 0.16 | 0.03 | 0.19 |
| **COMBINED ONSITE and OFFSITE** | | | | | |
| Water Truck | 0.07 | 0.30 | 0.02 | 0.00 | 0.02 |
| **TOTAL** | 0.63 | 6.24 | 6.84 | 0.35 | 7.18 |
| CEQA Threshold | 10 | 10.00 | | | 15.00 |
| Exceed Threshold? | No | No | | | No |

## Solar Facility Phase I Construction 2016 Emissions (Tons)

| | Emissions (Tons) | | | | |
|---|---|---|---|---|---|
| **Emissions Source** | **ROG** | **NOX** | **PM10** | | |
| **ONSITE** | **Exhaust** | **Exhaust** | **Dust** | **Exhaust** | **Total** |
| Onsite Construction Equipment | 0.05 | 0.44 | - | 0.03 | 0.03 |
| Onsite Truck | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 |
| Onsite Delivery Trips | 0.01 | 0.02 | | 0.00 | 0.00 |
| Onsite Employee Trips | 0.05 | 0.01 | | 0.00 | 0.00 |
| ***Unpaved Road Dust*** | | | | | |
| Unpaved Road Dust - Employees | | | 0.24 | | 0.24 |
| Unpaved Road Dust - Delivery | | | 0.07 | | 0.07 |
| Unpaved Road Dust - Gators | | | 2.29 | | 2.29 |
| Unpaved Road Dust - Onsite Truck | | | 2.33 | | 2.33 |
| **OFFSITE** | | | | | |
| Offsite Employees | 0.16 | 0.40 | 0.50 | 0.00 | 0.50 |
| Offsite Delivery Trips | 0.01 | 0.27 | 0.03 | 0.00 | 0.03 |
| **COMBINED ONSITE and OFFSITE** | | | | | |
| Water Truck | 0.06 | 0.26 | 0.02 | 0.00 | 0.02 |
| **TOTAL** | 0.35 | 1.44 | 5.49 | 0.04 | 5.52 |
| CEQA Threshold | 10 | 10.00 | | | 15.00 |
| Exceed Threshold? | No | No | | | No |

## Emissions Summary, OffRoad Construction Equipment
### *Total and Annual Tons*

**CalEEMod Output - Solar Facility Phase I Construction Onsite Construction Equipment**

| Construction Phase | ROG | NOX | PM10 | | | Start Date | End Date | Year | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Dust | Exhaust | Total | | | 2015 | 2016 | Total |
| Earthwork (Clear & Grub) | 0.00870 | 0.15960 | 0.03350 | 0.00740 | 0.04090 | 6-Apr-15 | 16-May-15 | 100.0% | | 100.0% |
| Access Roads & Equipment Pads | 0.01840 | 0.32900 | 0.02410 | 0.01430 | 0.03840 | 20-Apr-15 | 17-Jul-15 | 100.0% | | 100.0% |
| Erosion & Sediment Control | 0.00199 | 0.02580 | 0 | 0.00149 | 0.00149 | 13-Apr-15 | 23-May-15 | 100.0% | | 100.0% |
| Site Demolition | 0.00389 | 0.06950 | 0 | 0.00354 | 0.00354 | 6-Apr-15 | 3-May-15 | 100.0% | | 100.0% |
| Landscaping & Irrigation | 0.00159 | 0.01410 | 0 | 0.00091 | 0.00091 | 7-Mar-16 | 20-Mar-16 | | 100.0% | 100.0% |
| Surveying | | | | | 0.00000 | 30-Mar-15 | 11-May-15 | 100.0% | | 100.0% |
| Fencing | 0.00655 | 0.04420 | 0 | 0.00236 | 0.00236 | 29-Sep-15 | 19-Dec-15 | 100.0% | | 100.0% |
| Driven Piles | 0.00547 | 0.89360 | 0 | 0.05520 | 0.05520 | 4-May-15 | 19-Dec-15 | 100.0% | | 100.0% |
| Drive Motor Foundations | 0.01690 | 0.26990 | 0 | 0.01190 | 0.01190 | 18-May-15 | 1-Oct-15 | 100.0% | | 100.0% |
| Metal Erection | 0.02770 | 0.28060 | 0 | 0.01720 | 0.01720 | 1-Jun-15 | 3-Jan-16 | 98.7% | 1.3% | 100.0% |
| Cable Tray | 0.00347 | 0.03990 | 0 | 0.00238 | 0.00238 | 15-Jun-15 | 4-Jan-16 | 98.4% | 1.6% | 100.0% |
| AC Station Foundation | 0.00313 | 0.05090 | 0 | 0.00328 | 0.00328 | 13-Jul-15 | 2-Sep-15 | 100.0% | | 100.0% |
| PV Install | 0.02800 | 0.22790 | 0 | 0.01410 | 0.01410 | 29-Jun-15 | 2-Feb-16 | 0.0% | 100.0% | 100.0% |
| MV & Fiber Underground | 0.00964 | 0.22020 | 0 | 0.01540 | 0.01540 | 4-May-15 | 1-Oct-15 | 100.0% | | 100.0% |
| DC & Drive Motor Underground | 0.01550 | 0.35450 | 0 | 0.02480 | 0.02480 | 20-Jul-15 | 24-Feb-16 | 75.7% | 24.8% | 100.5% |
| String Wire Conenctions & Combiner Terminations | 0.00332 | 0.04030 | 0 | 0.00245 | 0.00245 | 6-Jul-15 | 4-Jan-16 | 98.4% | 2.0% | 100.4% |
| Overhead Electric | 0.00174 | 0.03210 | 0 | 0.00173 | 0.00173 | 18-May-15 | 14-Jun-15 | 100.0% | | 100.0% |
| Drive Motor Terminations | | | | | | 1-Jun-15 | 1-Jun-15 | 100.0% | | 100.0% |
| AC Stations (Ground Ring, Rough-in, Set Skid, Final Connections) | 0.01280 | 0.25790 | 0 | 0.11900 | 0.11900 | 27-Jul-15 | 9-Nov-15 | 100.0% | | 100.0% |
| Electrical Construction Testing | | | | | | | | 100.0% | | 100.0% |
| Panel Washing | | | | | | 18-Nov-15 | 7-Feb-16 | 100.0% | | 100.0% |
| O&M Building | 0.01970 | 0.16350 | 0 | 0.00922 | 0.00922 | 4-May-15 | 14-Aug-15 | 100.0% | | 100.0% |
| Substation | 0.01320 | 0.15200 | 0 | 0.00864 | 0.00864 | 4-May-15 | 11-Sep-15 | 100.0% | | 100.0% |
| General Conditions | 0.03550 | 0.22480 | 0 | 0.00937 | 0.00937 | 6-Apr-15 | 22-Aug-16 | 53.5% | 46.7% | 100.2% |
| Dust Control | | | | | | 6-Apr-15 | 22-Aug-16 | 53.5% | 46.7% | 100.2% |
| Material Receiving | 0.00384 | 0.08770 | 0 | 0.00615 | 0.00615 | 30-Mar-15 | 27-Aug-15 | 100.0% | | 100.0% |
| Total | **0.24103** | **3.93800** | **0.05760** | **0.33082** | **0.38842** | | | | | |

= No IC Offroad Equipment

| Solar Facility Phase I Construction 2015 Emissions (Tons) | | | | | |
|---|---|---|---|---|---|
| **Construction Phase** | | | **PM10** | | |
| | **ROG** | **NOX** | **Dust** | **Exhaust** | **Total** |
| Earthwork (Clear & Grub) | 0.0087 | 0.1596 | 0.0335 | 0.0074 | 0.0409 |
| Access Roads & Equipment Pads | 0.0184 | 0.3290 | 0.0241 | 0.0143 | 0.0384 |
| Erosion & Sediment Control | 0.0020 | 0.0258 | 0 | 0.0015 | 0.0015 |
| Site Demolition | 0.0039 | 0.0695 | 0 | 0.0035 | 0.0035 |
| Landscaping & Irrigation | 0 | 0 | 0 | 0 | 0 |
| Surveying | 0 | 0 | 0 | 0 | 0 |
| Fencing | 0.0066 | 0.0442 | 0 | 0.0024 | 0.0024 |
| Driven Piles | 0.0055 | 0.8936 | 0 | 0.0552 | 0.0552 |
| Drive Motor Foundations | 0.0169 | 0.2699 | 0 | 0.0119 | 0.0119 |
| Metal Erection | 0.0273 | 0.2770 | 0 | 0.0170 | 0.0170 |
| Cable Tray | 0.0034 | 0.0393 | 0 | 0.0023 | 0.0023 |
| AC Station Foundation | 0.0031 | 0.0509 | 0 | 0.0033 | 0.0033 |
| PV Install | 0.0000 | 0.0000 | 0 | 0.0000 | 0.0000 |
| MV & Fiber Underground | 0.0096 | 0.2202 | 0 | 0.0154 | 0.0154 |
| DC & Drive Motor Underground | 0.0117 | 0.2682 | 0 | 0.0188 | 0.0188 |
| String Wire Conenctions & Combiner Terminations | 0.0033 | 0.0396 | 0 | 0.0024 | 0.0024 |
| Overhead Electric | 0.0017 | 0.0321 | 0 | 0.0017 | 0.0017 |
| Drive Motor Terminations | | | | | |
| AC Stations (Ground Ring, Rough-in, Set Skid, Final Connections) | 0.0128 | 0.2579 | 0 | 0.1190 | 0.1190 |
| Electrical Construction Testing | | | | | |
| Panel Washing | | | | | |
| O&M Building | 0.0197 | 0.1635 | 0 | 0.0092 | 0.0092 |
| Substation | 0.0132 | 0.1520 | 0 | 0.0086 | 0.0086 |
| General Conditions | 0.0190 | 0.1203 | 0 | 0.0050 | 0.0050 |
| Dust Control | | | | | |
| Material Receiving | 0.0038 | 0.0877 | 0 | 0.0062 | 0.0062 |
| Total | **0.19070** | **3.50026** | **0.05760** | **0.30512** | **0.36272** |

| Solar Facility Phase I Construction 2016 Emissions (Tons) | | | | | |
|---|---|---|---|---|---|
| **Construction Phase** | | | **PM10** | | |
| | **ROG** | **NOX** | **Dust** | **Exhaust** | **Total** |
| Earthwork (Clear & Grub) | 0 | 0 | 0 | 0 | 0 |
| Access Roads & Equipment Pads | 0 | 0 | 0 | 0 | 0 |
| Erosion & Sediment Control | 0 | 0 | 0 | 0 | 0 |
| Site Demolition | 0 | 0 | 0 | 0 | 0 |
| Landscaping & Irrigation | 0.00159 | 0.01410 | 0.00000 | 0.00091 | 0.00091 |
| Surveying | 0 | 0 | 0 | 0 | 0 |
| Fencing | 0 | 0 | 0 | 0 | 0 |
| Driven Piles | 0 | 0 | 0 | 0 | 0 |
| Drive Motor Foundations | | | | | |
| Metal Erection | 0.00036 | 0.00365 | 0 | 0.00022 | 0.00022 |
| Cable Tray | 0.00005 | 0.00062 | 0 | 0.00004 | 0.00004 |
| AC Station Foundation | 0 | 0 | 0 | 0 | 0 |
| PV Install | 0.02800 | 0.22790 | 0 | 0.01410 | 0.01410 |
| MV & Fiber Underground | 0 | 0 | 0 | 0 | 0 |
| DC & Drive Motor Underground | 0.00385 | 0.08807 | 0 | 0.00616 | 0.00616 |
| String Wire Conenctions & Combiner Terminations | 0.00007 | 0.00082 | 0 | 0.00005 | 0.00005 |
| Overhead Electric | 0 | 0 | 0 | 0 | 0 |
| Drive Motor Terminations | 0 | 0 | 0 | 0 | 0 |
| AC Stations (Ground Ring, Rough-in, Set Skid, Final Connections) | 0 | 0 | 0 | 0 | 0 |
| Electrical Construction Testing | | | | | |
| Panel Washing | | | | | |
| O&M Building | 0 | 0 | 0 | 0 | 0 |
| Substation | 0 | 0 | 0 | 0 | 0 |
| General Conditions | 0.01657 | 0.10495 | 0 | 0.00437 | 0.00437 |
| Dust Control | | | | | |
| Material Receiving | 0 | 0 | 0 | 0 | 0 |
| Total | **0.05050** | **0.44012** | **-** | **0.02586** | **0.02586** |

# Emissions Summary, Truck Activity
## *Total and Annual*

**Solar Facility Phase I Construction CalEEMod Output Onsite Truck Use**

| Construction Phase | ROG | NOX | PM10 | | | Start Date | End Date | Year | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Dust | Exhaust | Total | | | 2015 | 2016 | Total |
| Earthwork (Clear & Grub) | 0.00098 | 0.01430 | 0.00087 | 0.00026 | 0.00113 | 6-Apr-15 | 16-May-15 | 100.0% | | 100.0% |
| Access Roads & Equipment Pads | 0.00152 | 0.01860 | 0.00112 | 0.00035 | 0.00147 | 20-Apr-15 | 17-Jul-15 | 100.0% | | 100.0% |
| Erosion & Sediment Control | 0.00058 | 0.00636 | 0.00039 | 0.00012 | 0.00051 | 13-Apr-15 | 23-May-15 | 100.0% | | 100.0% |
| Site Demolition | | | | | - | 6-Apr-15 | 3-May-15 | 100.0% | | 100.0% |
| Landscaping & Irrigation | 0.00083 | 0.01660 | 0.00098 | 0.00029 | 0.00127 | 7-Mar-16 | 20-Mar-16 | | 100.0% | 100.0% |
| Surveying | 0.00056 | 0.00575 | 0.00035 | 0.00011 | 0.00046 | 30-Mar-15 | 11-May-15 | 100.0% | | 100.0% |
| Fencing | 0.00234 | 0.02540 | 0.00156 | 0.00049 | 0.00205 | 29-Sep-15 | 19-Dec-15 | 100.0% | | 100.0% |
| Driven Piles | 0.00327 | 0.03560 | 0.00219 | 0.00069 | 0.00288 | 4-May-15 | 19-Dec-15 | 100.0% | | 100.0% |
| Drive Motor Foundations | 0.00007 | 0.00107 | 0.00006 | 0.00002 | 0.00008 | 18-May-15 | 1-Oct-15 | 100.0% | | 100.0% |
| Metal Erection | 0.00310 | 0.03370 | 0.00207 | 0.00065 | 0.00272 | 1-Jun-15 | 3-Jan-16 | 98.7% | 1.3% | 100.0% |
| Cable Tray | | | | | | 15-Jun-15 | 4-Jan-16 | 98.4% | 1.6% | 100.0% |
| AC Station Foundation | | | | | | 13-Jul-15 | 2-Sep-15 | 100.0% | | 100.0% |
| PV Install | | | | | | 29-Jun-15 | 2-Feb-16 | 85.3% | 14.7% | 100.0% |
| MV & Fiber Underground | 0.00429 | 0.04660 | 0.00287 | 0.00090 | 0.00377 | 4-May-15 | 1-Oct-15 | 100.0% | | 100.0% |
| DC & Drive Motor Underground | 0.00314 | 0.03410 | 0.00210 | 0.00066 | 0.00276 | 20-Jul-15 | 24-Feb-16 | 75.7% | 24.8% | 100.5% |
| String Wire Conenctions & Combiner Terminations | | | | | | 6-Jul-15 | 4-Jan-16 | 98.4% | 2.0% | 100.4% |
| Overhead Electric | 0.00075 | 0.00783 | 0.00048 | 0.00015 | 0.00063 | 18-May-15 | 14-Jun-15 | 100.0% | | 100.0% |
| Drive Motor Terminations | | | | | | 1-Jun-15 | 1-Jun-15 | 100.0% | | 100.0% |
| AC Stations (Ground Ring, Rough-in, Set Skid, Final Connections) | 0.0015 | 0.01630 | 0.00100 | 0.00031 | 0.00131 | 27-Jul-15 | 9-Nov-15 | 100.0% | | 100.0% |
| Electrical Construction Testing | 0.00567 | 0.05690 | 0.00342 | 0.00108 | 0.00450 | | | 100.0% | | 100.0% |
| Panel Washing | 0.00234 | 0.02540 | 0.00156 | 0.00049 | 0.00205 | 18-Nov-15 | 7-Feb-16 | 100.0% | | 100.0% |
| O&M Building | 0.00163 | 0.02940 | 0.00196 | 0.00060 | 0.00256 | 4-May-15 | 14-Aug-15 | 100.0% | | 100.0% |
| Substation | 0.00188 | 0.03640 | 0.00246 | 0.00075 | 0.00321 | 4-May-15 | 11-Sep-15 | 100.0% | | 100.0% |
| General Conditions | 0.00069 | 0.01520 | 0.00089 | 0.00026 | 0.00115 | 6-Apr-15 | 22-Aug-16 | 53.5% | 46.7% | 100.2% |
| Dust Control | | | | | | 6-Apr-15 | 22-Aug-16 | 53.5% | 46.7% | 100.2% |
| Material Receiving | | | | | | 30-Mar-15 | 27-Aug-15 | 100.0% | | 100.0% |
| Total | **0.03514** | **0.42551** | **0.02633** | **0.00818** | **0.03451** | | | | | |

= No Service Trucks

| Solar Facility Phase I Construction 2015 Emissions (Tons) | | | | | |
|---|---|---|---|---|---|
| **Construction Phase** | | | **PM10** | | |
| | **ROG** | **NOX** | **Dust** | **Exhaust** | **Total** |
| Earthwork (Clear & Grub) | 0.00098 | 0.01430 | 0.00087 | 0.00026 | 0.00113 |
| Access Roads & Equipment Pads | 0.00152 | 0.01860 | 0.00112 | 0.00035 | 0.00147 |
| Erosion & Sediment Control | 0.00058 | 0.00636 | 0.00039 | 0.00012 | 0.00051 |
| Site Demolition | | | | | |
| Landscaping & Irrigation | - | - | - | - | - |
| Surveying | 0.00056 | 0.00575 | 0.00035 | 0.00011 | 0.00046 |
| Fencing | 0.00234 | 0.02540 | 0.00156 | 0.00049 | 0.00205 |
| Driven Piles | 0.00327 | 0.03560 | 0.00219 | 0.00069 | 0.00288 |
| Drive Motor Foundations | 0.00007 | 0.00107 | 0.00006 | 0.00002 | 0.00008 |
| Metal Erection | 0.00306 | 0.03326 | 0.00204 | 0.00064 | 0.00268 |
| Cable Tray | | | | | |
| AC Station Foundation | | | | | |
| PV Install | | | | | |
| MV & Fiber Underground | 0.00429 | 0.04660 | 0.00287 | 0.00090 | 0.00377 |
| DC & Drive Motor Underground | 0.00238 | 0.02580 | 0.00159 | 0.00050 | 0.00209 |
| String Wire Conenctions & Combiner Terminations | | | | | |
| Overhead Electric | 0.00075 | 0.00783 | 0.00048 | 0.00015 | 0.00063 |
| Drive Motor Terminations | | | | | |
| AC Stations (Ground Ring, Rough-in, Set Skid, Final Connections) | 0.00150 | 0.01630 | 0.00100 | 0.00031 | 0.00131 |
| Electrical Construction Testing | 0.00567 | 0.05690 | 0.00342 | 0.00108 | 0.00450 |
| Panel Washing | 0.00234 | 0.02540 | 0.00156 | 0.00049 | 0.00205 |
| O&M Building | 0.00163 | 0.02940 | 0.00196 | 0.00060 | 0.00256 |
| Substation | 0.00188 | 0.03640 | 0.00246 | 0.00075 | 0.00321 |
| General Conditions | 0.00037 | 0.00813 | 0.00048 | 0.00014 | 0.00062 |
| Dust Control | | | | | |
| Material Receiving | | | | | |
| Total | **0.03318** | **0.39310** | **0.02440** | **0.00760** | **0.03200** |

| Solar Facility Phase I Construction 2016 Emissions (Tons) | | | | | |
|---|---|---|---|---|---|
| **Construction Phase** | | | **PM10** | | |
| | **ROG** | **NOX** | **Dust** | **Exhaust** | **Total** |
| Earthwork (Clear & Grub) | 0 | 0 | 0 | 0 | 0 |
| Access Roads & Equipment Pads | 0 | 0 | 0 | 0 | 0 |
| Erosion & Sediment Control | 0 | 0 | 0 | 0 | 0 |
| Site Demolition | | | | | |
| Landscaping & Irrigation | 0.00083 | 0.01660 | 0.00098 | 0.00029 | 0.00127 |
| Surveying | 0 | 0 | 0 | 0 | 0 |
| Fencing | 0 | 0 | 0 | 0 | 0 |
| Driven Piles | 0 | 0 | 0 | 0 | 0 |
| Drive Motor Foundations | 0 | 0 | 0 | 0 | 0 |
| Metal Erection | 0.00004 | 0.00044 | 0.00003 | 0.00001 | 0.00004 |
| Cable Tray | | | | | |
| AC Station Foundation | | | | | |
| PV Install | | | | | |
| MV & Fiber Underground | | | | | |
| DC & Drive Motor Underground | 0.00078 | 0.00847 | 0.00052 | 0.00016 | 0.00069 |
| String Wire Conenctions & Combiner Terminations | | | | | |
| Overhead Electric | 0 | 0 | 0 | 0 | 0 |
| Drive Motor Terminations | | | | | |
| AC Stations (Ground Ring, Rough-in, Set Skid, Final Connections) | 0 | 0 | 0 | 0 | 0 |
| Electrical Construction Testing | 0 | 0 | 0 | 0 | 0 |
| Panel Washing | 0 | 0 | 0 | 0 | 0 |
| O&M Building | 0 | 0 | 0 | 0 | 0 |
| Substation | 0 | 0 | 0 | 0 | 0 |
| General Conditions | 0.00032 | 0.00710 | 0.00042 | 0.00012 | 0.00054 |
| Dust Control | | | | | |
| Material Receiving | | | | | |
| Total | **0.00197** | **0.03261** | **0.00194** | **0.00058** | **0.00253** |

# Section 2:
# HENRIETTA SOLAR FACILITY PHASE I CONSTRUCTION ANALYSIS PARAMETERS

**Delivery Trips**
**Employee Trips**
**Water Truck**
**On-Site Travel Dust Generation**

# Analysis Parameters, Delivery Trips

Solar Facility Phase I size MW AC | 102 | <-enter value here

| Kit | description | Mw/ trailer | Truck Deliveries | Truck Trips (one-way) |
|---|---|---|---|---|
| | DC Feeder cable | | 72 | 144 |
| | | | | |
| | | | | |
| | | | | |
| | AC System- Inverter/Transformer/LV cab | 1.5 | 74 | 148 |
| | | | | |
| | Piles | 0.49 | 209 | 418 |
| | PV- | 0.17 | 550 | 1,100 |
| | DC Feeder cable | 1.5 | 68 | 136 |
| | **Total** | | **973** | **2,086** |

123 Distance (miles)

Distance From South Valley on I-5

From 20th Avenue, Lemoore Ca, 93245

To 133 Frazier Mountain Park Rd, Lebec, CA 93243

| | |
|---|---|
| Days | 370 |
| Trips/Day | 5.64 |
| Miles/Day | 693.45 |
| Total Miles | 256,578 |

# Analysis Parameters, Employee Trips

**Solar Facility Phase I Construction Light-Duty and Light Truck Activities - for CalEEMod Entry**

| Description | CalEEMod Phase | Qty of On Site Employees / Vehicles | Days On Site | (CalEEMod Days) | Hours On Paved Public Roads per Day | Total Hours on Paved Roads | Total Miles on Paved Roads | Miles on Paved Roads/Day | Employees/ Day | Worker Trips/Day | Trip length | Number of Employee Days |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SunPower Staff | General Conditions | 5 | 370 | 370 | 1.33 | 2,460.5 | 147,630 | | | | | 1,850 |
| SunPower Staff | General Conditions | 3 | 370 | 370 | 1.33 | 1,476.3 | 88,578 | | | | | 1,110 |
| (GC) Project Management | General Conditions | 3 | 370 | 370 | 1.33 | 1,476.3 | 88,578 | | | | | 1,110 |
| (GC) Project Management | General Conditions | 6 | 370 | 370 | 1.33 | 2,952.6 | 177,156 | | | | | 2,220 |
| Electrician | General Conditions | 6 | 370 | 370 | 1.33 | 2,952.6 | 177,156 | | | | | 2,220 |
| Electrician | General Conditions | 40 | 370 | 370 | 1.33 | 19,684.0 | 1,181,040 | | | | | 14,800 |
| Third Party Inspections | General Conditions | 4 | 370 | 370 | 1.33 | 1,968.4 | 118,104 | | | | | 1,480 |
| | | | | | | Subtotal | 1,978,242 | 5,346.6 | 67 | 134 | 39.9 | |
| Metal Erection | Metal Erection | 28 | 159 | 159 | 1.33 | 5,921.2 | 355,270 | 2,234.4 | 28 | 56 | 39.9 | 4,452 |
| PV Install | PV Installation | 16 | 160 | 160 | 1.33 | 3,404.8 | 204,288 | 1,276.8 | 16 | 32 | 39.9 | 2,560 |
| Drive Piles | Driven Piles | 18 | 168 | 168 | 1.33 | 4,021.9 | 241,315 | 1,436.4 | 18 | 36 | 39.9 | 3,024 |
| Substation | Substation | 2 | 96 | 96 | 1.33 | 255.4 | 15,322 | 159.6 | 2 | 4 | 39.9 | 192 |
| Civil | String Wire & Combiner | 2 | 136 | 136 | 1.33 | 361.8 | 21,706 | 159.6 | 2 | 4 | 39.9 | 272 |
| Landscaping | Landscaping | 1 | 10 | 10 | 1.33 | 13.3 | 798 | 79.8 | 1 | 2 | 39.9 | 10 |
| Fencing | Fencing | 8 | 60 | 60 | 1.33 | 638.4 | 38,304 | 638.4 | 8 | 16 | 39.9 | 480 |
| Survey | Surveying | 4 | 31 | 31 | 1.33 | 164.9 | 9,895 | 319.2 | 4 | 8 | 39.9 | 124 |
| O&M building | O&M building | 2 | 75 | 75 | 1.33 | 199.5 | 11,970 | 159.6 | 2 | 4 | 39.9 | 150 |
| **Totals** | | **148** | | | | **47,951.8** | **2,877,109** | | | | **Total** | 36,054 |

Average commute time provided by:
http://project.wnyc.org/commute-times-us/embed.html#5.00/42.000/-89.500

# Analysis Parameters, Water Truck

## Solar Facility Phase I and Phase II Construction Water Truck Emissions

| | | |
|---|---|---|
| Total Water Volume | 125 | Acre-Feet |
| | 40,731,429 | Gallon |

*Conversion*

| Acre-Foot | Gallon |
|---|---|
| 1 | 325,851 |

| Gallon | Lb |
|---|---|
| 1 | 8.34526411 |

| Water Truck Capacity | Gallon | Lbs ($H_20$) | Tons ($H_20$) |
|---|---|---|---|
| Full | 4,000.00 | 33,381.06 | 16.69 |

| Truck Trips | Round Trip | On-Way Trips | Trip Length With Onsite-travel |
|---|---|---|---|
| Full Capacity | 10,183 | 20,365.71 | 2.19 |

Trip Length

**Off-Site**

| | |
|---|---|
| 2 | Miles per trip |
| 40,731 | Total VMT (Full Capacity) |

**On-Site**

| | |
|---|---|
| 900 | gallons/minute distrubution |
| 45,257.14 | Total Minutes |
| 754.29 | Total Hours |
| 5 | Vehicle Speed (mph) |
| 3,771 | Total Onsite Miles |

# Analysis Parameters, On-Site Travel Dust Generation

**Solar Facility Phase I Construction Unpaved Road Dust**

**Unpaved Road Dust Emission Factor Equation**

For vehicles traveling on unpaved surfaces at industrial sites, emissions are estimated from the following equation
*Source: EPA AP-42. Section 13.2.2 Unpaved Roads*

$$E = k (s/12)^a (W/3)^b$$

E = Size-specific emission factor (lbs/VMT)
k = Constant for Industrial Road, PM10
s = surface material silt content (%)
a = Constant for Industrial Road, PM10
W = mean vehicle weight (tons)
b = constant for industrial Road, PM10

Regulation VIII Reduction 70%

*Source of S = CalEEMod Default, Statewide Average silt content*
*Source of Equation: EPA AP-42. Section 13.2.2 Unpaved Roads*

**Unpaved Road Dust Emission Factors**

K= 1.50
s = 4.30 (s/12)^a = 0.40
a = 0.90
b = 0.45

| *Vehicle Type* | Weight (Tons) | PM10 EF (lbs/VMT) | | VMT | PM 10 (tons) | |
|---|---|---|---|---|---|---|
| | | Without Reg 8 | With Reg 8 | | Lbs | Tons |
| Employees | 1.9 | 0.48 | 0.14 | 7,211 | 1,043 | 0.52 |
| Delivery Truck | 30.0 | 1.68 | 0.50 | 1,946 | 980 | 0.49 |
| Gator | 1.0 | 0.36 | 0.11 | 90,125 | 9,822 | 4.91 |
| Vendor | 10.0 | 1.02 | 0.31 | 23,674 | 7,272 | 3.64 |
| Worker | 2.9 | 0.58 | 0.18 | 15,528 | 2,722 | 1.36 |

**Travel and Vehicle Parameters**

Employee Onsite

| | |
|---|---|
| On-Site miles/employee/day | 0.2 |
| Number of Employee-Days | 36,054.00 |
| Miles Onsite | 7,210.80 |

Delivery Truck Onsite

| | |
|---|---|
| Onsite miles/truck | 2.0 |
| Number of Trucks | 973 |
| Miles Onsite | 1,946.00 |

Gator Onsite

| | |
|---|---|
| Gators | 14 |
| Total Hours Onsite | 9,013 |
| Miles Onsite Access Roads | 65,740 |
| Miles Onsite Off-Road | 24,385 |
| Total Miles Onsite | 90,125 |

Service, Dump, and other Truck Onsite

| | |
|---|---|
| "Vendor" Miles Onsite | 32,902.0 |
| "Worker" Miles Onsite | 22,252.1 |

# Section 3:
# HENRIETTA SOLAR FACILITY PHASE I CONSTRUCTION CALEEMOD OUTPUT

**OffRoad Construction Equipment**
**Truck Activity**
**Delivery Trips Onsite Travel**
**Delivery Trips Offsite Travel**
**Employee Trips Onsite Travel**
**Employee Trips Offsite Travel**
**Water Truck Activity (On and Offsite Travel)**

# CalEEMod Output, Offroad Construction Equipment

# Solar Facility Phase I Construction: Offroad Equipment (Exhaust and Fugitive Dust)

**Kings County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 37 |
| **Climate Zone** | 3 | | | **Operational Year** | 2015 |
| **Utility Company** | | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0 | **N2O Intensity (lb/MWhr)** | 0 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Construction Phase - CalEEMod Adjusted from Sunpower Input

Off-road Equipment - Per Sunpower

Trips and VMT - Employee, Vendor and Hauling Trips Assessed Seperately.

Grading - Approx 22 acres of roads, 4-passes per road, plus Equipment Pads.

Construction Off-road Equipment Mitigation - IS/MND Mitigation AQ-1. Equipment over 100hp meet or exceed Tier 3 standards

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblGrading | AcresOfGrading | 28.50 | 116.74 |
| tblProjectCharacteristics | OperationalYear | 2014 | 2015 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |

# 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 | | | | | |
| 2015 | 0.7473 | 6.6571 | 4.2644 | 6.4500e-003 | 0.1844 | 0.4278 | 0.6122 | 0.0599 | 0.3963 | 0.4562 | 0.0000 | 587.8458 | 587.8458 | 0.1623 | 0.0000 | 591.2531 |
| 2016 | 0.0110 | 0.0696 | 0.0372 | 1.1000e-004 | 0.0000 | 2.7800e-003 | 2.7800e-003 | 0.0000 | 2.7800e-003 | 2.7800e-003 | 0.0000 | 8.1954 | 8.1954 | 8.9000e-004 | 0.0000 | 8.2142 |
| **Total** | **0.7583** | **6.7267** | **4.3017** | **6.5600e-003** | **0.1844** | **0.4305** | **0.6150** | **0.0599** | **0.3991** | **0.4590** | **0.0000** | **596.0412** | **596.0412** | **0.1631** | **0.0000** | **599.4673** |

### 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 | | | | | |
| 2015 | 0.2793 | 3.8682 | 4.0823 | 6.4500e-003 | 0.0942 | 0.2210 | 0.3152 | 0.0288 | 0.2200 | 0.2488 | 0.0000 | 587.8451 | 587.8451 | 0.1623 | 0.0000 | 591.2524 |
| 2016 | 0.0110 | 0.0696 | 0.0372 | 1.1000e-004 | 0.0000 | 2.7800e-003 | 2.7800e-003 | 0.0000 | 2.7800e-003 | 2.7800e-003 | 0.0000 | 8.1954 | 8.1954 | 8.9000e-004 | 0.0000 | 8.2142 |
| **Total** | **0.2902** | **3.9378** | **4.1195** | **6.5600e-003** | **0.0942** | **0.2238** | **0.3180** | **0.0288** | **0.2228** | **0.2516** | **0.0000** | **596.0405** | **596.0405** | **0.1631** | **0.0000** | **599.4666** |

| | 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** | **61.73** | **41.46** | **4.23** | **0.00** | **48.92** | **48.01** | **48.29** | **51.86** | **44.19** | **45.19** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 2.2 Overall Operational

**Not Applicable**

# 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Earthwork (Clear & Grub) | Site Preparation | 1/1/2015 | 2/11/2015 | 5 | 30 | Earthwork (Clear & Grub) |
| 2 | Access Roads & Equipment Pads | Grading | 1/3/2015 | 1/30/2015 | 5 | 20 | Access Roads & Equipment Pads |
| 3 | Erosion & Sediment Control | Grading | 1/5/2015 | 2/13/2015 | 5 | 30 | Erosion & Sediment Control |
| 4 | Site Demolition | Demolition | 1/7/2015 | 2/3/2015 | 5 | 20 | Site Demolition |
| 5 | General Conditions | Building Construction | 1/9/2015 | 6/9/2016 | 5 | 370 | General Conditions |
| 6 | Landscaping & Irrigation | Site Preparation | 1/11/2015 | 1/23/2015 | 5 | 10 | Landscaping & Irrigation |
| 7 | Fencing | Building Construction | 1/13/2015 | 2/2/2015 | 5 | 15 | Fencing |
| 8 | Driven Piles | Trenching | 1/15/2015 | 9/7/2015 | 5 | 168 | Driven Piles |
| 9 | Drive Motor Foundations | Building Construction | 1/17/2015 | 6/5/2015 | 5 | 100 | Drive Motor Foundations |
| 10 | Material Recieving | Building Construction | 1/19/2015 | 6/19/2015 | 5 | 110 | Material Recieving |
| 11 | Metal Erection | Building Construction | 1/21/2015 | 8/31/2015 | 5 | 159 | Metal Erection |
| 12 | Cable Tray | Building Construction | 1/23/2015 | 8/19/2015 | 5 | 149 | Cable Tray |
| 13 | AC Station Foundation | Building Construction | 1/23/2015 | 3/17/2015 | 5 | 38 | AC Station Foundations |
| 14 | PV Install | Building Construction | 1/25/2015 | 9/4/2015 | 5 | 160 | PV Install |
| 15 | MV & Fiber Underground | Trenching | 1/27/2015 | 6/15/2015 | 5 | 100 | MV & Fiber Underground |
| 16 | DC & Drive Motor Underground | Trenching | 2/1/2015 | 9/14/2015 | 5 | 161 | DC & Drive Motor Underground |
| 17 | String Wire Connections & Combiner | Building Construction | 2/3/2015 | 8/7/2015 | 5 | 134 | String Wire Connections & Combiner |
| 18 | Overhead Electric | Building Construction | 2/5/2015 | 2/11/2015 | 5 | 5 | Overhead Electric |
| 19 | AC Stations | Building Construction | 2/7/2015 | 5/26/2015 | 5 | 77 | AC Stations |
| 20 | O&M Building | Building Construction | 2/11/2015 | 3/3/2015 | 5 | 15 | O&M Building |
| 21 | Substation | Building Construction | 2/13/2015 | 3/12/2015 | 5 | 20 | Substation |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Earthwork (Clear & Grub) | Crawler Tractors | 1 | 7.00 | 276 | 0.43 |
| Earthwork (Clear & Grub) | Rubber Tired Dozers | 1 | 7.00 | 205 | 0.40 |
| Earthwork (Clear & Grub) | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| Earthwork (Clear & Grub) | Tractors/Loaders/Backhoes | 1 | 7.00 | 111 | 0.37 |
| Access Roads & Equipment Pads | Graders | 3 | 7.60 | 209 | 0.41 |
| Access Roads & Equipment Pads | Pavers | 1 | 1.00 | 102 | 0.42 |
| Access Roads & Equipment Pads | Rollers | 1 | 1.00 | 79 | 0.38 |
| Access Roads & Equipment Pads | Rollers | 3 | 7.60 | 124 | 0.38 |
| Access Roads & Equipment Pads | Rubber Tired Loaders | 3 | 7.60 | 271 | 0.36 |
| Access Roads & Equipment Pads | Skid Steer Loaders | 3 | 7.60 | 79 | 0.37 |
| Erosion & Sediment Control | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| Site Demolition | Rubber Tired Loaders | 1 | 7.00 | 271 | 0.36 |
| Site Demolition | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| Site Demolition | Tractors/Loaders/Backhoes | 1 | 7.00 | 111 | 0.37 |
| General Conditions | Dumpers/Tenders | 6 | 2.50 | 22 | 0.38 |
| Landscaping & Irrigation | Excavators | 1 | 7.00 | 38 | 0.38 |
| Landscaping & Irrigation | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| Fencing | Generator Sets | 4 | 7.00 | 22 | 0.74 |
| Fencing | Skid Steer Loaders | 1 | 4.00 | 79 | 0.37 |
| Driven Piles | Bore/Drill Rigs | 5 | 7.00 | 48 | 0.50 |
| Driven Piles | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| Driven Piles | Forklifts | 2 | 7.00 | 110 | 0.20 |
| Drive Motor Foundations | Bore/Drill Rigs | 1 | 7.00 | 227 | 0.50 |
| Drive Motor Foundations | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| Drive Motor Foundations | Forklifts | 2 | 3.00 | 110 | 0.20 |

| | | | | | |
|---|---|---|---|---|---|
| Drive Motor Foundations | Welders | 1 | 3.00 | 23 | 0.45 |
| Material Recieving | Forklifts | 2 | 6.00 | 110 | 0.20 |
| Metal Erection | Air Compressors | 2 | 6.00 | 13 | 0.48 |
| Metal Erection | Dumpers/Tenders | 2 | 5.00 | 22 | 0.38 |
| Metal Erection | Forklifts | 2 | 7.00 | 110 | 0.20 |
| Cable Tray | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| Cable Tray | Forklifts | 1 | 2.50 | 110 | 0.20 |
| AC Station Foundation | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| AC Station Foundation | Skid Steer Loaders | 1 | 3.00 | 79 | 0.37 |
| AC Station Foundation | Tractors/Loaders/Backhoes | 1 | 7.00 | 111 | 0.37 |
| PV Install | Air Compressors | 4 | 6.00 | 13 | 0.48 |
| PV Install | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| PV Install | Forklifts | 1 | 7.00 | 110 | 0.20 |
| MV & Fiber Underground | Forklifts | 1 | 7.00 | 110 | 0.20 |
| MV & Fiber Underground | Tractors/Loaders/Backhoes | 2 | 7.00 | 111 | 0.37 |
| DC & Drive Motor Underground | Forklifts | 1 | 7.00 | 110 | 0.20 |
| DC & Drive Motor Underground | Tractors/Loaders/Backhoes | 2 | 7.00 | 111 | 0.37 |
| String Wire Connections & Combiner | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| String Wire Connections & Combiner | Forklifts | 1 | 3.00 | 110 | 0.20 |
| Overhead Electric | Aerial Lifts | 4 | 7.00 | 62 | 0.31 |
| Overhead Electric | Cranes | 4 | 7.00 | 31 | 0.29 |
| Overhead Electric | Cranes | 1 | 4.00 | 478 | 0.29 |
| Overhead Electric | Forklifts | 4 | 7.00 | 110 | 0.20 |
| AC Stations | Cranes | 1 | 7.00 | 478 | 0.29 |
| AC Stations | Tractors/Loaders/Backhoes | 1 | 7.00 | 111 | 0.37 |
| O&M Building | Aerial Lifts | 2 | 7.00 | 29 | 0.31 |
| O&M Building | Air Compressors | 10 | 8.00 | 13 | 0.48 |
| O&M Building | Excavators | 1 | 2.30 | 38 | 0.38 |
| O&M Building | Excavators | 1 | 2.30 | 185 | 0.38 |
| O&M Building | Forklifts | 4 | 5.00 | 110 | 0.20 |

| | | | | | |
|---|---|---|---|---|---|
| O&M Building | Generator Sets | 5 | 8.00 | 22 | 0.74 |
| O&M Building | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| O&M Building | Tractors/Loaders/Backhoes | 1 | 7.00 | 111 | 0.37 |
| Substation | Aerial Lifts | 2 | 7.00 | 29 | 0.31 |
| Substation | Air Compressors | 2 | 4.80 | 13 | 0.48 |
| Substation | Cranes | 1 | 7.00 | 31 | 0.29 |
| Substation | Cranes | 1 | 3.50 | 478 | 0.29 |
| Substation | Excavators | 1 | 5.30 | 38 | 0.38 |
| Substation | Forklifts | 3 | 6.40 | 110 | 0.20 |
| Substation | Generator Sets | 4 | 4.30 | 22 | 0.74 |
| Substation | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| Substation | Tractors/Loaders/Backhoes | 1 | 8.80 | 111 | 0.37 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Earthwork (Clear & Grub) | 4 | 10.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Material Recieving | 2 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Metal Erection | 6 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Cable Tray | 2 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| AC Station Foundation | 3 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| PV Install | 6 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| MV & Fiber Underground | 3 | 8.00 | | 0.00 | 16.80 | 6.60 | | | | |
| DC & Drive Motor Underground | 3 | 8.00 | | 0.00 | 16.80 | 6.60 | | | | |
| String Wire Connections & | 2 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Overhead Electric | 13 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| AC Stations | 2 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Access Roads & Equipment Pads | 14 | 35.00 | | 0.00 | 16.80 | 6.60 | | | | |
| O&M Building | 25 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Substation | 16 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Erosion & Sediment Control | 1 | 3.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Site Demolition | 3 | 8.00 | | 0.00 | 16.80 | 6.60 | | | | |
| General Conditions | 6 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Landscaping & Irrigation | 2 | 5.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Fencing | 5 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Driven Piles | 8 | 20.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Drive Motor Foundations | 5 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Earthwork (Clear & Grub) - 2015

**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 | | | | | 0.0860 | 0.0000 | 0.0860 | 0.0442 | 0.0000 | 0.0442 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0324 | 0.3795 | 0.1888 | 3.1000e-004 | | 0.0188 | 0.0188 | | 0.0173 | 0.0173 | 0.0000 | 29.3107 | 29.3107 | 8.7500e-003 | 0.0000 | 29.4945 |
| **Total** | **0.0324** | **0.3795** | **0.1888** | **3.1000e-004** | **0.0860** | **0.0188** | **0.1048** | **0.0442** | **0.0173** | **0.0615** | **0.0000** | **29.3107** | **29.3107** | **8.7500e-003** | **0.0000** | **29.4945** |

**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 | | | | | 0.0335 | 0.0000 | 0.0335 | 0.0172 | 0.0000 | 0.0172 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 8.7000e-003 | 0.1596 | 0.1785 | 3.1000e-004 | | 7.4000e-003 | 7.4000e-003 | | 7.2800e-003 | 7.2800e-003 | 0.0000 | 29.3107 | 29.3107 | 8.7500e-003 | 0.0000 | 29.4945 |
| **Total** | **8.7000e-003** | **0.1596** | **0.1785** | **3.1000e-004** | **0.0335** | **7.4000e-003** | **0.0409** | **0.0172** | **7.2800e-003** | **0.0245** | **0.0000** | **29.3107** | **29.3107** | **8.7500e-003** | **0.0000** | **29.4945** |

## 3.3 Access Roads & Equipment Pads - 2015

### 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 | | | | | 0.0619 | 0.0000 | 0.0619 | 6.6800e-003 | 0.0000 | 6.6800e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0515 | 0.6685 | 0.3038 | 6.4000e-004 | | 0.0264 | 0.0264 | | 0.0243 | 0.0243 | 0.0000 | 61.2856 | 61.2856 | 0.0183 | 0.0000 | 61.6699 |
| **Total** | **0.0515** | **0.6685** | **0.3038** | **6.4000e-004** | **0.0619** | **0.0264** | **0.0883** | **6.6800e-003** | **0.0243** | **0.0310** | **0.0000** | **61.2856** | **61.2856** | **0.0183** | **0.0000** | **61.6699** |

### 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 | | | | | 0.0241 | 0.0000 | 0.0241 | 2.6100e-003 | 0.0000 | 2.6100e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0184 | 0.3290 | 0.3821 | 6.4000e-004 | | 0.0143 | 0.0143 | | 0.0140 | 0.0140 | 0.0000 | 61.2856 | 61.2856 | 0.0183 | 0.0000 | 61.6698 |
| **Total** | **0.0184** | **0.3290** | **0.3821** | **6.4000e-004** | **0.0241** | **0.0143** | **0.0384** | **2.6100e-003** | **0.0140** | **0.0167** | **0.0000** | **61.2856** | **61.2856** | **0.0183** | **0.0000** | **61.6698** |

## 3.4 Erosion & Sediment Control - 2015

### 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 | | | | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.9900e-003 | 0.0258 | 0.0226 | 3.0000e-005 | | 1.4900e-003 | 1.4900e-003 | | 1.3700e-003 | 1.3700e-003 | 0.0000 | 3.1403 | 3.1403 | 9.4000e-004 | 0.0000 | 3.1600 |
| **Total** | **1.9900e-003** | **0.0258** | **0.0226** | **3.0000e-005** | **0.0000** | **1.4900e-003** | **1.4900e-003** | **0.0000** | **1.3700e-003** | **1.3700e-003** | **0.0000** | **3.1403** | **3.1403** | **9.4000e-004** | **0.0000** | **3.1600** |

### 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 | | | | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.9900e-003 | 0.0258 | 0.0226 | 3.0000e-005 | | 1.4900e-003 | 1.4900e-003 | | 1.3700e-003 | 1.3700e-003 | 0.0000 | 3.1403 | 3.1403 | 9.4000e-004 | 0.0000 | 3.1600 |
| **Total** | **1.9900e-003** | **0.0258** | **0.0226** | **3.0000e-005** | **0.0000** | **1.4900e-003** | **1.4900e-003** | **0.0000** | **1.3700e-003** | **1.3700e-003** | **0.0000** | **3.1403** | **3.1403** | **9.4000e-004** | **0.0000** | **3.1600** |

## 3.5 Site Demolition - 2015

### 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 | 0.0112 | 0.1271 | 0.0745 | 1.3000e-004 | | 6.5400e-003 | 6.5400e-003 | | 6.0100e-003 | 6.0100e-003 | 0.0000 | 11.9845 | 11.9845 | 3.5800e-003 | 0.0000 | 12.0597 |
| **Total** | **0.0112** | **0.1271** | **0.0745** | **1.3000e-004** | | **6.5400e-003** | **6.5400e-003** | | **6.0100e-003** | **6.0100e-003** | **0.0000** | **11.9845** | **11.9845** | **3.5800e-003** | **0.0000** | **12.0597** |

### 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 | 3.8900e-003 | 0.0695 | 0.0777 | 1.3000e-004 | | 3.5400e-003 | 3.5400e-003 | | 3.4600e-003 | 3.4600e-003 | 0.0000 | 11.9845 | 11.9845 | 3.5800e-003 | 0.0000 | 12.0597 |
| **Total** | **3.8900e-003** | **0.0695** | **0.0777** | **1.3000e-004** | | **3.5400e-003** | **3.5400e-003** | | **3.4600e-003** | **3.4600e-003** | **0.0000** | **11.9845** | **11.9845** | **3.5800e-003** | **0.0000** | **12.0597** |

## 3.6 General Conditions - 2015

### 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 | 0.0245 | 0.1552 | 0.0828 | 2.5000e-004 | | 6.5900e-003 | 6.5900e-003 | | 6.5900e-003 | 6.5900e-003 | 0.0000 | 18.1725 | 18.1725 | 1.9800e-003 | 0.0000 | 18.2141 |
| **Total** | **0.0245** | **0.1552** | **0.0828** | **2.5000e-004** | | **6.5900e-003** | **6.5900e-003** | | **6.5900e-003** | **6.5900e-003** | **0.0000** | **18.1725** | **18.1725** | **1.9800e-003** | **0.0000** | **18.2141** |

### 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 | 0.0245 | 0.1552 | 0.0828 | 2.5000e-004 | | 6.5900e-003 | 6.5900e-003 | | 6.5900e-003 | 6.5900e-003 | 0.0000 | 18.1725 | 18.1725 | 1.9800e-003 | 0.0000 | 18.2141 |
| **Total** | **0.0245** | **0.1552** | **0.0828** | **2.5000e-004** | | **6.5900e-003** | **6.5900e-003** | | **6.5900e-003** | **6.5900e-003** | **0.0000** | **18.1725** | **18.1725** | **1.9800e-003** | **0.0000** | **18.2141** |

## 3.6 General Conditions - 2016

### 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 | 0.0110 | 0.0696 | 0.0372 | 1.1000e-004 | | 2.7800e-003 | 2.7800e-003 | | 2.7800e-003 | 2.7800e-003 | 0.0000 | 8.1954 | 8.1954 | 8.9000e-004 | 0.0000 | 8.2142 |
| **Total** | **0.0110** | **0.0696** | **0.0372** | **1.1000e-004** | | **2.7800e-003** | **2.7800e-003** | | **2.7800e-003** | **2.7800e-003** | **0.0000** | **8.1954** | **8.1954** | **8.9000e-004** | **0.0000** | **8.2142** |

### 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 | 0.0110 | 0.0696 | 0.0372 | 1.1000e-004 | | 2.7800e-003 | 2.7800e-003 | | 2.7800e-003 | 2.7800e-003 | 0.0000 | 8.1954 | 8.1954 | 8.9000e-004 | 0.0000 | 8.2142 |
| **Total** | **0.0110** | **0.0696** | **0.0372** | **1.1000e-004** | | **2.7800e-003** | **2.7800e-003** | | **2.7800e-003** | **2.7800e-003** | **0.0000** | **8.1954** | **8.1954** | **8.9000e-004** | **0.0000** | **8.2142** |

## 3.7 Landscaping & Irrigation - 2015

### 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 | | | | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.5900e-003 | 0.0141 | 0.0130 | 2.0000e-005 | | 9.1000e-004 | 9.1000e-004 | | 8.4000e-004 | 8.4000e-004 | 0.0000 | 1.6224 | 1.6224 | 4.8000e-004 | 0.0000 | 1.6326 |
| **Total** | **1.5900e-003** | **0.0141** | **0.0130** | **2.0000e-005** | **0.0000** | **9.1000e-004** | **9.1000e-004** | **0.0000** | **8.4000e-004** | **8.4000e-004** | **0.0000** | **1.6224** | **1.6224** | **4.8000e-004** | **0.0000** | **1.6326** |

### 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 | | | | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.5900e-003 | 0.0141 | 0.0130 | 2.0000e-005 | | 9.1000e-004 | 9.1000e-004 | | 8.4000e-004 | 8.4000e-004 | 0.0000 | 1.6224 | 1.6224 | 4.8000e-004 | 0.0000 | 1.6326 |
| **Total** | **1.5900e-003** | **0.0141** | **0.0130** | **2.0000e-005** | **0.0000** | **9.1000e-004** | **9.1000e-004** | **0.0000** | **8.4000e-004** | **8.4000e-004** | **0.0000** | **1.6224** | **1.6224** | **4.8000e-004** | **0.0000** | **1.6326** |

## 3.8 Fencing - 2015

### 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 | 6.5500e-003 | 0.0442 | 0.0266 | 6.0000e-005 | | 2.3600e-003 | 2.3600e-003 | | 2.3200e-003 | 2.3200e-003 | 0.0000 | 4.7830 | 4.7830 | 7.5000e-004 | 0.0000 | 4.7989 |
| **Total** | **6.5500e-003** | **0.0442** | **0.0266** | **6.0000e-005** | | **2.3600e-003** | **2.3600e-003** | | **2.3200e-003** | **2.3200e-003** | **0.0000** | **4.7830** | **4.7830** | **7.5000e-004** | **0.0000** | **4.7989** |

### 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 | 6.5500e-003 | 0.0442 | 0.0266 | 6.0000e-005 | | 2.3600e-003 | 2.3600e-003 | | 2.3200e-003 | 2.3200e-003 | 0.0000 | 4.7830 | 4.7830 | 7.5000e-004 | 0.0000 | 4.7989 |
| **Total** | **6.5500e-003** | **0.0442** | **0.0266** | **6.0000e-005** | | **2.3600e-003** | **2.3600e-003** | | **2.3200e-003** | **2.3200e-003** | **0.0000** | **4.7830** | **4.7830** | **7.5000e-004** | **0.0000** | **4.7989** |

## 3.9 Driven Piles - 2015

### 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 | 0.1783 | 1.2185 | 0.9774 | 1.1700e-003 | | 0.0914 | 0.0914 | | 0.0841 | 0.0841 | 0.0000 | 111.0067 | 111.0067 | 0.0328 | 0.0000 | 111.6947 |
| **Total** | **0.1783** | **1.2185** | **0.9774** | **1.1700e-003** | | **0.0914** | **0.0914** | | **0.0841** | **0.0841** | **0.0000** | **111.0067** | **111.0067** | **0.0328** | **0.0000** | **111.6947** |

### 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 | 0.0547 | 0.8936 | 0.8579 | 1.1700e-003 | | 0.0552 | 0.0552 | | 0.0552 | 0.0552 | 0.0000 | 111.0066 | 111.0066 | 0.0328 | 0.0000 | 111.6946 |
| **Total** | **0.0547** | **0.8936** | **0.8579** | **1.1700e-003** | | **0.0552** | **0.0552** | | **0.0552** | **0.0552** | **0.0000** | **111.0066** | **111.0066** | **0.0328** | **0.0000** | **111.6946** |

## 3.10 Drive Motor Foundations - 2015

### 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 | 0.0345 | 0.4141 | 0.1769 | 5.3000e-004 | | 0.0181 | 0.0181 | | 0.0168 | 0.0168 | 0.0000 | 49.9370 | 49.9370 | 0.0144 | 0.0000 | 50.2395 |
| **Total** | **0.0345** | **0.4141** | **0.1769** | **5.3000e-004** | | **0.0181** | **0.0181** | | **0.0168** | **0.0168** | **0.0000** | **49.9370** | **49.9370** | **0.0144** | **0.0000** | **50.2395** |

### 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 | 0.0169 | 0.2699 | 0.2961 | 5.3000e-004 | | 0.0119 | 0.0119 | | 0.0119 | 0.0119 | 0.0000 | 49.9369 | 49.9369 | 0.0144 | 0.0000 | 50.2394 |
| **Total** | **0.0169** | **0.2699** | **0.2961** | **5.3000e-004** | | **0.0119** | **0.0119** | | **0.0119** | **0.0119** | **0.0000** | **49.9369** | **49.9369** | **0.0144** | **0.0000** | **50.2394** |

## 3.11 Material Recieving - 2015

### 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 | 0.0246 | 0.2113 | 0.1301 | 1.6000e-004 | | 0.0178 | 0.0178 | | 0.0163 | 0.0163 | 0.0000 | 14.8343 | 14.8343 | 4.4300e-003 | 0.0000 | 14.9273 |
| **Total** | **0.0246** | **0.2113** | **0.1301** | **1.6000e-004** | | **0.0178** | **0.0178** | | **0.0163** | **0.0163** | **0.0000** | **14.8343** | **14.8343** | **4.4300e-003** | **0.0000** | **14.9273** |

### 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 | 3.8400e-003 | 0.0877 | 0.1184 | 1.6000e-004 | | 6.1500e-003 | 6.1500e-003 | | 6.1500e-003 | 6.1500e-003 | 0.0000 | 14.8343 | 14.8343 | 4.4300e-003 | 0.0000 | 14.9273 |
| **Total** | **3.8400e-003** | **0.0877** | **0.1184** | **1.6000e-004** | | **6.1500e-003** | **6.1500e-003** | | **6.1500e-003** | **6.1500e-003** | **0.0000** | **14.8343** | **14.8343** | **4.4300e-003** | **0.0000** | **14.9273** |

## 3.12 Metal Erection - 2015

### 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 | 0.0627 | 0.4890 | 0.3018 | 4.7000e-004 | | 0.0368 | 0.0368 | | 0.0344 | 0.0344 | 0.0000 | 39.3362 | 39.3362 | 9.1900e-003 | 0.0000 | 39.5291 |
| **Total** | **0.0627** | **0.4890** | **0.3018** | **4.7000e-004** | | **0.0368** | **0.0368** | | **0.0344** | **0.0344** | **0.0000** | **39.3362** | **39.3362** | **9.1900e-003** | **0.0000** | **39.5291** |

### 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 | 0.0277 | 0.2806 | 0.2822 | 4.7000e-004 | | 0.0172 | 0.0172 | | 0.0172 | 0.0172 | 0.0000 | 39.3361 | 39.3361 | 9.1900e-003 | 0.0000 | 39.5290 |
| **Total** | **0.0277** | **0.2806** | **0.2822** | **4.7000e-004** | | **0.0172** | **0.0172** | | **0.0172** | **0.0172** | **0.0000** | **39.3361** | **39.3361** | **9.1900e-003** | **0.0000** | **39.5290** |

## 3.13 Cable Tray - 2015

### 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 | 9.3300e-003 | 0.0747 | 0.0448 | 7.0000e-005 | | 5.6500e-003 | 5.6500e-003 | | 5.2500e-003 | 5.2500e-003 | 0.0000 | 5.9559 | 5.9559 | 1.4400e-003 | 0.0000 | 5.9862 |
| **Total** | **9.3300e-003** | **0.0747** | **0.0448** | **7.0000e-005** | | **5.6500e-003** | **5.6500e-003** | | **5.2500e-003** | **5.2500e-003** | **0.0000** | **5.9559** | **5.9559** | **1.4400e-003** | **0.0000** | **5.9862** |

### 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 | 3.4700e-003 | 0.0399 | 0.0415 | 7.0000e-005 | | 2.3800e-003 | 2.3800e-003 | | 2.3800e-003 | 2.3800e-003 | 0.0000 | 5.9559 | 5.9559 | 1.4400e-003 | 0.0000 | 5.9862 |
| **Total** | **3.4700e-003** | **0.0399** | **0.0415** | **7.0000e-005** | | **2.3800e-003** | **2.3800e-003** | | **2.3800e-003** | **2.3800e-003** | **0.0000** | **5.9559** | **5.9559** | **1.4400e-003** | **0.0000** | **5.9862** |

## 3.14 AC Station Foundation - 2015

### 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 | 8.5400e-003 | 0.0832 | 0.0605 | 8.0000e-005 | | 6.0800e-003 | 6.0800e-003 | | 5.6100e-003 | 5.6100e-003 | 0.0000 | 7.8081 | 7.8081 | 2.2500e-003 | 0.0000 | 7.8553 |
| **Total** | **8.5400e-003** | **0.0832** | **0.0605** | **8.0000e-005** | | **6.0800e-003** | **6.0800e-003** | | **5.6100e-003** | **5.6100e-003** | **0.0000** | **7.8081** | **7.8081** | **2.2500e-003** | **0.0000** | **7.8553** |

### 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 | 3.1300e-003 | 0.0509 | 0.0589 | 8.0000e-005 | | 3.2800e-003 | 3.2800e-003 | | 3.2200e-003 | 3.2200e-003 | 0.0000 | 7.8081 | 7.8081 | 2.2500e-003 | 0.0000 | 7.8553 |
| **Total** | **3.1300e-003** | **0.0509** | **0.0589** | **8.0000e-005** | | **3.2800e-003** | **3.2800e-003** | | **3.2200e-003** | **3.2200e-003** | **0.0000** | **7.8081** | **7.8081** | **2.2500e-003** | **0.0000** | **7.8553** |

## 3.15 PV Install - 2015

### 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 | 0.0456 | 0.3328 | 0.2157 | 3.7000e-004 | | 0.0240 | 0.0240 | | 0.0228 | 0.0228 | 0.0000 | 28.1044 | 28.1044 | 5.7600e-003 | 0.0000 | 28.2254 |
| **Total** | **0.0456** | **0.3328** | **0.2157** | **3.7000e-004** | | **0.0240** | **0.0240** | | **0.0228** | **0.0228** | **0.0000** | **28.1044** | **28.1044** | **5.7600e-003** | **0.0000** | **28.2254** |

### 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 | 0.0280 | 0.2279 | 0.2058 | 3.7000e-004 | | 0.0141 | 0.0141 | | 0.0141 | 0.0141 | 0.0000 | 28.1044 | 28.1044 | 5.7600e-003 | 0.0000 | 28.2254 |
| **Total** | **0.0280** | **0.2279** | **0.2058** | **3.7000e-004** | | **0.0141** | **0.0141** | | **0.0141** | **0.0141** | **0.0000** | **28.1044** | **28.1044** | **5.7600e-003** | **0.0000** | **28.2254** |

## 3.16 MV & Fiber Underground - 2015

### 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 | 0.0491 | 0.4557 | 0.3119 | 3.9000e-004 | | 0.0363 | 0.0363 | | 0.0334 | 0.0334 | 0.0000 | 37.6141 | 37.6141 | 0.0112 | 0.0000 | 37.8500 |
| **Total** | **0.0491** | **0.4557** | **0.3119** | **3.9000e-004** | | **0.0363** | **0.0363** | | **0.0334** | **0.0334** | **0.0000** | **37.6141** | **37.6141** | **0.0112** | **0.0000** | **37.8500** |

### 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 | 9.6400e-003 | 0.2202 | 0.2973 | 3.9000e-004 | | 0.0154 | 0.0154 | | 0.0154 | 0.0154 | 0.0000 | 37.6141 | 37.6141 | 0.0112 | 0.0000 | 37.8499 |
| **Total** | **9.6400e-003** | **0.2202** | **0.2973** | **3.9000e-004** | | **0.0154** | **0.0154** | | **0.0154** | **0.0154** | **0.0000** | **37.6141** | **37.6141** | **0.0112** | **0.0000** | **37.8499** |

## 3.17 DC & Drive Motor Underground - 2015

### 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 | 0.0791 | 0.7337 | 0.5021 | 6.4000e-004 | | 0.0585 | 0.0585 | | 0.0538 | 0.0538 | 0.0000 | 60.5588 | 60.5588 | 0.0181 | 0.0000 | 60.9384 |
| **Total** | **0.0791** | **0.7337** | **0.5021** | **6.4000e-004** | | **0.0585** | **0.0585** | | **0.0538** | **0.0538** | **0.0000** | **60.5588** | **60.5588** | **0.0181** | **0.0000** | **60.9384** |

### 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 | 0.0155 | 0.3545 | 0.4787 | 6.4000e-004 | | 0.0248 | 0.0248 | | 0.0248 | 0.0248 | 0.0000 | 60.5587 | 60.5587 | 0.0181 | 0.0000 | 60.9383 |
| **Total** | **0.0155** | **0.3545** | **0.4787** | **6.4000e-004** | | **0.0248** | **0.0248** | | **0.0248** | **0.0248** | **0.0000** | **60.5587** | **60.5587** | **0.0181** | **0.0000** | **60.9383** |

## 3.18 String Wire Connections & Combiner - 2015

### 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 | 9.6400e-003 | 0.0779 | 0.0469 | 7.0000e-005 | | 5.9800e-003 | 5.9800e-003 | | 5.5500e-003 | 5.5500e-003 | 0.0000 | 6.1093 | 6.1093 | 1.5200e-003 | 0.0000 | 6.1413 |
| **Total** | **9.6400e-003** | **0.0779** | **0.0469** | **7.0000e-005** | | **5.9800e-003** | **5.9800e-003** | | **5.5500e-003** | **5.5500e-003** | **0.0000** | **6.1093** | **6.1093** | **1.5200e-003** | **0.0000** | **6.1413** |

### 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 | 3.3200e-003 | 0.0403 | 0.0433 | 7.0000e-005 | | 2.4500e-003 | 2.4500e-003 | | 2.4500e-003 | 2.4500e-003 | 0.0000 | 6.1093 | 6.1093 | 1.5200e-003 | 0.0000 | 6.1413 |
| **Total** | **3.3200e-003** | **0.0403** | **0.0433** | **7.0000e-005** | | **2.4500e-003** | **2.4500e-003** | | **2.4500e-003** | **2.4500e-003** | **0.0000** | **6.1093** | **6.1093** | **1.5200e-003** | **0.0000** | **6.1413** |

## 3.19 Overhead Electric - 2015

### 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 | 7.5200e-003 | 0.0588 | 0.0458 | 5.0000e-005 | | 3.9100e-003 | 3.9100e-003 | | 3.6000e-003 | 3.6000e-003 | 0.0000 | 5.0732 | 5.0732 | 1.5100e-003 | 0.0000 | 5.1050 |
| **Total** | **7.5200e-003** | **0.0588** | **0.0458** | **5.0000e-005** | | **3.9100e-003** | **3.9100e-003** | | **3.6000e-003** | **3.6000e-003** | **0.0000** | **5.0732** | **5.0732** | **1.5100e-003** | **0.0000** | **5.1050** |

### 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 | 1.7400e-003 | 0.0321 | 0.0357 | 5.0000e-005 | | 1.7300e-003 | 1.7300e-003 | | 1.7000e-003 | 1.7000e-003 | 0.0000 | 5.0732 | 5.0732 | 1.5100e-003 | 0.0000 | 5.1050 |
| **Total** | **1.7400e-003** | **0.0321** | **0.0357** | **5.0000e-005** | | **1.7300e-003** | **1.7300e-003** | | **1.7000e-003** | **1.7000e-003** | **0.0000** | **5.0732** | **5.0732** | **1.5100e-003** | **0.0000** | **5.1050** |

## 3.20 AC Stations - 2015

### 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 | 0.0530 | 0.6367 | 0.4320 | 5.2000e-004 | | 0.0312 | 0.0312 | | 0.0287 | 0.0287 | 0.0000 | 49.6475 | 49.6475 | 0.0148 | 0.0000 | 49.9587 |
| **Total** | **0.0530** | **0.6367** | **0.4320** | **5.2000e-004** | | **0.0312** | **0.0312** | | **0.0287** | **0.0287** | **0.0000** | **49.6475** | **49.6475** | **0.0148** | **0.0000** | **49.9587** |

### 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 | 0.0128 | 0.2579 | 0.3044 | 5.2000e-004 | | 0.0119 | 0.0119 | | 0.0119 | 0.0119 | 0.0000 | 49.6474 | 49.6474 | 0.0148 | 0.0000 | 49.9587 |
| **Total** | **0.0128** | **0.2579** | **0.3044** | **5.2000e-004** | | **0.0119** | **0.0119** | | **0.0119** | **0.0119** | **0.0000** | **49.6474** | **49.6474** | **0.0148** | **0.0000** | **49.9587** |

## 3.21 O&M Building - 2015

### 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 | 0.0265 | 0.2043 | 0.1310 | 2.4000e-004 | | 0.0130 | 0.0130 | | 0.0124 | 0.0124 | 0.0000 | 19.5788 | 19.5788 | 4.1700e-003 | 0.0000 | 19.6664 |
| **Total** | **0.0265** | **0.2043** | **0.1310** | **2.4000e-004** | | **0.0130** | **0.0130** | | **0.0124** | **0.0124** | **0.0000** | **19.5788** | **19.5788** | **4.1700e-003** | **0.0000** | **19.6664** |

### 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 | 0.0197 | 0.1635 | 0.1277 | 2.4000e-004 | | 9.2200e-003 | 9.2200e-003 | | 9.1000e-003 | 9.1000e-003 | 0.0000 | 19.5787 | 19.5787 | 4.1700e-003 | 0.0000 | 19.6664 |
| **Total** | **0.0197** | **0.1635** | **0.1277** | **2.4000e-004** | | **9.2200e-003** | **9.2200e-003** | | **9.1000e-003** | **9.1000e-003** | **0.0000** | **19.5787** | **19.5787** | **4.1700e-003** | **0.0000** | **19.6664** |

## 3.22 Substation - 2015

### 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 | 0.0291 | 0.2521 | 0.1758 | 2.4000e-004 | | 0.0161 | 0.0161 | | 0.0150 | 0.0150 | 0.0000 | 21.9825 | 21.9825 | 5.9000e-003 | 0.0000 | 22.1063 |
| **Total** | **0.0291** | **0.2521** | **0.1758** | **2.4000e-004** | | **0.0161** | **0.0161** | | **0.0150** | **0.0150** | **0.0000** | **21.9825** | **21.9825** | **5.9000e-003** | **0.0000** | **22.1063** |

### 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 | 0.0132 | 0.1520 | 0.1511 | 2.4000e-004 | | 8.6400e-003 | 8.6400e-003 | | 8.4800e-003 | 8.4800e-003 | 0.0000 | 21.9824 | 21.9824 | 5.9000e-003 | 0.0000 | 22.1063 |
| **Total** | **0.0132** | **0.1520** | **0.1511** | **2.4000e-004** | | **8.6400e-003** | **8.6400e-003** | | **8.4800e-003** | **8.4800e-003** | **0.0000** | **21.9824** | **21.9824** | **5.9000e-003** | **0.0000** | **22.1063** |

# CalEEMod Output, Truck Activity

# Solar Facility Phase I Construction: Service Trucks, Concrete, Trucks, Other Trucks

**Kings County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 0.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 37 |
| **Climate Zone** | 3 | | | **Operational Year** | 2015 |
| **Utility Company** | | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0 | **N2O Intensity (lb/MWhr)** | 0 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Henrietta Schedule - Adjusted for CalEEMod Input

Trips and VMT - Truck Travel - Total Running Emissions (Onsite and Offsite) and On-Road Fugitive Dust. Offroad Fugitive Dust Assessed Seperately.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblProjectCharacteristics | OperationalYear | 2014 | 2015 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |

## 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 | | | | | |
| 2015 | 0.0351 | 0.4258 | 0.3042 | 9.4000e-004 | 0.0264 | 8.1600e-003 | 0.0345 | 7.5100e-003 | 7.5100e-003 | 0.0150 | 0.0000 | 87.0042 | 87.0042 | 7.7000e-004 | 0.0000 | 87.0204 |
| **Total** | **0.0351** | **0.4258** | **0.3042** | **9.4000e-004** | **0.0264** | **8.1600e-003** | **0.0345** | **7.5100e-003** | **7.5100e-003** | **0.0150** | **0.0000** | **87.0042** | **87.0042** | **7.7000e-004** | **0.0000** | **87.0204** |

### 2.2 Overall Operational

**Not Applicable**

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Earthwork (Clear & Grub) | Site Preparation | 1/1/2015 | 2/11/2015 | 5 | 30 | Earthwork (Clear & Grub) |
| 2 | Access Roads & Equipment Pads | Grading | 1/3/2015 | 4/3/2015 | 5 | 65 | Access Roads & Equipment Pads |
| 3 | Erosion & Sediment Control | Grading | 1/5/2015 | 2/13/2015 | 5 | 30 | Erosion & Sediment Control |
| 4 | Landscaping & Irrigation | Site Preparation | 1/7/2015 | 1/13/2015 | 5 | 5 | Landscaping & Irrigation |
| 5 | Fencing | Building Construction | 1/9/2015 | 4/2/2015 | 5 | 60 | Fencing |
| 6 | Driven Piles | Trenching | 1/11/2015 | 9/2/2015 | 5 | 168 | Driven Piles |
| 7 | Drive Motor Foundations | Building Construction | 1/13/2015 | 4/24/2015 | 5 | 74 | Drive Motor Foundations |
| 8 | Metal Erection | Building Construction | 1/15/2015 | 8/25/2015 | 5 | 159 | Metal Erection |
| 9 | MV & Fiber Underground | Trenching | 1/17/2015 | 6/19/2015 | 5 | 110 | MV & Fiber Underground |
| 10 | DC & Drive Motor Underground | Trenching | 1/19/2015 | 8/31/2015 | 5 | 161 | DC & Drive Motor Underground |
| 11 | Overhead Electric | Building Construction | 1/21/2015 | 2/17/2015 | 5 | 20 | Overhead Electric |
| 12 | AC Stations | Building Construction | 1/23/2015 | 5/11/2015 | 5 | 77 | AC Stations |
| 13 | O&M Building | Building Construction | 1/25/2015 | 2/6/2015 | 5 | 10 | O&M Building |
| 14 | Substation | Building Construction | 1/27/2015 | 2/2/2015 | 5 | 5 | Substation |
| 15 | Surveying | Building Construction | 2/3/2015 | 3/17/2015 | 5 | 31 | Surveying |
| 16 | Electrical Construction Testing | Building Construction | 3/18/2015 | 10/23/2015 | 5 | 158 | Electrical Construction Testing |
| 17 | Panel Washing | Building Construction | 3/20/2015 | 6/11/2015 | 5 | 60 | Panel Washing |
| 18 | General Conditions | Building Construction | 5/21/2015 | 7/1/2015 | 5 | 30 | General Conditions |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

## OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Surveying | Forklifts | 0 | 0.00 | 89 | 0.20 |
| Electrical Construction Testing | Forklifts | 0 | 0.00 | 89 | 0.20 |
| Panel Washing | Forklifts | 0 | 0.00 | 89 | 0.20 |
| Earthwork (Clear & Grub) | Tractors/Loaders/Backhoes | 0 | 0.00 | 111 | 0.37 |
| Access Roads & Equipment Pads | Skid Steer Loaders | 0 | 0.00 | 79 | 0.37 |
| Erosion & Sediment Control | Skid Steer Loaders | 0 | 0.00 | 79 | 0.37 |
| General Conditions | Dumpers/Tenders | 0 | 0.00 | 22 | 0.38 |
| Landscaping & Irrigation | Skid Steer Loaders | 0 | 0.00 | 79 | 0.37 |
| Fencing | Skid Steer Loaders | 0 | 0.00 | 79 | 0.37 |
| Driven Piles | Forklifts | 0 | 0.00 | 110 | 0.20 |
| Drive Motor Foundations | Welders | 0 | 0.00 | 23 | 0.45 |
| Metal Erection | Forklifts | 0 | 0.00 | 110 | 0.20 |
| MV & Fiber Underground | Tractors/Loaders/Backhoes | 0 | 0.00 | 111 | 0.37 |
| DC & Drive Motor Underground | Tractors/Loaders/Backhoes | 0 | 0.00 | 111 | 0.37 |
| Overhead Electric | Forklifts | 0 | 0.00 | 110 | 0.20 |
| AC Stations | Tractors/Loaders/Backhoes | 0 | 0.00 | 111 | 0.37 |
| O&M Building | Tractors/Loaders/Backhoes | 0 | 0.00 | 111 | 0.37 |
| Substation | Tractors/Loaders/Backhoes | 0 | 0.00 | 111 | 0.37 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Earthwork (Clear & Grub) | 0 | 0.00 | 2.00 | 8.00 | 16.80 | 18.31 | 110.00 | LD_Mix | HDT_Mix | HHDT |
| Access Roads & Equipment Pads | 0 | 0.00 | 2.00 | 8.00 | 16.80 | 14.56 | 80.00 | LD_Mix | HDT_Mix | HHDT |
| Erosion & Sediment Control | 0 | 0.00 | 2.00 | 0.00 | 16.80 | 14.56 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Surveying | 0 | 0.00 | 2.00 | 0.00 | 16.80 | 12.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| General Conditions | 0 | 0.00 | 0.00 | 8.00 | 16.80 | 6.60 | 258.14 | LD_Mix | HDT_Mix | HHDT |
| Landscaping & Irrigation | 0 | 0.00 | 2.00 | 12.00 | 16.80 | 29.13 | 165.00 | LD_Mix | HDT_Mix | HHDT |
| Fencing | 0 | 0.00 | 4.00 | 0.00 | 16.80 | 14.56 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Driven Piles | 0 | 0.00 | 2.00 | 0.00 | 16.80 | 14.56 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Drive Motor Foundations | 0 | 0.00 | 0.00 | 4.00 | 16.80 | 6.60 | 35.00 | LD_Mix | HDT_Mix | HHDT |
| Electrical Construction Testing | 0 | 0.00 | 4.00 | 0.00 | 16.80 | 12.09 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Metal Erection | 0 | 0.00 | 2.00 | 0.00 | 16.80 | 14.56 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Panel Washing | 0 | 0.00 | 4.00 | 0.00 | 16.80 | 14.56 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| MV & Fiber Underground | 0 | 0.00 | 4.00 | 0.00 | 16.80 | 14.56 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| DC & Drive Motor Underground | 0 | 0.00 | 2.00 | 0.00 | 16.80 | 14.56 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Overhead Electric | 0 | 0.00 | 4.00 | 0.00 | 16.80 | 13.31 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| AC Stations | 0 | 0.00 | 2.00 | 0.00 | 16.80 | 14.56 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| O&M Building | 0 | 0.00 | 4.00 | 6.00 | 16.80 | 99.84 | 70.00 | LD_Mix | HDT_Mix | HHDT |
| Substation | 0 | 0.00 | 4.00 | 6.00 | 16.80 | 255.60 | 70.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## 3.2 Earthwork (Clear & Grub) - 2015

### 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 | 0.0000 | 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** |

### 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 | 3.2000e-004 | 6.5300e-003 | 2.0700e-003 | 2.0000e-005 | 3.8000e-004 | 1.1000e-004 | 4.9000e-004 | 1.0000e-004 | 1.0000e-004 | 2.0000e-004 | 0.0000 | 1.4960 | 1.4960 | 1.0000e-005 | 0.0000 | 1.4962 |
| Vendor | 6.6000e-004 | 7.8100e-003 | 5.6900e-003 | 2.0000e-005 | 4.9000e-004 | 1.5000e-004 | 6.4000e-004 | 1.4000e-004 | 1.4000e-004 | 2.8000e-004 | 0.0000 | 1.5807 | 1.5807 | 1.0000e-005 | 0.0000 | 1.5810 |
| Worker | 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 |
| **Total** | **9.8000e-004** | **0.0143** | **7.7600e-003** | **4.0000e-005** | **8.7000e-004** | **2.6000e-004** | **1.1300e-003** | **2.4000e-004** | **2.4000e-004** | **4.8000e-004** | **0.0000** | **3.0767** | **3.0767** | **2.0000e-005** | **0.0000** | **3.0772** |

## 3.3 Access Roads & Equipment Pads - 2015

### 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 | 0.0000 | 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** |

### 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 | 2.5000e-004 | 4.7800e-003 | 1.7000e-003 | 1.0000e-005 | 2.7000e-004 | 8.0000e-005 | 3.5000e-004 | 8.0000e-005 | 7.0000e-005 | 1.5000e-004 | 0.0000 | 1.0898 | 1.0898 | 1.0000e-005 | 0.0000 | 1.0899 |
| Vendor | 1.2700e-003 | 0.0138 | 0.0115 | 3.0000e-005 | 8.5000e-004 | 2.7000e-004 | 1.1100e-003 | 2.4000e-004 | 2.4000e-004 | 4.9000e-004 | 0.0000 | 2.7445 | 2.7445 | 2.0000e-005 | 0.0000 | 2.7450 |
| Worker | 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 |
| **Total** | **1.5200e-003** | **0.0186** | **0.0132** | **4.0000e-005** | **1.1200e-003** | **3.5000e-004** | **1.4600e-003** | **3.2000e-004** | **3.1000e-004** | **6.4000e-004** | **0.0000** | **3.8343** | **3.8343** | **3.0000e-005** | **0.0000** | **3.8350** |

## 3.4 Erosion & Sediment Control - 2015

### 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 | 0.0000 | 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** |

### 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 | 5.8000e-004 | 6.3600e-003 | 5.3000e-003 | 1.0000e-005 | 3.9000e-004 | 1.2000e-004 | 5.1000e-004 | 1.1000e-004 | 1.1000e-004 | 2.2000e-004 | 0.0000 | 1.2667 | 1.2667 | 1.0000e-005 | 0.0000 | 1.2669 |
| Worker | 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 |
| **Total** | **5.8000e-004** | **6.3600e-003** | **5.3000e-003** | **1.0000e-005** | **3.9000e-004** | **1.2000e-004** | **5.1000e-004** | **1.1000e-004** | **1.1000e-004** | **2.2000e-004** | **0.0000** | **1.2667** | **1.2667** | **1.0000e-005** | **0.0000** | **1.2669** |

## 3.5 Landscaping & Irrigation - 2015

### 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 | 0.0000 | 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** |

### 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 | 6.9000e-004 | 0.0146 | 4.1000e-003 | 4.0000e-005 | 8.5000e-004 | 2.5000e-004 | 1.1000e-003 | 2.3000e-004 | 2.3000e-004 | 4.6000e-004 | 0.0000 | 3.3611 | 3.3611 | 3.0000e-005 | 0.0000 | 3.3616 |
| Vendor | 1.4000e-004 | 2.0000e-003 | 1.1300e-003 | 0.0000 | 1.3000e-004 | 4.0000e-005 | 1.7000e-004 | 4.0000e-005 | 4.0000e-005 | 7.0000e-005 | 0.0000 | 0.4144 | 0.4144 | 0.0000 | 0.0000 | 0.4145 |
| Worker | 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 |
| **Total** | **8.3000e-004** | **0.0166** | **5.2300e-003** | **4.0000e-005** | **9.8000e-004** | **2.9000e-004** | **1.2700e-003** | **2.7000e-004** | **2.7000e-004** | **5.3000e-004** | **0.0000** | **3.7755** | **3.7755** | **3.0000e-005** | **0.0000** | **3.7762** |

## 3.6 Fencing - 2015

### 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 | 0.0000 | 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** |

### 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 | 2.3400e-003 | 0.0254 | 0.0212 | 6.0000e-005 | 1.5600e-003 | 4.9000e-004 | 2.0500e-003 | 4.5000e-004 | 4.5000e-004 | 9.0000e-004 | 0.0000 | 5.0668 | 5.0668 | 5.0000e-005 | 0.0000 | 5.0678 |
| Worker | 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 |
| **Total** | **2.3400e-003** | **0.0254** | **0.0212** | **6.0000e-005** | **1.5600e-003** | **4.9000e-004** | **2.0500e-003** | **4.5000e-004** | **4.5000e-004** | **9.0000e-004** | **0.0000** | **5.0668** | **5.0668** | **5.0000e-005** | **0.0000** | **5.0678** |

## 3.7 Driven Piles - 2015

### 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 | 0.0000 | 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** |

### 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 | 3.2700e-003 | 0.0356 | 0.0297 | 8.0000e-005 | 2.1900e-003 | 6.9000e-004 | 2.8800e-003 | 6.3000e-004 | 6.3000e-004 | 1.2600e-003 | 0.0000 | 7.0935 | 7.0935 | 6.0000e-005 | 0.0000 | 7.0949 |
| Worker | 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 |
| **Total** | **3.2700e-003** | **0.0356** | **0.0297** | **8.0000e-005** | **2.1900e-003** | **6.9000e-004** | **2.8800e-003** | **6.3000e-004** | **6.3000e-004** | **1.2600e-003** | **0.0000** | **7.0935** | **7.0935** | **6.0000e-005** | **0.0000** | **7.0949** |

## 3.8 Drive Motor Foundations - 2015

### 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 | 0.0000 | 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** |

### 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 | 7.0000e-005 | 1.0700e-003 | 5.8000e-004 | 0.0000 | 6.0000e-005 | 2.0000e-005 | 8.0000e-005 | 2.0000e-005 | 2.0000e-005 | 3.0000e-005 | 0.0000 | 0.2402 | 0.2402 | 0.0000 | 0.0000 | 0.2402 |
| 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 | 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 |
| **Total** | **7.0000e-005** | **1.0700e-003** | **5.8000e-004** | **0.0000** | **6.0000e-005** | **2.0000e-005** | **8.0000e-005** | **2.0000e-005** | **2.0000e-005** | **3.0000e-005** | **0.0000** | **0.2402** | **0.2402** | **0.0000** | **0.0000** | **0.2402** |

## 3.9 Metal Erection - 2015

### 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 | 0.0000 | 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** |

### 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 | 3.1000e-003 | 0.0337 | 0.0281 | 7.0000e-005 | 2.0700e-003 | 6.5000e-004 | 2.7200e-003 | 5.9000e-004 | 6.0000e-004 | 1.1900e-003 | 0.0000 | 6.7135 | 6.7135 | 6.0000e-005 | 0.0000 | 6.7148 |
| Worker | 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 |
| **Total** | **3.1000e-003** | **0.0337** | **0.0281** | **7.0000e-005** | **2.0700e-003** | **6.5000e-004** | **2.7200e-003** | **5.9000e-004** | **6.0000e-004** | **1.1900e-003** | **0.0000** | **6.7135** | **6.7135** | **6.0000e-005** | **0.0000** | **6.7148** |

## 3.10 MV & Fiber Underground - 2015

### 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 | 0.0000 | 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** |

### 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 | 4.2900e-003 | 0.0466 | 0.0389 | 1.0000e-004 | 2.8700e-003 | 9.0000e-004 | 3.7700e-003 | 8.2000e-004 | 8.3000e-004 | 1.6500e-003 | 0.0000 | 9.2891 | 9.2891 | 8.0000e-005 | 0.0000 | 9.2909 |
| Worker | 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 |
| **Total** | **4.2900e-003** | **0.0466** | **0.0389** | **1.0000e-004** | **2.8700e-003** | **9.0000e-004** | **3.7700e-003** | **8.2000e-004** | **8.3000e-004** | **1.6500e-003** | **0.0000** | **9.2891** | **9.2891** | **8.0000e-005** | **0.0000** | **9.2909** |

## 3.11 DC & Drive Motor Underground - 2015

### 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 | 0.0000 | 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** |

### 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 | 3.1400e-003 | 0.0341 | 0.0285 | 7.0000e-005 | 2.1000e-003 | 6.6000e-004 | 2.7600e-003 | 6.0000e-004 | 6.0000e-004 | 1.2100e-003 | 0.0000 | 6.7979 | 6.7979 | 6.0000e-005 | 0.0000 | 6.7992 |
| Worker | 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 |
| **Total** | **3.1400e-003** | **0.0341** | **0.0285** | **7.0000e-005** | **2.1000e-003** | **6.6000e-004** | **2.7600e-003** | **6.0000e-004** | **6.0000e-004** | **1.2100e-003** | **0.0000** | **6.7979** | **6.7979** | **6.0000e-005** | **0.0000** | **6.7992** |

## 3.12 Overhead Electric - 2015

### 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 | 0.0000 | 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** |

### 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 | 7.5000e-004 | 7.8300e-003 | 6.9000e-003 | 2.0000e-005 | 4.8000e-004 | 1.5000e-004 | 6.3000e-004 | 1.4000e-004 | 1.4000e-004 | 2.7000e-004 | 0.0000 | 1.5494 | 1.5494 | 1.0000e-005 | 0.0000 | 1.5497 |
| Worker | 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 |
| **Total** | **7.5000e-004** | **7.8300e-003** | **6.9000e-003** | **2.0000e-005** | **4.8000e-004** | **1.5000e-004** | **6.3000e-004** | **1.4000e-004** | **1.4000e-004** | **2.7000e-004** | **0.0000** | **1.5494** | **1.5494** | **1.0000e-005** | **0.0000** | **1.5497** |

## 3.13 AC Stations - 2015

### 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 | 0.0000 | 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** |

### 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 | 1.5000e-003 | 0.0163 | 0.0136 | 4.0000e-005 | 1.0000e-003 | 3.1000e-004 | 1.3200e-003 | 2.9000e-004 | 2.9000e-004 | 5.8000e-004 | 0.0000 | 3.2512 | 3.2512 | 3.0000e-005 | 0.0000 | 3.2518 |
| Worker | 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 |
| **Total** | **1.5000e-003** | **0.0163** | **0.0136** | **4.0000e-005** | **1.0000e-003** | **3.1000e-004** | **1.3200e-003** | **2.9000e-004** | **2.9000e-004** | **5.8000e-004** | **0.0000** | **3.2512** | **3.2512** | **3.0000e-005** | **0.0000** | **3.2518** |

## 3.14 O&M Building - 2015

### 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 | 0.0000 | 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** |

### 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 | 1.7000e-004 | 3.1400e-003 | 1.1900e-003 | 1.0000e-005 | 1.8000e-004 | 5.0000e-005 | 2.3000e-004 | 5.0000e-005 | 5.0000e-005 | 1.0000e-004 | 0.0000 | 0.7158 | 0.7158 | 1.0000e-005 | 0.0000 | 0.7159 |
| Vendor | 1.4600e-003 | 0.0263 | 9.3700e-003 | 6.0000e-005 | 1.7800e-003 | 5.5000e-004 | 2.3300e-003 | 5.1000e-004 | 5.0000e-004 | 1.0100e-003 | 0.0000 | 5.6048 | 5.6048 | 5.0000e-005 | 0.0000 | 5.6058 |
| Worker | 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 |
| **Total** | **1.6300e-003** | **0.0294** | **0.0106** | **7.0000e-005** | **1.9600e-003** | **6.0000e-004** | **2.5600e-003** | **5.6000e-004** | **5.5000e-004** | **1.1100e-003** | **0.0000** | **6.3206** | **6.3206** | **6.0000e-005** | **0.0000** | **6.3217** |

## 3.15 Substation - 2015

### 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 | 0.0000 | 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** |

### 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 | 1.7000e-004 | 3.1400e-003 | 1.1900e-003 | 1.0000e-005 | 1.8000e-004 | 5.0000e-005 | 2.3000e-004 | 5.0000e-005 | 5.0000e-005 | 1.0000e-004 | 0.0000 | 0.7158 | 0.7158 | 1.0000e-005 | 0.0000 | 0.7159 |
| Vendor | 1.7100e-003 | 0.0333 | 0.0100 | 8.0000e-005 | 2.2800e-003 | 7.0000e-004 | 2.9800e-003 | 6.5000e-004 | 6.4000e-004 | 1.2900e-003 | 0.0000 | 7.1497 | 7.1497 | 6.0000e-005 | 0.0000 | 7.1510 |
| Worker | 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 |
| **Total** | **1.8800e-003** | **0.0364** | **0.0112** | **9.0000e-005** | **2.4600e-003** | **7.5000e-004** | **3.2100e-003** | **7.0000e-004** | **6.9000e-004** | **1.3900e-003** | **0.0000** | **7.8654** | **7.8654** | **7.0000e-005** | **0.0000** | **7.8668** |

## 3.16 Surveying - 2015

### 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 | 0.0000 | 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** |

### 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 | 5.6000e-004 | 5.7500e-003 | 5.2600e-003 | 1.0000e-005 | 3.5000e-004 | 1.1000e-004 | 4.6000e-004 | 1.0000e-004 | 1.0000e-004 | 2.0000e-004 | 0.0000 | 1.1307 | 1.1307 | 1.0000e-005 | 0.0000 | 1.1309 |
| Worker | 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 |
| **Total** | **5.6000e-004** | **5.7500e-003** | **5.2600e-003** | **1.0000e-005** | **3.5000e-004** | **1.1000e-004** | **4.6000e-004** | **1.0000e-004** | **1.0000e-004** | **2.0000e-004** | **0.0000** | **1.1307** | **1.1307** | **1.0000e-005** | **0.0000** | **1.1309** |

## 3.17 Electrical Construction Testing - 2015

### 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 | 0.0000 | 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** |

### 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 | 5.6700e-003 | 0.0569 | 0.0532 | 1.2000e-004 | 3.4200e-003 | 1.0800e-003 | 4.5000e-003 | 9.8000e-004 | 9.9000e-004 | 1.9700e-003 | 0.0000 | 11.1641 | 11.1641 | 1.0000e-004 | 0.0000 | 11.1663 |
| Worker | 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 |
| **Total** | **5.6700e-003** | **0.0569** | **0.0532** | **1.2000e-004** | **3.4200e-003** | **1.0800e-003** | **4.5000e-003** | **9.8000e-004** | **9.9000e-004** | **1.9700e-003** | **0.0000** | **11.1641** | **11.1641** | **1.0000e-004** | **0.0000** | **11.1663** |

## 3.18 Panel Washing - 2015

### 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 | 0.0000 | 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** |

### 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 | 2.3400e-003 | 0.0254 | 0.0212 | 6.0000e-005 | 1.5600e-003 | 4.9000e-004 | 2.0500e-003 | 4.5000e-004 | 4.5000e-004 | 9.0000e-004 | 0.0000 | 5.0668 | 5.0668 | 5.0000e-005 | 0.0000 | 5.0678 |
| Worker | 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 |
| **Total** | **2.3400e-003** | **0.0254** | **0.0212** | **6.0000e-005** | **1.5600e-003** | **4.9000e-004** | **2.0500e-003** | **4.5000e-004** | **4.5000e-004** | **9.0000e-004** | **0.0000** | **5.0668** | **5.0668** | **5.0000e-005** | **0.0000** | **5.0678** |

## 3.19 General Conditions - 2015

### 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 | 0.0000 | 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** |

### 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 | 6.9000e-004 | 0.0152 | 3.8600e-003 | 4.0000e-005 | 8.9000e-004 | 2.6000e-004 | 1.1400e-003 | 2.4000e-004 | 2.4000e-004 | 4.8000e-004 | 0.0000 | 3.5019 | 3.5019 | 3.0000e-005 | 0.0000 | 3.5025 |
| 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 | 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 |
| **Total** | **6.9000e-004** | **0.0152** | **3.8600e-003** | **4.0000e-005** | **8.9000e-004** | **2.6000e-004** | **1.1400e-003** | **2.4000e-004** | **2.4000e-004** | **4.8000e-004** | **0.0000** | **3.5019** | **3.5019** | **3.0000e-005** | **0.0000** | **3.5025** |

# CalEEMod Output, Delivery Trip Onsite Travel

# Solar Facility Phase I Construction: Delivery On-Site Travel

**Kings County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 0.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 37 |
| **Climate Zone** | 3 | | | **Operational Year** | 2015 |
| **Utility Company** | | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0 | **N2O Intensity (lb/MWhr)** | 0 |

### 1.3 User Entered Comments & Non-Default Data

Construction Phase - Henrietta Schedule - Adjusted for CalEEMod Input

Off-road Equipment - Per Sunpower

Trips and VMT - 2,086 total trips. 1 mile in, 1 mile out

Construction Off-road Equipment Mitigation - Regulation VIII Compliance

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 0.00 | 370.00 |
| tblProjectCharacteristics | OperationalYear | 2014 | 2015 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 2.00 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 2,086.00 |

## 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 | | | | | |
| 2015 | 0.0104 | 0.0398 | 0.1400 | 7.0000e-005 | 1.6700e-003 | 4.3000e-004 | 2.1000e-003 | 4.5000e-004 | 3.9000e-004 | 8.4000e-004 | 0.0000 | 6.1719 | 6.1719 | 8.0000e-005 | 0.0000 | 6.1735 |
| 2016 | 3.4000e-003 | 0.0147 | 0.0513 | 3.0000e-005 | 1.4800e-003 | 1.4000e-004 | 1.6300e-003 | 3.8000e-004 | 1.3000e-004 | 5.1000e-004 | 0.0000 | 2.5414 | 2.5414 | 3.0000e-005 | 0.0000 | 2.5421 |
| **Total** | **0.0138** | **0.0545** | **0.1912** | **1.0000e-004** | **3.1500e-003** | **5.7000e-004** | **3.7300e-003** | **8.3000e-004** | **5.2000e-004** | **1.3500e-003** | **0.0000** | **8.7133** | **8.7133** | **1.1000e-004** | **0.0000** | **8.7155** |

### 2.2 Overall Operational

**Not Applicable**

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | General Conditions | Building Construction | 1/1/2015 | 6/1/2016 | 5 | 370 | General Conditions |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| General Conditions | Cranes | 0 | 0.00 | 226 | 0.29 |
| General Conditions | Forklifts | 0 | 0.00 | 89 | 0.20 |
| General Conditions | Tractors/Loaders/Backhoes | 0 | 0.00 | 97 | 0.37 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Conditions | 0 | 0.00 | 0.00 | 2,086.00 | 16.80 | 6.60 | 2.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## 3.2 General Conditions - 2015

**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 | 0.0104 | 0.0398 | 0.1400 | 7.0000e-005 | 1.6700e-003 | 4.3000e-004 | 2.1000e-003 | 4.5000e-004 | 3.9000e-004 | 8.4000e-004 | 0.0000 | 6.1719 | 6.1719 | 8.0000e-005 | 0.0000 | 6.1735 |
| 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 | 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 |
| **Total** | **0.0104** | **0.0398** | **0.1400** | **7.0000e-005** | **1.6700e-003** | **4.3000e-004** | **2.1000e-003** | **4.5000e-004** | **3.9000e-004** | **8.4000e-004** | **0.0000** | **6.1719** | **6.1719** | **8.0000e-005** | **0.0000** | **6.1735** |

## 3.2 General Conditions - 2016

### 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 | 3.4000e-003 | 0.0147 | 0.0513 | 3.0000e-005 | 1.4800e-003 | 1.4000e-004 | 1.6300e-003 | 3.8000e-004 | 1.3000e-004 | 5.1000e-004 | 0.0000 | 2.5414 | 2.5414 | 3.0000e-005 | 0.0000 | 2.5421 |
| 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 | 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 |
| **Total** | **3.4000e-003** | **0.0147** | **0.0513** | **3.0000e-005** | **1.4800e-003** | **1.4000e-004** | **1.6300e-003** | **3.8000e-004** | **1.3000e-004** | **5.1000e-004** | **0.0000** | **2.5414** | **2.5414** | **3.0000e-005** | **0.0000** | **2.5421** |

# CalEEMod Output, Delivery Trip Offsite Travel

# Solar Facility Phase I Construction: Delivery On-Road Travel

**Kings County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 0.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 37 |
| **Climate Zone** | 3 | | | **Operational Year** | 2015 |
| **Utility Company** | | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0 | **N2O Intensity (lb/MWhr)** | 0 |

### 1.3 User Entered Comments & Non-Default Data

Trips and VMT - 2,086 total trips. 123 miles to southern boundary of SJVAB

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 0.00 | 370.00 |
| tblProjectCharacteristics | OperationalYear | 2014 | 2015 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 123.00 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 2,086.00 |

## 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 | | | | | |
| 2015 | 0.0655 | 1.3408 | 0.4093 | 3.3200e-003 | 0.1021 | 0.0226 | 0.1246 | 0.0273 | 0.0208 | 0.0481 | 0.0000 | 307.5391 | 307.5391 | 2.3700e-003 | 0.0000 | 307.5890 |
| 2016 | 0.0241 | 0.4725 | 0.1526 | 1.3800e-003 | 0.0908 | 7.7100e-003 | 0.0985 | 0.0232 | 7.0900e-003 | 0.0303 | 0.0000 | 126.8111 | 126.8111 | 8.9000e-004 | 0.0000 | 126.8298 |
| **Total** | **0.0896** | **1.8133** | **0.5619** | **4.7000e-003** | **0.1928** | **0.0303** | **0.2231** | **0.0506** | **0.0279** | **0.0784** | **0.0000** | **434.3502** | **434.3502** | **3.2600e-003** | **0.0000** | **434.4188** |

### 2.2 Overall Operational

**Not Applicable**

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | General Conditions | Building Construction | 1/1/2015 | 6/1/2016 | 5 | 370 | General Conditions |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| General Conditions | Cranes | 0 | 0.00 | 226 | 0.29 |
| General Conditions | Forklifts | 0 | 0.00 | 89 | 0.20 |
| General Conditions | Tractors/Loaders/Backhoes | 0 | 0.00 | 97 | 0.37 |

### 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Conditions | 0 | 0.00 | 0.00 | 2,086.00 | 16.80 | 6.60 | 123.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## 3.2 General Conditions - 2015

**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 | 0.0655 | 1.3408 | 0.4093 | 3.3200e-003 | 0.1021 | 0.0226 | 0.1246 | 0.0273 | 0.0208 | 0.0481 | 0.0000 | 307.5391 | 307.5391 | 2.3700e-003 | 0.0000 | 307.5890 |
| 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 | 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 |
| **Total** | **0.0655** | **1.3408** | **0.4093** | **3.3200e-003** | **0.1021** | **0.0226** | **0.1246** | **0.0273** | **0.0208** | **0.0481** | **0.0000** | **307.5391** | **307.5391** | **2.3700e-003** | **0.0000** | **307.5890** |

## 3.2 General Conditions - 2016

**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 | 0.0241 | 0.4725 | 0.1526 | 1.3800e-003 | 0.0908 | 7.7100e-003 | 0.0985 | 0.0232 | 7.0900e-003 | 0.0303 | 0.0000 | 126.8111 | 126.8111 | 8.9000e-004 | 0.0000 | 126.8298 |
| 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 | 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 |
| **Total** | **0.0241** | **0.4725** | **0.1526** | **1.3800e-003** | **0.0908** | **7.7100e-003** | **0.0985** | **0.0232** | **7.0900e-003** | **0.0303** | **0.0000** | **126.8111** | **126.8111** | **8.9000e-004** | **0.0000** | **126.8298** |

# CalEEMod Output, Employee Onsite Travel

# Solar Facility Phase I Construction: Employee Onsite Travel Exhaust

**Kings County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 0.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 37 |
| **Climate Zone** | 3 | | | **Operational Year** | 2015 |
| **Utility Company** | | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0 | **N2O Intensity (lb/MWhr)** | 0 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Henrietta Schedule - Adjusted for CalEEMod Input

Trips and VMT - Worker Trips per day adjusted for total employee trips by phase, per Sunpower. Length 0.1 mile in, 0.1 mile out.

Grading -

Construction Off-road Equipment Mitigation - Regulation VIII Compliance

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblProjectCharacteristics | OperationalYear | 2014 | 2015 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 0.10 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 0.10 |

| | | | |
|---|---|---|---|
| tblTripsAndVMT | WorkerTripLength | 16.80 | 0.10 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 0.10 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 0.10 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 0.10 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 0.10 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 0.10 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 0.10 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 0.10 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 134.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 8.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 2.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 16.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 36.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 56.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 32.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 4.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 4.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 4.00 |

## 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 | | | | | |
| 2015 | 0.0918 | 0.0247 | 0.3250 | 1.1000e-004 | 2.4200e-003 | 2.8000e-004 | 2.7000e-003 | 6.8000e-004 | 2.5000e-004 | 9.3000e-004 | 0.0000 | 7.9986 | 7.9986 | 1.4700e-003 | 0.0000 | 8.0295 |
| 2016 | 0.0212 | 5.5900e-003 | 0.0738 | 3.0000e-005 | 6.1000e-004 | 7.0000e-005 | 6.8000e-004 | 1.7000e-004 | 6.0000e-005 | 2.3000e-004 | 0.0000 | 1.9626 | 1.9626 | 3.3000e-004 | 0.0000 | 1.9695 |
| **Total** | **0.1129** | **0.0303** | **0.3988** | **1.4000e-004** | **3.0300e-003** | **3.5000e-004** | **3.3800e-003** | **8.5000e-004** | **3.1000e-004** | **1.1600e-003** | **0.0000** | **9.9612** | **9.9612** | **1.8000e-003** | **0.0000** | **9.9989** |

### 2.2 Overall Operational

**Not Applicable**

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | General Conditions | Building Construction | 1/1/2015 | 6/1/2016 | 5 | 370 | General Conditions |
| 2 | Landscaping & Irrigation | Site Preparation | 1/3/2015 | 1/16/2015 | 5 | 10 | Landscaping & Irrigation |
| 3 | Fencing | Building Construction | 1/5/2015 | 3/27/2015 | 5 | 60 | Fencing |
| 4 | Driven Piles | Trenching | 1/7/2015 | 8/28/2015 | 5 | 168 | Driven Piles |
| 5 | Metal Erection | Building Construction | 1/9/2015 | 8/19/2015 | 5 | 159 | Metal Erection |
| 6 | PV Install | Building Construction | 1/11/2015 | 8/21/2015 | 5 | 160 | PV Install |
| 7 | String Wire Connections & Combiner | Building Construction | 1/13/2015 | 7/21/2015 | 5 | 136 | String Wire Connections & Combiner |
| 8 | O&M Building | Building Construction | 1/15/2015 | 4/29/2015 | 5 | 75 | O&M Building |
| 9 | Substation | Building Construction | 1/17/2015 | 6/1/2015 | 5 | 96 | Substation |
| 10 | Surveying | Building Construction | 1/19/2015 | 3/2/2015 | 5 | 31 | Surveying |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| General Conditions | Cranes | 0 | 0.00 | 226 | 0.29 |
| General Conditions | Forklifts | 0 | 0.00 | 89 | 0.20 |
| General Conditions | Tractors/Loaders/Backhoes | 0 | 0.00 | 97 | 0.37 |
| Landscaping & Irrigation | Graders | 0 | 0.00 | 174 | 0.41 |
| Landscaping & Irrigation | Tractors/Loaders/Backhoes | 0 | 0.00 | 97 | 0.37 |
| Fencing | Cranes | 0 | 4.00 | 226 | 0.29 |
| Fencing | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Fencing | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |

| | | | | | |
|---|---|---|---|---|---|
| Driven Piles | Forklifts | 0 | 0.00 | 89 | 0.20 |
| Metal Erection | Cranes | 0 | 4.00 | 226 | 0.29 |
| Metal Erection | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Metal Erection | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| PV Install | Cranes | 0 | 4.00 | 226 | 0.29 |
| PV Install | Forklifts | 0 | 6.00 | 89 | 0.20 |
| PV Install | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| String Wire Connections & Combiner | Cranes | 0 | 4.00 | 226 | 0.29 |
| String Wire Connections & Combiner | Forklifts | 0 | 6.00 | 89 | 0.20 |
| String Wire Connections & Combiner | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| O&M Building | Cranes | 0 | 4.00 | 226 | 0.29 |
| O&M Building | Forklifts | 0 | 6.00 | 89 | 0.20 |
| O&M Building | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| Substation | Cranes | 0 | 4.00 | 226 | 0.29 |
| Substation | Cranes | 0 | 4.00 | 226 | 0.29 |
| Substation | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Substation | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| Surveying | Cranes | 0 | 4.00 | 226 | 0.29 |
| Surveying | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Surveying | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Conditions | 0 | 134.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Landscaping & Irrigation | 0 | 2.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Fencing | 0 | 16.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Driven Piles | 0 | 36.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Metal Erection | 0 | 56.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| PV Install | 0 | 32.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| String Wire Connections & | 0 | 4.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| O&M Building | 0 | 4.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Substation | 0 | 4.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Surveying | 0 | 8.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## 3.2 General Conditions - 2015

**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 | 0.0558 | 0.0150 | 0.1977 | 6.0000e-005 | 1.4700e-003 | 1.7000e-004 | 1.6400e-003 | 4.1000e-004 | 1.5000e-004 | 5.7000e-004 | 0.0000 | 4.8649 | 4.8649 | 8.9000e-004 | 0.0000 | 4.8837 |
| **Total** | **0.0558** | **0.0150** | **0.1977** | **6.0000e-005** | **1.4700e-003** | **1.7000e-004** | **1.6400e-003** | **4.1000e-004** | **1.5000e-004** | **5.7000e-004** | **0.0000** | **4.8649** | **4.8649** | **8.9000e-004** | **0.0000** | **4.8837** |

## 3.2 General Conditions - 2016

**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 | 0.0212 | 5.5900e-003 | 0.0738 | 3.0000e-005 | 6.1000e-004 | 7.0000e-005 | 6.8000e-004 | 1.7000e-004 | 6.0000e-005 | 2.3000e-004 | 0.0000 | 1.9626 | 1.9626 | 3.3000e-004 | 0.0000 | 1.9695 |
| **Total** | **0.0212** | **5.5900e-003** | **0.0738** | **3.0000e-005** | **6.1000e-004** | **7.0000e-005** | **6.8000e-004** | **1.7000e-004** | **6.0000e-005** | **2.3000e-004** | **0.0000** | **1.9626** | **1.9626** | **3.3000e-004** | **0.0000** | **1.9695** |

## 3.3 Landscaping & Irrigation - 2015

**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 | 3.0000e-005 | 1.0000e-005 | 1.1000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 2.7800e-003 | 2.7800e-003 | 0.0000 | 0.0000 | 2.7900e-003 |
| **Total** | **3.0000e-005** | **1.0000e-005** | **1.1000e-004** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **2.7800e-003** | **2.7800e-003** | **0.0000** | **0.0000** | **2.7900e-003** |

## 3.4 Fencing - 2015

**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 | 1.5300e-003 | 4.1000e-004 | 5.4300e-003 | 0.0000 | 4.0000e-005 | 0.0000 | 5.0000e-005 | 1.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.1335 | 0.1335 | 2.0000e-005 | 0.0000 | 0.1341 |
| **Total** | **1.5300e-003** | **4.1000e-004** | **5.4300e-003** | **0.0000** | **4.0000e-005** | **0.0000** | **5.0000e-005** | **1.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | **0.1335** | **0.1335** | **2.0000e-005** | **0.0000** | **0.1341** |

## 3.5 Driven Piles - 2015

**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 | 9.6500e-003 | 2.6000e-003 | 0.0342 | 1.0000e-005 | 2.5000e-004 | 3.0000e-005 | 2.8000e-004 | 7.0000e-005 | 3.0000e-005 | 1.0000e-004 | 0.0000 | 0.8413 | 0.8413 | 1.5000e-004 | 0.0000 | 0.8445 |
| **Total** | **9.6500e-003** | **2.6000e-003** | **0.0342** | **1.0000e-005** | **2.5000e-004** | **3.0000e-005** | **2.8000e-004** | **7.0000e-005** | **3.0000e-005** | **1.0000e-004** | **0.0000** | **0.8413** | **0.8413** | **1.5000e-004** | **0.0000** | **0.8445** |

## 3.6 Metal Erection - 2015

**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 | 0.0142 | 3.8300e-003 | 0.0503 | 2.0000e-005 | 3.7000e-004 | 4.0000e-005 | 4.2000e-004 | 1.1000e-004 | 4.0000e-005 | 1.4000e-004 | 0.0000 | 1.2386 | 1.2386 | 2.3000e-004 | 0.0000 | 1.2433 |
| **Total** | **0.0142** | **3.8300e-003** | **0.0503** | **2.0000e-005** | **3.7000e-004** | **4.0000e-005** | **4.2000e-004** | **1.1000e-004** | **4.0000e-005** | **1.4000e-004** | **0.0000** | **1.2386** | **1.2386** | **2.3000e-004** | **0.0000** | **1.2433** |

## 3.7 PV Install - 2015

**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 | 8.1700e-003 | 2.2000e-003 | 0.0289 | 1.0000e-005 | 2.2000e-004 | 2.0000e-005 | 2.4000e-004 | 6.0000e-005 | 2.0000e-005 | 8.0000e-005 | 0.0000 | 0.7122 | 0.7122 | 1.3000e-004 | 0.0000 | 0.7150 |
| **Total** | **8.1700e-003** | **2.2000e-003** | **0.0289** | **1.0000e-005** | **2.2000e-004** | **2.0000e-005** | **2.4000e-004** | **6.0000e-005** | **2.0000e-005** | **8.0000e-005** | **0.0000** | **0.7122** | **0.7122** | **1.3000e-004** | **0.0000** | **0.7150** |

## 3.8 String Wire Connections & Combiner - 2015

**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 | 8.7000e-004 | 2.3000e-004 | 3.0700e-003 | 0.0000 | 2.0000e-005 | 0.0000 | 3.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0757 | 0.0757 | 1.0000e-005 | 0.0000 | 0.0760 |
| **Total** | **8.7000e-004** | **2.3000e-004** | **3.0700e-003** | **0.0000** | **2.0000e-005** | **0.0000** | **3.0000e-005** | **1.0000e-005** | **0.0000** | **1.0000e-005** | **0.0000** | **0.0757** | **0.0757** | **1.0000e-005** | **0.0000** | **0.0760** |

## 3.9 O&M Building - 2015

**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 | 4.8000e-004 | 1.3000e-004 | 1.7000e-003 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0417 | 0.0417 | 1.0000e-005 | 0.0000 | 0.0419 |
| **Total** | **4.8000e-004** | **1.3000e-004** | **1.7000e-003** | **0.0000** | **1.0000e-005** | **0.0000** | **1.0000e-005** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0417** | **0.0417** | **1.0000e-005** | **0.0000** | **0.0419** |

## 3.10 Substation - 2015

**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 | 6.1000e-004 | 1.7000e-004 | 2.1700e-003 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 0.0000 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0534 | 0.0534 | 1.0000e-005 | 0.0000 | 0.0536 |
| **Total** | **6.1000e-004** | **1.7000e-004** | **2.1700e-003** | **0.0000** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **0.0000** | **0.0000** | **1.0000e-005** | **0.0000** | **0.0534** | **0.0534** | **1.0000e-005** | **0.0000** | **0.0536** |

## 3.11 Surveying - 2015

**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 | 4.0000e-004 | 1.1000e-004 | 1.4000e-003 | 0.0000 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0345 | 0.0345 | 1.0000e-005 | 0.0000 | 0.0346 |
| **Total** | **4.0000e-004** | **1.1000e-004** | **1.4000e-003** | **0.0000** | **1.0000e-005** | **0.0000** | **1.0000e-005** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0345** | **0.0345** | **1.0000e-005** | **0.0000** | **0.0346** |

# CalEEMod Output, Employee Offsite Travel

# Solar Facility Phase I Construction: Employee On-Road Travel

**Kings County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 0.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 37 |
| **Climate Zone** | 3 | | | **Operational Year** | 2015 |
| **Utility Company** | | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0 | **N2O Intensity (lb/MWhr)** | 0 |

### 1.3 User Entered Comments & Non-Default Data

Construction Phase - Henrietta Schedule - Adjusted for CalEEMod Input

Trips and VMT - Employee Travel per Sunpower

Construction Off-road Equipment Mitigation - Regulation VIII Compliance

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblProjectCharacteristics | OperationalYear | 2014 | 2015 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 39.90 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 39.90 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 39.90 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 39.90 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 39.90 |

| | | | |
|---|---|---|---|
| tblTripsAndVMT | WorkerTripLength | 16.80 | 39.90 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 39.90 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 39.90 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 39.90 |
| tblTripsAndVMT | WorkerTripLength | 16.80 | 39.90 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 134.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 8.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 2.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 16.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 36.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 56.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 32.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 4.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 4.00 |
| tblTripsAndVMT | WorkerTripNumber | 0.00 | 4.00 |

## 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 | | | | | |
| 2015 | 0.2858 | 0.7027 | 6.1304 | 9.7600e-003 | 0.8526 | 6.6100e-003 | 0.8592 | 0.2264 | 6.0100e-003 | 0.2324 | 0.0000 | 757.3280 | 757.3280 | 0.0489 | 0.0000 | 758.3548 |
| 2016 | 0.0628 | 0.1593 | 1.3817 | 2.4800e-003 | 0.2166 | 1.5700e-003 | 0.2181 | 0.0575 | 1.4400e-003 | 0.0590 | 0.0000 | 185.5882 | 185.5882 | 0.0113 | 0.0000 | 185.8250 |
| **Total** | **0.3486** | **0.8621** | **7.5121** | **0.0122** | **1.0691** | **8.1800e-003** | **1.0773** | **0.2839** | **7.4500e-003** | **0.2914** | **0.0000** | **942.9162** | **942.9162** | **0.0602** | **0.0000** | **944.1798** |

### 2.2 Overall Operational

**Not Applicable**

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | General Conditions | Building Construction | 1/1/2015 | 6/1/2016 | 5 | 370 | General Conditions |
| 2 | Landscaping & Irrigation | Site Preparation | 1/3/2015 | 1/16/2015 | 5 | 10 | Landscaping & Irrigation |
| 3 | Fencing | Building Construction | 1/5/2015 | 3/27/2015 | 5 | 60 | Fencing |
| 4 | Driven Piles | Trenching | 1/7/2015 | 8/28/2015 | 5 | 168 | Driven Piles |
| 5 | Metal Erection | Building Construction | 1/9/2015 | 8/19/2015 | 5 | 159 | Metal Erection |
| 6 | PV Install | Building Construction | 1/11/2015 | 8/21/2015 | 5 | 160 | PV Install |
| 7 | String Wire Connections & Combiner | Building Construction | 1/13/2015 | 7/21/2015 | 5 | 136 | String Wire Connections & Combiner |
| 8 | O&M Building | Building Construction | 1/15/2015 | 4/29/2015 | 5 | 75 | O&M Building |
| 9 | Substation | Building Construction | 1/17/2015 | 6/1/2015 | 5 | 96 | Substation |
| 10 | Surveying | Building Construction | 1/19/2015 | 3/2/2015 | 5 | 31 | Surveying |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| General Conditions | Cranes | 0 | 0.00 | 226 | 0.29 |
| General Conditions | Forklifts | 0 | 0.00 | 89 | 0.20 |
| General Conditions | Tractors/Loaders/Backhoes | 0 | 0.00 | 97 | 0.37 |
| Landscaping & Irrigation | Graders | 0 | 0.00 | 174 | 0.41 |
| Landscaping & Irrigation | Tractors/Loaders/Backhoes | 0 | 0.00 | 97 | 0.37 |
| Fencing | Cranes | 0 | 4.00 | 226 | 0.29 |
| Fencing | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Fencing | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |

| | | | | | |
|---|---|---|---|---|---|
| Driven Piles | Forklifts | 0 | 0.00 | 89 | 0.20 |
| Metal Erection | Cranes | 0 | 4.00 | 226 | 0.29 |
| Metal Erection | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Metal Erection | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| PV Install | Cranes | 0 | 4.00 | 226 | 0.29 |
| PV Install | Forklifts | 0 | 6.00 | 89 | 0.20 |
| PV Install | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| String Wire Connections & Combiner | Cranes | 0 | 4.00 | 226 | 0.29 |
| String Wire Connections & Combiner | Forklifts | 0 | 6.00 | 89 | 0.20 |
| String Wire Connections & Combiner | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| O&M Building | Cranes | 0 | 4.00 | 226 | 0.29 |
| O&M Building | Forklifts | 0 | 6.00 | 89 | 0.20 |
| O&M Building | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| Substation | Cranes | 0 | 4.00 | 226 | 0.29 |
| Substation | Cranes | 0 | 4.00 | 226 | 0.29 |
| Substation | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Substation | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| Surveying | Cranes | 0 | 4.00 | 226 | 0.29 |
| Surveying | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Surveying | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Conditions | 0 | 134.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Landscaping & Irrigation | 0 | 2.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Fencing | 0 | 16.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Driven Piles | 0 | 36.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Metal Erection | 0 | 56.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| PV Install | 0 | 32.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| String Wire Connections & | 0 | 4.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| O&M Building | 0 | 4.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Substation | 0 | 4.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Surveying | 0 | 8.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## 3.2 General Conditions - 2015

**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 | 0.1738 | 0.4274 | 3.7286 | 5.9300e-003 | 0.5186 | 4.0200e-003 | 0.5226 | 0.1377 | 3.6600e-003 | 0.1414 | 0.0000 | 460.6238 | 460.6238 | 0.0297 | 0.0000 | 461.2483 |
| **Total** | **0.1738** | **0.4274** | **3.7286** | **5.9300e-003** | **0.5186** | **4.0200e-003** | **0.5226** | **0.1377** | **3.6600e-003** | **0.1414** | **0.0000** | **460.6238** | **460.6238** | **0.0297** | **0.0000** | **461.2483** |

## 3.2 General Conditions - 2016

**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 | 0.0628 | 0.1593 | 1.3817 | 2.4800e-003 | 0.2166 | 1.5700e-003 | 0.2181 | 0.0575 | 1.4400e-003 | 0.0590 | 0.0000 | 185.5882 | 185.5882 | 0.0113 | 0.0000 | 185.8250 |
| **Total** | **0.0628** | **0.1593** | **1.3817** | **2.4800e-003** | **0.2166** | **1.5700e-003** | **0.2181** | **0.0575** | **1.4400e-003** | **0.0590** | **0.0000** | **185.5882** | **185.5882** | **0.0113** | **0.0000** | **185.8250** |

## 3.3 Landscaping & Irrigation - 2015

**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 | 1.0000e-004 | 2.4000e-004 | 2.1300e-003 | 0.0000 | 3.0000e-004 | 0.0000 | 3.0000e-004 | 8.0000e-005 | 0.0000 | 8.0000e-005 | 0.0000 | 0.2634 | 0.2634 | 2.0000e-005 | 0.0000 | 0.2638 |
| **Total** | **1.0000e-004** | **2.4000e-004** | **2.1300e-003** | **0.0000** | **3.0000e-004** | **0.0000** | **3.0000e-004** | **8.0000e-005** | **0.0000** | **8.0000e-005** | **0.0000** | **0.2634** | **0.2634** | **2.0000e-005** | **0.0000** | **0.2638** |

## 3.4 Fencing - 2015

**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 | 4.7700e-003 | 0.0117 | 0.1024 | 1.6000e-004 | 0.0142 | 1.1000e-004 | 0.0143 | 3.7800e-003 | 1.0000e-004 | 3.8800e-003 | 0.0000 | 12.6436 | 12.6436 | 8.2000e-004 | 0.0000 | 12.6608 |
| **Total** | **4.7700e-003** | **0.0117** | **0.1024** | **1.6000e-004** | **0.0142** | **1.1000e-004** | **0.0143** | **3.7800e-003** | **1.0000e-004** | **3.8800e-003** | **0.0000** | **12.6436** | **12.6436** | **8.2000e-004** | **0.0000** | **12.6608** |

## 3.5 Driven Piles - 2015

**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 | 0.0301 | 0.0739 | 0.6448 | 1.0300e-003 | 0.0897 | 7.0000e-004 | 0.0904 | 0.0238 | 6.3000e-004 | 0.0245 | 0.0000 | 79.6550 | 79.6550 | 5.1400e-003 | 0.0000 | 79.7630 |
| **Total** | **0.0301** | **0.0739** | **0.6448** | **1.0300e-003** | **0.0897** | **7.0000e-004** | **0.0904** | **0.0238** | **6.3000e-004** | **0.0245** | **0.0000** | **79.6550** | **79.6550** | **5.1400e-003** | **0.0000** | **79.7630** |

## 3.6 Metal Erection - 2015

**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 | 0.0443 | 0.1088 | 0.9493 | 1.5100e-003 | 0.1320 | 1.0200e-003 | 0.1330 | 0.0351 | 9.3000e-004 | 0.0360 | 0.0000 | 117.2698 | 117.2698 | 7.5700e-003 | 0.0000 | 117.4288 |
| **Total** | **0.0443** | **0.1088** | **0.9493** | **1.5100e-003** | **0.1320** | **1.0200e-003** | **0.1330** | **0.0351** | **9.3000e-004** | **0.0360** | **0.0000** | **117.2698** | **117.2698** | **7.5700e-003** | **0.0000** | **117.4288** |

## 3.7 PV Install - 2015

**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 | 0.0255 | 0.0626 | 0.5459 | 8.7000e-004 | 0.0759 | 5.9000e-004 | 0.0765 | 0.0202 | 5.4000e-004 | 0.0207 | 0.0000 | 67.4328 | 67.4328 | 4.3500e-003 | 0.0000 | 67.5242 |
| **Total** | **0.0255** | **0.0626** | **0.5459** | **8.7000e-004** | **0.0759** | **5.9000e-004** | **0.0765** | **0.0202** | **5.4000e-004** | **0.0207** | **0.0000** | **67.4328** | **67.4328** | **4.3500e-003** | **0.0000** | **67.5242** |

## 3.8 String Wire Connections & Combiner - 2015

**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 | 2.7000e-003 | 6.6500e-003 | 0.0580 | 9.0000e-005 | 8.0700e-003 | 6.0000e-005 | 8.1300e-003 | 2.1400e-003 | 6.0000e-005 | 2.2000e-003 | 0.0000 | 7.1647 | 7.1647 | 4.6000e-004 | 0.0000 | 7.1745 |
| **Total** | **2.7000e-003** | **6.6500e-003** | **0.0580** | **9.0000e-005** | **8.0700e-003** | **6.0000e-005** | **8.1300e-003** | **2.1400e-003** | **6.0000e-005** | **2.2000e-003** | **0.0000** | **7.1647** | **7.1647** | **4.6000e-004** | **0.0000** | **7.1745** |

## 3.9 O&M Building - 2015

**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 | 1.4900e-003 | 3.6700e-003 | 0.0320 | 5.0000e-005 | 4.4500e-003 | 3.0000e-005 | 4.4800e-003 | 1.1800e-003 | 3.0000e-005 | 1.2100e-003 | 0.0000 | 3.9511 | 3.9511 | 2.6000e-004 | 0.0000 | 3.9565 |
| **Total** | **1.4900e-003** | **3.6700e-003** | **0.0320** | **5.0000e-005** | **4.4500e-003** | **3.0000e-005** | **4.4800e-003** | **1.1800e-003** | **3.0000e-005** | **1.2100e-003** | **0.0000** | **3.9511** | **3.9511** | **2.6000e-004** | **0.0000** | **3.9565** |

## 3.10 Substation - 2015

**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 | 1.9100e-003 | 4.6900e-003 | 0.0409 | 7.0000e-005 | 5.6900e-003 | 4.0000e-005 | 5.7400e-003 | 1.5100e-003 | 4.0000e-005 | 1.5500e-003 | 0.0000 | 5.0575 | 5.0575 | 3.3000e-004 | 0.0000 | 5.0643 |
| **Total** | **1.9100e-003** | **4.6900e-003** | **0.0409** | **7.0000e-005** | **5.6900e-003** | **4.0000e-005** | **5.7400e-003** | **1.5100e-003** | **4.0000e-005** | **1.5500e-003** | **0.0000** | **5.0575** | **5.0575** | **3.3000e-004** | **0.0000** | **5.0643** |

## 3.11 Surveying - 2015

**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 | 1.2300e-003 | 3.0300e-003 | 0.0264 | 4.0000e-005 | 3.6800e-003 | 3.0000e-005 | 3.7100e-003 | 9.8000e-004 | 3.0000e-005 | 1.0000e-003 | 0.0000 | 3.2663 | 3.2663 | 2.1000e-004 | 0.0000 | 3.2707 |
| **Total** | **1.2300e-003** | **3.0300e-003** | **0.0264** | **4.0000e-005** | **3.6800e-003** | **3.0000e-005** | **3.7100e-003** | **9.8000e-004** | **3.0000e-005** | **1.0000e-003** | **0.0000** | **3.2663** | **3.2663** | **2.1000e-004** | **0.0000** | **3.2707** |

# CalEEMod Output, Water Truck Activity (On and Offsite)

# Solar Facility Phase I Construction: Water Trucks

**Kings County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 0.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 37 |
| **Climate Zone** | 3 | | | **Operational Year** | 2015 |
| **Utility Company** | | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0 | **N2O Intensity (lb/MWhr)** | 0 |

### 1.3 User Entered Comments & Non-Default Data

Off-road Equipment - Water Truck Analysis

Trips and VMT - Water Truck activity. Offsite and Onsite Travel.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 0.00 | 370.00 |
| tblProjectCharacteristics | OperationalYear | 2014 | 2015 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 2.19 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 20,366.00 |

## 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 | | | | | |
| 2015 | 0.1019 | 0.4088 | 1.3707 | 7.2000e-004 | 0.0179 | 4.5300e-003 | 0.0224 | 4.8000e-003 | 4.1500e-003 | 8.9600e-003 | 0.0000 | 64.8771 | 64.8771 | 7.8000e-004 | 0.0000 | 64.8935 |
| 2016 | 0.0335 | 0.1500 | 0.5021 | 3.0000e-004 | 0.0158 | 1.5200e-003 | 0.0174 | 4.0600e-003 | 1.3900e-003 | 5.4500e-003 | 0.0000 | 26.7177 | 26.7177 | 3.1000e-004 | 0.0000 | 26.7241 |
| **Total** | **0.1353** | **0.5588** | **1.8727** | **1.0200e-003** | **0.0337** | **6.0500e-003** | **0.0398** | **8.8600e-003** | **5.5400e-003** | **0.0144** | **0.0000** | **91.5948** | **91.5948** | **1.0900e-003** | **0.0000** | **91.6176** |

### 2.2 Overall Operational

**Not Applicable**

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | General Conditions | Building Construction | 1/1/2015 | 6/1/2016 | 5 | 370 | General Conditions |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| General Conditions | Cranes | 0 | 4.00 | 226 | 0.29 |
| General Conditions | Forklifts | 0 | 6.00 | 89 | 0.20 |
| General Conditions | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |

### 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Conditions | 0 | 0.00 | 0.00 | 20,366.00 | 16.80 | 6.60 | 2.19 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## 3.2 General Conditions - 2015

**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 | 0.1019 | 0.4088 | 1.3707 | 7.2000e-004 | 0.0179 | 4.5300e-003 | 0.0224 | 4.8000e-003 | 4.1500e-003 | 8.9600e-003 | 0.0000 | 64.8771 | 64.8771 | 7.8000e-004 | 0.0000 | 64.8935 |
| 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 | 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 |
| **Total** | **0.1019** | **0.4088** | **1.3707** | **7.2000e-004** | **0.0179** | **4.5300e-003** | **0.0224** | **4.8000e-003** | **4.1500e-003** | **8.9600e-003** | **0.0000** | **64.8771** | **64.8771** | **7.8000e-004** | **0.0000** | **64.8935** |

## 3.2 General Conditions - 2016

**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 | 0.0335 | 0.1500 | 0.5021 | 3.0000e-004 | 0.0158 | 1.5200e-003 | 0.0174 | 4.0600e-003 | 1.3900e-003 | 5.4500e-003 | 0.0000 | 26.7177 | 26.7177 | 3.1000e-004 | 0.0000 | 26.7241 |
| 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 | 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 |
| **Total** | **0.0335** | **0.1500** | **0.5021** | **3.0000e-004** | **0.0158** | **1.5200e-003** | **0.0174** | **4.0600e-003** | **1.3900e-003** | **5.4500e-003** | **0.0000** | **26.7177** | **26.7177** | **3.1000e-004** | **0.0000** | **26.7241** |

# Appendix B:
# Solar Facility Phase II Construction CalEEMod Output

# HENRIETTA SOLAR FACILITY PHASE II CONSTRUCTION SUPPORTING MATERIAL

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# Section 1:
# HENRIETTA SOLAR FACILITY PHASE II CONSTRUCTION EMISSIONS SUMMARIES

### Total Construction Emissions

# Emissions Summary, Total Construction Emissions
## *Total and Annual Tons*

VERA Analysis

**Total Solar Facility Phase II Construction 2016 Emissions**

| | Emissions (Tons) | | | | |
|---|---|---|---|---|---|
| **Emissions Source** | **ROG** | **NOX** | **PM10** | | |
| **ONSITE** | **Exhaust** | **Exhaust** | **Dust** | **Exhaust** | **Total** |
| Onsite Construction Equipment | 0.03 | 0.41 | 0.02 | 0.02 | 0.04 |
| Onsite Truck | 0.00 | 0.06 | - | 0.00 | 0.00 |
| Onsite Delivery Trips | 0.00 | 0.01 | | 0.00 | 0.00 |
| Onsite Employee Trips | 0.01 | 0.00 | | 0.00 | 0.00 |
| ***Unpaved Road Dust*** | | | | | |
| Unpaved Road Dust - Employees | | | 0.04 | | 0.04 |
| Unpaved Road Dust - Delivery | | | 0.07 | | 0.07 |
| Unpaved Road Dust - Gators | | | 0.24 | | 0.24 |
| Unpaved Road Dust - Onsite Truck | | | 5.00 | | 5.00 |
| **OFFSITE** | | | | | |
| Offsite Employees | 0.02 | 0.06 | 0.08 | 0.00 | 0.08 |
| Offsite Delivery Trips | 0.01 | 0.22 | 0.02 | 0.00 | 0.02 |
| **TOTAL** | 0.08 | 0.76 | 5.46 | 0.03 | 5.49 |
| CEQA Threshold | 10 | 10.00 | | | 15.00 |
| Exceed Threshold? | No | No | | | No |

# Section 2:
# HENRIETTA SOLAR FACILITY PHASE II CONSTRUCTION ANALYSIS PARAMETERS

**Delivery Trips**
**Employee Trips**
**On-Site Travel Dust Generation**

# Analysis Parameters, Delivery Trips

Solar Facility Phase II size MW AC | 14 | <-enter value here

| Kit | description | Mw/ trailer | Truck Deliveries | Truck Trips (one-way) |
|---|---|---|---|---|
| | | | | |
| | other BOS Tracker hardware | | 2 | 4 |
| | DC Electrical-1 | | 4 | 8 |
| | DC Electrical-2 | | 4 | 8 |
| | PV Attach | | 2 | 4 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | DC Feeder cable | | 10 | 20 |
| | | | | |
| | | | | |
| | | | | |
| | AC System- Inverter/Transformer/LV cab | 1.5 | 10 | 20 |
| | | | | |
| | Piles | 0.49 | 29 | 58 |
| | PV- | 0.17 | 75 | 150 |
| | DC Feeder cable | 1.5 | 10 | 20 |
| | **Total** | | **134** | **292** |

123 Distance (miles)

Distance From South Valley on I-5

From 20th Avenue, Lemoore Ca, 93245

To 133 Frazier Mountain Park Rd, Lebec, CA 93243

| | |
|---|---|
| Days | 50 |
| Trips/Day | 5.84 |
| Miles/Day | 718.32 |
| Total Miles | 35,916 |

# Analysis Parameters, Employee Trips

**Solar Facility Phase II Construction Light-Duty and Light Truck Activities - for CalEEMod Entry**

| Description | CalEEMod Phase | Qty of On Site Employees / Vehicles | Days On Site | (CalEEMod Days) | Hours On Paved Public Roads per Day | Total Hours on Paved Roads | Total Miles on Paved Roads | Miles on Paved Roads/Day | Employees/ Day | Worker Trips/Day | Trip length | Number of Employee Days |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SunPower Staff | General Conditions | 2 | 50 | 50 | 1.33 | 133.0 | 7,980 | | | | | 100 |
| SunPower Staff | General Conditions | 3 | 50 | 50 | 1.33 | 199.5 | 11,970 | | | | | 150 |
| (GC) Project Management | General Conditions | 3 | 50 | 50 | 1.33 | 199.5 | 11,970 | | | | | 150 |
| (GC) Project Management | General Conditions | 2 | 50 | 50 | 1.33 | 133.0 | 7,980 | | | | | 100 |
| Electrician | General Conditions | 2 | 50 | 50 | 1.33 | 133.0 | 7,980 | | | | | 100 |
| Electrician | General Conditions | 20 | 50 | 50 | 1.33 | 1,330.0 | 79,800 | | | | | 1,000 |
| Third Party Inspections | General Conditions | 2 | 50 | 50 | 1.33 | 133.0 | 7,980 | | | | | 100 |
| | | | | | | Subtotal | 135,660 | 2,713.2 | 34 | 68 | 39.9 | |
| Metal Erection | Metal Erection | 14 | 20 | 20 | 1.33 | 372.4 | 22,344 | 1,117.2 | 14 | 28 | 39.9 | 280 |
| PV Install | PV Installation | 16 | 22 | 22 | 1.33 | 468.2 | 28,090 | 1,276.8 | 16 | 32 | 39.9 | 352 |
| Drive Piles | Driven Piles | 10 | 25 | 25 | 1.33 | 332.5 | 19,950 | 798.0 | 10 | 20 | 39.9 | 250 |
| Substation | Substation | 2 | 15 | 15 | 1.33 | 39.9 | 2,394 | 159.6 | 2 | 4 | 39.9 | 30 |
| Civil | String Wire & Combiner | 2 | 15 | 15 | 1.33 | 39.9 | 2,394 | 159.6 | 2 | 4 | 39.9 | 30 |
| Fencing | Fencing | 8 | 5 | 5 | 1.33 | 53.2 | 3,192 | 638.4 | 8 | 16 | 39.9 | 40 |
| Survey | Surveying | 4 | 7 | 7 | 1.33 | 37.2 | 2,234 | 319.2 | 4 | 8 | 39.9 | 28 |
| **Totals** | | **90** | | | | **3,604.3** | **216,258** | | | | **Total** | 2,710 |

Average commute time provided by:
http://project.wnyc.org/commute-times-us/embed.html#5.00/42.000/-89.500

# Analysis Parameters, On-Site Travel Dust Generation

**Solar Facility Phase II Construction Unpaved Road Dust**

**Unpaved Road Dust Emission Factor Equation**

For vehicles traveling on unpaved surfaces at industrial sites, emissions are estimated from the following equation
*Source: EPA AP-42. Section 13.2.2 Unpaved Roads*

$$E = k (s/12)^a (W/3)^b$$

E = Size-specific emission factor (lbs/VMT)
k = Constant for Industrial Road, PM10
s = surface material silt content (%)
a = Constant for Industrial Road, PM10
W = mean vehicle weight (tons)
b = constant for industrial Road, PM10

Regulation VIII Reduction 70%

*Source of S = CalEEMod Default, Statewide Average silt content*
*Source of Equation: EPA AP-42. Section 13.2.2 Unpaved Roads*

**Unpaved Road Dust Emission Factors**

K= 1.50
s = 4.30 (s/12)^a = 0.40
a = 0.90
b = 0.45

| *Vehicle Type* | Weight (Tons) | PM10 EF (lbs/VMT) | | VMT | PM 10 (tons) | |
|---|---|---|---|---|---|---|
| | | Without Reg 8 | With Reg 8 | | Lbs | Tons |
| Employees | 1.9 | 0.48 | 0.14 | 542 | 78 | 0.04 |
| Delivery Truck | 30.0 | 1.68 | 0.50 | 292 | 147 | 0.07 |
| Gator | 1.0 | 0.36 | 0.11 | 4,425 | 482 | 0.24 |
| Vendor | 10.0 | 1.02 | 0.31 | 23,674 | 7,272 | 3.64 |
| Worker | 2.9 | 0.58 | 0.18 | 15,528 | 2,722 | 1.36 |

**Travel and Vehicle Parameters**

Employee Onsite

| | |
|---|---|
| On-Site miles/employee/day | 0.2 |
| Number of Employee-Days | 2,710.00 |
| Miles Onsite | 542.00 |

Delivery Truck Onsite

| | |
|---|---|
| Onsite miles/truck | 1.0 |
| Number of Trucks | 292 |
| Miles Onsite | 292.00 |

Gator Onsite

| | |
|---|---|
| Gators | 8 |
| Total Hours Onsite | 443 |
| Miles Onsite Access Roads | 3,300 |
| Miles Onsite Off-Road | 1,125 |
| Total Miles Onsite | 4,425 |

Service, Dump, and other Truck Onsite

| | |
|---|---|
| "Vendor" Miles Onsite | 2,265.0 |
| "Worker" Miles Onsite | 2,540.8 |

# Section 3:
# HENRIETTA SOLAR FACILITY PHASE II CONSTRUCTION CALEEMOD OUTPUT

**OffRoad Construction Equipment**
**Truck Activity**
**Delivery Trips Onsite Travel**
**Delivery Trips Offsite Travel**
**Employee Trips Onsite Travel**
**Employee Trips Offsite Travel**

# CalEEMod Output, Offroad Construction Equipment

# Solar Facility Phase II Construction: Offroad Equipment (Exhaust and Fugitive Dust)

**Kings County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 37 |
| **Climate Zone** | 3 | | | **Operational Year** | 2015 |
| **Utility Company** | | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0 | **N2O Intensity (lb/MWhr)** | 0 |

### 1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Construction Phase - CalEEMod Adjusted from Sunpower Input

Off-road Equipment - Per Sunpower

Trips and VMT - Employee, Vendor and Hauling Trips Assessed Separately.

Grading - Assumed 12 acres of disturbance durance Access Roads & Equip Pads, 4 acres during Erosion & Sediment Control

Construction Off-road Equipment Mitigation - Regulation VIII Compliance, MM AIR-1 Tier 3 for Equipment 100hp+

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblGrading | AcresOfGrading | 3.94 | 12.00 |
| tblGrading | AcresOfGrading | 0.00 | 4.00 |
| tblProjectCharacteristics | OperationalYear | 2014 | 2015 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |

# 2.0 Emissions Summary

## 2.1 Overall Construction

**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 | | | | | |
| 2015 | 0.0341 | 0.4100 | 0.4267 | 6.5000e-004 | 0.0162 | 0.0244 | 0.0406 | 3.0700e-003 | 0.0238 | 0.0269 | 0.0000 | 60.3581 | 60.3581 | 0.0173 | 0.0000 | 60.7213 |
| **Total** | **0.0341** | **0.4100** | **0.4267** | **6.5000e-004** | **0.0162** | **0.0244** | **0.0406** | **3.0700e-003** | **0.0238** | **0.0269** | **0.0000** | **60.3581** | **60.3581** | **0.0173** | **0.0000** | **60.7213** |

| | 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** | **55.05** | **39.51** | **4.00** | **0.00** | **-22.08** | **44.83** | **29.38** | **-46.89** | **41.72** | **37.41** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 2.2 Overall Operational

**Not Applicable**

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Access Roads & Equipment Pads | Grading | 2/12/2015 | 2/24/2015 | 5 | 9 | Access Roads & Equipment Pads |
| 2 | Erosion & Sediment Control | Grading | 2/13/2015 | 2/19/2015 | 5 | 5 | Erosion & Sediment Control |
| 3 | Fencing | Building Construction | 2/14/2015 | 2/17/2015 | 5 | 2 | Fencing |
| 4 | Driven Piles | Trenching | 2/15/2015 | 3/20/2015 | 5 | 25 | Driven Piles |
| 5 | Drive Motor Foundations | Building Construction | 2/16/2015 | 3/4/2015 | 5 | 13 | Drive Motor Foundations |
| 6 | Material Recieving | Building Construction | 2/17/2015 | 3/9/2015 | 5 | 15 | Material Recieving |
| 7 | Metal Erection | Building Construction | 5/8/2015 | 5/25/2015 | 5 | 12 | Metal Erection |
| 8 | Cable Tray | Building Construction | 5/9/2015 | 6/5/2015 | 5 | 20 | Cable Tray |
| 9 | General Conditions | Building Construction | 5/21/2015 | 7/29/2015 | 5 | 50 | General Conditions |
| 10 | AC Station Foundation | Building Construction | 7/12/2015 | 7/17/2015 | 5 | 5 | AC Station Foundations |
| 11 | PV Install | Building Construction | 7/13/2015 | 8/11/2015 | 5 | 22 | PV Install |
| 12 | MV & Fiber Underground | Trenching | 7/15/2015 | 7/31/2015 | 5 | 13 | MV & Fiber Underground |
| 13 | DC & Drive Motor Underground | Trenching | 9/2/2015 | 10/1/2015 | 5 | 22 | DC & Drive Motor Underground |
| 14 | String Wire Connections & Combiner | Building Construction | 9/3/2015 | 9/28/2015 | 5 | 18 | String Wire Connections & Combiner |
| 15 | AC Stations | Building Construction | 9/5/2015 | 9/18/2015 | 5 | 10 | AC Stations |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

## OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Access Roads & Equipment Pads | Graders | 1 | 7.00 | 209 | 0.41 |
| Access Roads & Equipment Pads | Rollers | 1 | 7.00 | 124 | 0.38 |
| Access Roads & Equipment Pads | Rubber Tired Loaders | 1 | 7.00 | 271 | 0.36 |
| Access Roads & Equipment Pads | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| Erosion & Sediment Control | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| Fencing | Generator Sets | 4 | 7.00 | 22 | 0.74 |
| Fencing | Skid Steer Loaders | 1 | 4.00 | 79 | 0.37 |
| Driven Piles | Bore/Drill Rigs | 5 | 7.00 | 48 | 0.50 |
| Driven Piles | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| Driven Piles | Forklifts | 2 | 7.00 | 110 | 0.20 |
| Drive Motor Foundations | Bore/Drill Rigs | 1 | 7.00 | 227 | 0.50 |
| Drive Motor Foundations | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| Drive Motor Foundations | Forklifts | 1 | 3.00 | 110 | 0.20 |
| Drive Motor Foundations | Welders | 1 | 2.77 | 23 | 0.45 |
| Material Recieving | Forklifts | 1 | 6.00 | 110 | 0.20 |
| Metal Erection | Air Compressors | 1 | 6.00 | 13 | 0.48 |
| Metal Erection | Dumpers/Tenders | 1 | 5.00 | 22 | 0.38 |
| Metal Erection | Forklifts | 1 | 7.00 | 110 | 0.20 |
| Cable Tray | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| Cable Tray | Forklifts | 1 | 2.50 | 110 | 0.20 |
| General Conditions | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| AC Station Foundation | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| AC Station Foundation | Skid Steer Loaders | 1 | 3.00 | 79 | 0.37 |
| AC Station Foundation | Tractors/Loaders/Backhoes | 1 | 7.00 | 111 | 0.37 |
| PV Install | Air Compressors | 2 | 6.00 | 13 | 0.48 |
| PV Install | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| PV Install | Forklifts | 1 | 7.00 | 110 | 0.20 |
| MV & Fiber Underground | Forklifts | 1 | 7.00 | 110 | 0.20 |

| | | | | | |
|---|---|---|---|---|---|
| MV & Fiber Underground | Tractors/Loaders/Backhoes | 2 | 7.00 | 111 | 0.37 |
| DC & Drive Motor Underground | Forklifts | 1 | 7.00 | 110 | 0.20 |
| DC & Drive Motor Underground | Tractors/Loaders/Backhoes | 2 | 7.00 | 111 | 0.37 |
| String Wire Connections & Combiner | Dumpers/Tenders | 1 | 2.50 | 22 | 0.38 |
| String Wire Connections & Combiner | Forklifts | 1 | 3.00 | 110 | 0.20 |
| AC Stations | Cranes | 1 | 7.00 | 478 | 0.29 |
| AC Stations | Tractors/Loaders/Backhoes | 1 | 7.00 | 111 | 0.37 |

## 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Access Roads & Equipment Pads | 4 | 10.00 | | 0.00 | 16.80 | 6.60 | | | | |
| AC Station Foundation | 3 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| PV Install | 4 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| MV & Fiber Underground | 3 | 8.00 | | 0.00 | 16.80 | 6.60 | | | | |
| DC & Drive Motor Underground | 3 | 8.00 | | 0.00 | 16.80 | 6.60 | | | | |
| String Wire Connections & | 2 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| AC Stations | 2 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Erosion & Sediment Control | 1 | 3.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Fencing | 5 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Driven Piles | 8 | 20.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Drive Motor Foundations | 4 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Material Recieving | 1 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Metal Erection | 3 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| Cable Tray | 2 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |
| General Conditions | 1 | 0.00 | | 0.00 | 16.80 | 6.60 | | | | |

## 3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 Access Roads & Equipment Pads - 2015

**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 | | | | | 4.9600e-003 | 0.0000 | 4.9600e-003 | 5.4000e-004 | 0.0000 | 5.4000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 2.5200e-003 | 0.0449 | 0.0520 | 9.0000e-005 | | 1.9300e-003 | 1.9300e-003 | | 1.9000e-003 | 1.9000e-003 | 0.0000 | 8.3642 | 8.3642 | 2.5000e-003 | 0.0000 | 8.4166 |
| **Total** | **2.5200e-003** | **0.0449** | **0.0520** | **9.0000e-005** | **4.9600e-003** | **1.9300e-003** | **6.8900e-003** | **5.4000e-004** | **1.9000e-003** | **2.4400e-003** | **0.0000** | **8.3642** | **8.3642** | **2.5000e-003** | **0.0000** | **8.4166** |

## 3.3 Erosion & Sediment Control - 2015

**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 | | | | | 1.6500e-003 | 0.0000 | 1.6500e-003 | 1.8000e-004 | 0.0000 | 1.8000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 3.3000e-004 | 4.3000e-003 | 3.7600e-003 | 1.0000e-005 | | 2.5000e-004 | 2.5000e-004 | | 2.3000e-004 | 2.3000e-004 | 0.0000 | 0.5234 | 0.5234 | 1.6000e-004 | 0.0000 | 0.5267 |
| **Total** | **3.3000e-004** | **4.3000e-003** | **3.7600e-003** | **1.0000e-005** | **1.6500e-003** | **2.5000e-004** | **1.9000e-003** | **1.8000e-004** | **2.3000e-004** | **4.1000e-004** | **0.0000** | **0.5234** | **0.5234** | **1.6000e-004** | **0.0000** | **0.5267** |

## 3.4 Fencing - 2015

**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 | 8.7000e-004 | 5.9000e-003 | 3.5400e-003 | 1.0000e-005 | | 3.1000e-004 | 3.1000e-004 | | 3.1000e-004 | 3.1000e-004 | 0.0000 | 0.6377 | 0.6377 | 1.0000e-004 | 0.0000 | 0.6399 |
| **Total** | **8.7000e-004** | **5.9000e-003** | **3.5400e-003** | **1.0000e-005** | | **3.1000e-004** | **3.1000e-004** | | **3.1000e-004** | **3.1000e-004** | **0.0000** | **0.6377** | **0.6377** | **1.0000e-004** | **0.0000** | **0.6399** |

## 3.5 Driven Piles - 2015

**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 | 0.0168 | 0.1434 | 0.1375 | 1.7000e-004 | | 9.7600e-003 | 9.7600e-003 | | 9.2900e-003 | 9.2900e-003 | 0.0000 | 16.5188 | 16.5188 | 4.8800e-003 | 0.0000 | 16.6212 |
| **Total** | **0.0168** | **0.1434** | **0.1375** | **1.7000e-004** | | **9.7600e-003** | **9.7600e-003** | | **9.2900e-003** | **9.2900e-003** | **0.0000** | **16.5188** | **16.5188** | **4.8800e-003** | **0.0000** | **16.6212** |

## 3.6 Drive Motor Foundations - 2015

**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 | 2.7700e-003 | 0.0400 | 0.0241 | 6.0000e-005 | | 1.4400e-003 | 1.4400e-003 | | 1.3800e-003 | 1.3800e-003 | 0.0000 | 6.0359 | 6.0359 | 1.7400e-003 | 0.0000 | 6.0725 |
| **Total** | **2.7700e-003** | **0.0400** | **0.0241** | **6.0000e-005** | | **1.4400e-003** | **1.4400e-003** | | **1.3800e-003** | **1.3800e-003** | **0.0000** | **6.0359** | **6.0359** | **1.7400e-003** | **0.0000** | **6.0725** |

## 3.7 Material Recieving - 2015

**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 | 2.6000e-004 | 5.9800e-003 | 8.0800e-003 | 1.0000e-005 | | 4.2000e-004 | 4.2000e-004 | | 4.2000e-004 | 4.2000e-004 | 0.0000 | 1.0114 | 1.0114 | 3.0000e-004 | 0.0000 | 1.0178 |
| **Total** | **2.6000e-004** | **5.9800e-003** | **8.0800e-003** | **1.0000e-005** | | **4.2000e-004** | **4.2000e-004** | | **4.2000e-004** | **4.2000e-004** | **0.0000** | **1.0114** | **1.0114** | **3.0000e-004** | **0.0000** | **1.0178** |

## 3.8 Metal Erection - 2015

**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 | 1.0500e-003 | 0.0106 | 0.0107 | 2.0000e-005 | | 6.5000e-004 | 6.5000e-004 | | 6.5000e-004 | 6.5000e-004 | 0.0000 | 1.4844 | 1.4844 | 3.5000e-004 | 0.0000 | 1.4917 |
| **Total** | **1.0500e-003** | **0.0106** | **0.0107** | **2.0000e-005** | | **6.5000e-004** | **6.5000e-004** | | **6.5000e-004** | **6.5000e-004** | **0.0000** | **1.4844** | **1.4844** | **3.5000e-004** | **0.0000** | **1.4917** |

## 3.9 Cable Tray - 2015

**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 | 4.7000e-004 | 5.3500e-003 | 5.5700e-003 | 1.0000e-005 | | 3.2000e-004 | 3.2000e-004 | | 3.2000e-004 | 3.2000e-004 | 0.0000 | 0.7995 | 0.7995 | 1.9000e-004 | 0.0000 | 0.8035 |
| **Total** | **4.7000e-004** | **5.3500e-003** | **5.5700e-003** | **1.0000e-005** | | **3.2000e-004** | **3.2000e-004** | | **3.2000e-004** | **3.2000e-004** | **0.0000** | **0.7995** | **0.7995** | **1.9000e-004** | **0.0000** | **0.8035** |

## 3.10 General Conditions - 2015

**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 | 8.0000e-004 | 5.0700e-003 | 2.7100e-003 | 1.0000e-005 | | 2.2000e-004 | 2.2000e-004 | | 2.2000e-004 | 2.2000e-004 | 0.0000 | 0.5939 | 0.5939 | 6.0000e-005 | 0.0000 | 0.5952 |
| **Total** | **8.0000e-004** | **5.0700e-003** | **2.7100e-003** | **1.0000e-005** | | **2.2000e-004** | **2.2000e-004** | | **2.2000e-004** | **2.2000e-004** | **0.0000** | **0.5939** | **0.5939** | **6.0000e-005** | **0.0000** | **0.5952** |

## 3.11 AC Station Foundation - 2015

**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 | 4.1000e-004 | 6.6900e-003 | 7.7500e-003 | 1.0000e-005 | | 4.3000e-004 | 4.3000e-004 | | 4.2000e-004 | 4.2000e-004 | 0.0000 | 1.0274 | 1.0274 | 3.0000e-004 | 0.0000 | 1.0336 |
| **Total** | **4.1000e-004** | **6.6900e-003** | **7.7500e-003** | **1.0000e-005** | | **4.3000e-004** | **4.3000e-004** | | **4.2000e-004** | **4.2000e-004** | **0.0000** | **1.0274** | **1.0274** | **3.0000e-004** | **0.0000** | **1.0336** |

## 3.12 PV Install - 2015

**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 | 2.3300e-003 | 0.0219 | 0.0217 | 4.0000e-005 | | 1.3800e-003 | 1.3800e-003 | | 1.3800e-003 | 1.3800e-003 | 0.0000 | 2.9282 | 2.9282 | 6.7000e-004 | 0.0000 | 2.9422 |
| **Total** | **2.3300e-003** | **0.0219** | **0.0217** | **4.0000e-005** | | **1.3800e-003** | **1.3800e-003** | | **1.3800e-003** | **1.3800e-003** | **0.0000** | **2.9282** | **2.9282** | **6.7000e-004** | **0.0000** | **2.9422** |

## 3.13 MV & Fiber Underground - 2015

**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 | 1.2500e-003 | 0.0286 | 0.0387 | 5.0000e-005 | | 2.0100e-003 | 2.0100e-003 | | 2.0100e-003 | 2.0100e-003 | 0.0000 | 4.8898 | 4.8898 | 1.4600e-003 | 0.0000 | 4.9205 |
| **Total** | **1.2500e-003** | **0.0286** | **0.0387** | **5.0000e-005** | | **2.0100e-003** | **2.0100e-003** | | **2.0100e-003** | **2.0100e-003** | **0.0000** | **4.8898** | **4.8898** | **1.4600e-003** | **0.0000** | **4.9205** |

## 3.14 DC & Drive Motor Underground - 2015

**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 | 2.1200e-003 | 0.0484 | 0.0654 | 9.0000e-005 | | 3.3900e-003 | 3.3900e-003 | | 3.3900e-003 | 3.3900e-003 | 0.0000 | 8.2751 | 8.2751 | 2.4700e-003 | 0.0000 | 8.3270 |
| **Total** | **2.1200e-003** | **0.0484** | **0.0654** | **9.0000e-005** | | **3.3900e-003** | **3.3900e-003** | | **3.3900e-003** | **3.3900e-003** | **0.0000** | **8.2751** | **8.2751** | **2.4700e-003** | **0.0000** | **8.3270** |

## 3.15 String Wire Connections & Combiner - 2015

**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 | 4.5000e-004 | 5.4100e-003 | 5.8200e-003 | 1.0000e-005 | | 3.3000e-004 | 3.3000e-004 | | 3.3000e-004 | 3.3000e-004 | 0.0000 | 0.8207 | 0.8207 | 2.0000e-004 | 0.0000 | 0.8249 |
| **Total** | **4.5000e-004** | **5.4100e-003** | **5.8200e-003** | **1.0000e-005** | | **3.3000e-004** | **3.3000e-004** | | **3.3000e-004** | **3.3000e-004** | **0.0000** | **0.8207** | **0.8207** | **2.0000e-004** | **0.0000** | **0.8249** |

## 3.16 AC Stations - 2015

**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 | 1.6600e-003 | 0.0335 | 0.0395 | 7.0000e-005 | | 1.5500e-003 | 1.5500e-003 | | 1.5500e-003 | 1.5500e-003 | 0.0000 | 6.4477 | 6.4477 | 1.9200e-003 | 0.0000 | 6.4881 |
| **Total** | **1.6600e-003** | **0.0335** | **0.0395** | **7.0000e-005** | | **1.5500e-003** | **1.5500e-003** | | **1.5500e-003** | **1.5500e-003** | **0.0000** | **6.4477** | **6.4477** | **1.9200e-003** | **0.0000** | **6.4881** |

# CalEEMod Output, Truck Activity

# Solar Facility Phase II Construction: Service Trucks, Concrete, Trucks, Other Trucks

**Kings County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 0.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 37 |
| **Climate Zone** | 3 | | | **Operational Year** | 2016 |
| **Utility Company** | | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0 | **N2O Intensity (lb/MWhr)** | 0 |

### 1.3 User Entered Comments & Non-Default Data

Construction Phase - Luis Schedule - Adjusted for CalEEMod Input

Trips and VMT - Truck Travel

Grading - Truck Emissions Only

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblProjectCharacteristics | OperationalYear | 2014 | 2016 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |

# 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 | | | | | |
| 2016 | 4.4300e-003 | 0.0631 | 0.0358 | 1.7000e-004 | 4.7100e-003 | 1.2100e-003 | 5.9300e-003 | 1.3400e-003 | 1.1200e-003 | 2.4600e-003 | 0.0000 | 15.2378 | 15.2378 | 1.2000e-004 | 0.0000 | 15.2403 |
| **Total** | **4.4300e-003** | **0.0631** | **0.0358** | **1.7000e-004** | **4.7100e-003** | **1.2100e-003** | **5.9300e-003** | **1.3400e-003** | **1.1200e-003** | **2.4600e-003** | **0.0000** | **15.2378** | **15.2378** | **1.2000e-004** | **0.0000** | **15.2403** |

## 2.2 Overall Operational

**Not Applicable**

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Access Roads & Equipment Pads | Grading | 1/3/2016 | 1/14/2016 | 5 | 9 | Access Roads & Equipment Pads |
| 2 | Surveying | Building Construction | 1/5/2016 | 1/8/2016 | 5 | 4 | Surveying |
| 3 | Fencing | Building Construction | 1/9/2016 | 1/20/2016 | 5 | 8 | Fencing |
| 4 | Driven Piles | Trenching | 1/11/2016 | 2/12/2016 | 5 | 25 | Driven Piles |
| 5 | Drive Motor Foundations | Building Construction | 1/13/2016 | 1/25/2016 | 5 | 9 | Drive Motor Foundations |
| 6 | Metal Erection | Building Construction | 1/15/2016 | 2/1/2016 | 5 | 12 | Metal Erection |
| 7 | MV & Fiber Underground | Trenching | 1/17/2016 | 2/3/2016 | 5 | 13 | MV & Fiber Underground |
| 8 | DC & Drive Motor Underground | Trenching | 1/19/2016 | 2/17/2016 | 5 | 22 | DC & Drive Motor Underground |
| 9 | AC Stations | Building Construction | 1/23/2016 | 2/5/2016 | 5 | 10 | AC Stations |
| 10 | Electrical Construction Testing | Building Construction | 1/25/2016 | 2/22/2016 | 5 | 21 | Electrical Construction Testing |
| 11 | Panel Washing | Building Construction | 1/26/2016 | 2/4/2016 | 5 | 8 | Panel Washing |
| 12 | Substation | Building Construction | 1/27/2016 | 2/2/2016 | 5 | 5 | Substation |
| 13 | General Conditions | Building Construction | 2/1/2016 | 3/11/2016 | 5 | 30 | General Conditions |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

## OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Access Roads & Equipment Pads | Skid Steer Loaders | 0 | 0.00 | 79 | 0.37 |
| Fencing | Skid Steer Loaders | 0 | 0.00 | 79 | 0.37 |
| Driven Piles | Forklifts | 0 | 0.00 | 110 | 0.20 |
| Drive Motor Foundations | Welders | 0 | 0.00 | 23 | 0.45 |
| Metal Erection | Forklifts | 0 | 0.00 | 110 | 0.20 |
| MV & Fiber Underground | Tractors/Loaders/Backhoes | 0 | 0.00 | 111 | 0.37 |
| DC & Drive Motor Underground | Tractors/Loaders/Backhoes | 0 | 0.00 | 111 | 0.37 |
| AC Stations | Tractors/Loaders/Backhoes | 0 | 0.00 | 111 | 0.37 |
| Substation | Tractors/Loaders/Backhoes | 0 | 0.00 | 111 | 0.37 |
| Surveying | Forklifts | 0 | 0.00 | 89 | 0.20 |
| Electrical Construction Testing | Forklifts | 0 | 0.00 | 89 | 0.20 |
| Panel Washing | Forklifts | 0 | 0.00 | 89 | 0.20 |
| General Conditions | Dumpers/Tenders | 0 | 0.00 | 22 | 0.38 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Access Roads & Equipment Pads | 0 | 0.00 | 2.00 | 4.00 | 16.80 | 14.56 | 80.00 | LD_Mix | HDT_Mix | HHDT |
| Fencing | 0 | 0.00 | 2.00 | 0.00 | 16.80 | 14.56 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Driven Piles | 0 | 0.00 | 2.00 | 0.00 | 16.80 | 14.56 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Drive Motor Foundations | 0 | 0.00 | 0.00 | 4.00 | 16.80 | 6.60 | 35.00 | LD_Mix | HDT_Mix | HHDT |
| Metal Erection | 0 | 0.00 | 2.00 | 0.00 | 16.80 | 14.56 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| MV & Fiber Underground | 0 | 0.00 | 2.00 | 0.00 | 16.80 | 14.56 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| DC & Drive Motor Underground | 0 | 0.00 | 2.00 | 0.00 | 16.80 | 14.56 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| AC Stations | 0 | 0.00 | 2.00 | 0.00 | 16.80 | 14.56 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Substation | 0 | 0.00 | 4.00 | 6.00 | 16.80 | 255.60 | 70.00 | LD_Mix | HDT_Mix | HHDT |
| Surveying | 0 | 0.00 | 2.00 | 0.00 | 16.80 | 12.50 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Electrical Construction Testing | 0 | 0.00 | 4.00 | 0.00 | 16.80 | 12.09 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Panel Washing | 0 | 0.00 | 2.00 | 0.00 | 16.80 | 14.56 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| General Conditions | 0 | 0.00 | 0.00 | 8.00 | 16.80 | 6.60 | 45.69 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## 3.2 Access Roads & Equipment Pads - 2016

**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 | 1.1000e-004 | 2.0200e-003 | 7.6000e-004 | 1.0000e-005 | 1.4000e-004 | 3.0000e-005 | 1.7000e-004 | 4.0000e-005 | 3.0000e-005 | 7.0000e-005 | 0.0000 | 0.5380 | 0.5380 | 0.0000 | 0.0000 | 0.5381 |
| Vendor | 1.5000e-004 | 1.6500e-003 | 1.4000e-003 | 0.0000 | 1.2000e-004 | 3.0000e-005 | 1.5000e-004 | 3.0000e-005 | 3.0000e-005 | 6.0000e-005 | 0.0000 | 0.3755 | 0.3755 | 0.0000 | 0.0000 | 0.3755 |
| Worker | 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 |
| **Total** | **2.6000e-004** | **3.6700e-003** | **2.1600e-003** | **1.0000e-005** | **2.6000e-004** | **6.0000e-005** | **3.2000e-004** | **7.0000e-005** | **6.0000e-005** | **1.3000e-004** | **0.0000** | **0.9134** | **0.9134** | **0.0000** | **0.0000** | **0.9136** |

## 3.3 Surveying - 2016

**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 | 6.0000e-005 | 6.4000e-004 | 6.0000e-004 | 0.0000 | 4.0000e-005 | 1.0000e-005 | 6.0000e-005 | 1.0000e-005 | 1.0000e-005 | 2.0000e-005 | 0.0000 | 0.1442 | 0.1442 | 0.0000 | 0.0000 | 0.1442 |
| Worker | 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 |
| **Total** | **6.0000e-005** | **6.4000e-004** | **6.0000e-004** | **0.0000** | **4.0000e-005** | **1.0000e-005** | **6.0000e-005** | **1.0000e-005** | **1.0000e-005** | **2.0000e-005** | **0.0000** | **0.1442** | **0.1442** | **0.0000** | **0.0000** | **0.1442** |

## 3.4 Fencing - 2016

**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 | 1.3000e-004 | 1.4600e-003 | 1.2500e-003 | 0.0000 | 1.0000e-004 | 3.0000e-005 | 1.3000e-004 | 3.0000e-005 | 3.0000e-005 | 6.0000e-005 | 0.0000 | 0.3338 | 0.3338 | 0.0000 | 0.0000 | 0.3338 |
| Worker | 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 |
| **Total** | **1.3000e-004** | **1.4600e-003** | **1.2500e-003** | **0.0000** | **1.0000e-004** | **3.0000e-005** | **1.3000e-004** | **3.0000e-005** | **3.0000e-005** | **6.0000e-005** | **0.0000** | **0.3338** | **0.3338** | **0.0000** | **0.0000** | **0.3338** |

## 3.5 Driven Piles - 2016

**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 | 4.1000e-004 | 4.5700e-003 | 3.9000e-003 | 1.0000e-005 | 3.3000e-004 | 9.0000e-005 | 4.1000e-004 | 9.0000e-005 | 8.0000e-005 | 1.7000e-004 | 0.0000 | 1.0430 | 1.0430 | 1.0000e-005 | 0.0000 | 1.0431 |
| Worker | 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 |
| **Total** | **4.1000e-004** | **4.5700e-003** | **3.9000e-003** | **1.0000e-005** | **3.3000e-004** | **9.0000e-005** | **4.1000e-004** | **9.0000e-005** | **8.0000e-005** | **1.7000e-004** | **0.0000** | **1.0430** | **1.0430** | **1.0000e-005** | **0.0000** | **1.0431** |

## 3.6 Drive Motor Foundations - 2016

**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 | 6.0000e-005 | 9.1000e-004 | 5.1000e-004 | 0.0000 | 6.0000e-005 | 1.0000e-005 | 7.0000e-005 | 2.0000e-005 | 1.0000e-005 | 3.0000e-005 | 0.0000 | 0.2372 | 0.2372 | 0.0000 | 0.0000 | 0.2372 |
| 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 | 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 |
| **Total** | **6.0000e-005** | **9.1000e-004** | **5.1000e-004** | **0.0000** | **6.0000e-005** | **1.0000e-005** | **7.0000e-005** | **2.0000e-005** | **1.0000e-005** | **3.0000e-005** | **0.0000** | **0.2372** | **0.2372** | **0.0000** | **0.0000** | **0.2372** |

## 3.7 Metal Erection - 2016

**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 | 2.0000e-004 | 2.1900e-003 | 1.8700e-003 | 1.0000e-005 | 1.6000e-004 | 4.0000e-005 | 2.0000e-004 | 4.0000e-005 | 4.0000e-005 | 8.0000e-005 | 0.0000 | 0.5006 | 0.5006 | 0.0000 | 0.0000 | 0.5007 |
| Worker | 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 |
| **Total** | **2.0000e-004** | **2.1900e-003** | **1.8700e-003** | **1.0000e-005** | **1.6000e-004** | **4.0000e-005** | **2.0000e-004** | **4.0000e-005** | **4.0000e-005** | **8.0000e-005** | **0.0000** | **0.5006** | **0.5006** | **0.0000** | **0.0000** | **0.5007** |

## 3.8 MV & Fiber Underground - 2016

**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 | 2.2000e-004 | 2.3800e-003 | 2.0300e-003 | 1.0000e-005 | 1.7000e-004 | 4.0000e-005 | 2.1000e-004 | 5.0000e-005 | 4.0000e-005 | 9.0000e-005 | 0.0000 | 0.5423 | 0.5423 | 0.0000 | 0.0000 | 0.5424 |
| Worker | 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 |
| **Total** | **2.2000e-004** | **2.3800e-003** | **2.0300e-003** | **1.0000e-005** | **1.7000e-004** | **4.0000e-005** | **2.1000e-004** | **5.0000e-005** | **4.0000e-005** | **9.0000e-005** | **0.0000** | **0.5423** | **0.5423** | **0.0000** | **0.0000** | **0.5424** |

## 3.9 DC & Drive Motor Underground - 2016

**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 | 3.6000e-004 | 4.0200e-003 | 3.4300e-003 | 1.0000e-005 | 2.9000e-004 | 8.0000e-005 | 3.6000e-004 | 8.0000e-005 | 7.0000e-005 | 1.5000e-004 | 0.0000 | 0.9178 | 0.9178 | 1.0000e-005 | 0.0000 | 0.9180 |
| Worker | 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 |
| **Total** | **3.6000e-004** | **4.0200e-003** | **3.4300e-003** | **1.0000e-005** | **2.9000e-004** | **8.0000e-005** | **3.6000e-004** | **8.0000e-005** | **7.0000e-005** | **1.5000e-004** | **0.0000** | **0.9178** | **0.9178** | **1.0000e-005** | **0.0000** | **0.9180** |

## 3.10 AC Stations - 2016

**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 | 1.7000e-004 | 1.8300e-003 | 1.5600e-003 | 0.0000 | 1.3000e-004 | 3.0000e-005 | 1.6000e-004 | 4.0000e-005 | 3.0000e-005 | 7.0000e-005 | 0.0000 | 0.4172 | 0.4172 | 0.0000 | 0.0000 | 0.4173 |
| Worker | 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 |
| **Total** | **1.7000e-004** | **1.8300e-003** | **1.5600e-003** | **0.0000** | **1.3000e-004** | **3.0000e-005** | **1.6000e-004** | **4.0000e-005** | **3.0000e-005** | **7.0000e-005** | **0.0000** | **0.4172** | **0.4172** | **0.0000** | **0.0000** | **0.4173** |

## 3.11 Electrical Construction Testing - 2016

**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 | 6.4000e-004 | 6.5300e-003 | 6.2500e-003 | 2.0000e-005 | 4.5000e-004 | 1.2000e-004 | 5.8000e-004 | 1.3000e-004 | 1.1000e-004 | 2.4000e-004 | 0.0000 | 1.4661 | 1.4661 | 1.0000e-005 | 0.0000 | 1.4663 |
| Worker | 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 |
| **Total** | **6.4000e-004** | **6.5300e-003** | **6.2500e-003** | **2.0000e-005** | **4.5000e-004** | **1.2000e-004** | **5.8000e-004** | **1.3000e-004** | **1.1000e-004** | **2.4000e-004** | **0.0000** | **1.4661** | **1.4661** | **1.0000e-005** | **0.0000** | **1.4663** |

## 3.12 Panel Washing - 2016

**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 | 1.3000e-004 | 1.4600e-003 | 1.2500e-003 | 0.0000 | 1.0000e-004 | 3.0000e-005 | 1.3000e-004 | 3.0000e-005 | 3.0000e-005 | 6.0000e-005 | 0.0000 | 0.3338 | 0.3338 | 0.0000 | 0.0000 | 0.3338 |
| Worker | 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 |
| **Total** | **1.3000e-004** | **1.4600e-003** | **1.2500e-003** | **0.0000** | **1.0000e-004** | **3.0000e-005** | **1.3000e-004** | **3.0000e-005** | **3.0000e-005** | **6.0000e-005** | **0.0000** | **0.3338** | **0.3338** | **0.0000** | **0.0000** | **0.3338** |

## 3.13 Substation - 2016

**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 | 1.5000e-004 | 2.6600e-003 | 1.0600e-003 | 1.0000e-005 | 1.8000e-004 | 4.0000e-005 | 2.2000e-004 | 5.0000e-005 | 4.0000e-005 | 9.0000e-005 | 0.0000 | 0.7067 | 0.7067 | 1.0000e-005 | 0.0000 | 0.7068 |
| Vendor | 1.5000e-003 | 0.0284 | 8.7700e-003 | 8.0000e-005 | 2.2900e-003 | 5.9000e-004 | 2.8700e-003 | 6.5000e-004 | 5.4000e-004 | 1.1900e-003 | 0.0000 | 7.0647 | 7.0647 | 5.0000e-005 | 0.0000 | 7.0659 |
| Worker | 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 |
| **Total** | **1.6500e-003** | **0.0311** | **9.8300e-003** | **9.0000e-005** | **2.4700e-003** | **6.3000e-004** | **3.0900e-003** | **7.0000e-004** | **5.8000e-004** | **1.2800e-003** | **0.0000** | **7.7714** | **7.7714** | **6.0000e-005** | **0.0000** | **7.7727** |

## 3.14 General Conditions - 2016

**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 | 1.4000e-004 | 2.3400e-003 | 1.1400e-003 | 1.0000e-005 | 1.6000e-004 | 4.0000e-005 | 1.9000e-004 | 4.0000e-005 | 3.0000e-005 | 8.0000e-005 | 0.0000 | 0.6172 | 0.6172 | 0.0000 | 0.0000 | 0.6173 |
| 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 | 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 |
| **Total** | **1.4000e-004** | **2.3400e-003** | **1.1400e-003** | **1.0000e-005** | **1.6000e-004** | **4.0000e-005** | **1.9000e-004** | **4.0000e-005** | **3.0000e-005** | **8.0000e-005** | **0.0000** | **0.6172** | **0.6172** | **0.0000** | **0.0000** | **0.6173** |

# CalEEMod Output, Delivery Trip Onsite Travel

# Solar Facility Phase II Construction: Delivery On-Site Travel

**Kings County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 0.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 37 |
| **Climate Zone** | 3 | | | **Operational Year** | 2016 |
| **Utility Company** | | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0 | **N2O Intensity (lb/MWhr)** | 0 |

### 1.3 User Entered Comments & Non-Default Data

Construction Phase - Luis Schedule - Adjusted for CalEEMod Input

Off-road Equipment - Per Sunpower

Trips and VMT - 292 total trips. 0.5 mile in, 0.5 mile out.

Construction Off-road Equipment Mitigation - Regulation VIII Compliance

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 0.00 | 50.00 |
| tblProjectCharacteristics | OperationalYear | 2014 | 2016 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 1.00 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 292.00 |

## 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 | | | | | |
| 2016 | 1.5300e-003 | 5.1600e-003 | 0.0240 | 1.0000e-005 | 1.3000e-004 | 4.0000e-005 | 1.7000e-004 | 4.0000e-005 | 4.0000e-005 | 7.0000e-005 | 0.0000 | 0.7196 | 0.7196 | 1.0000e-005 | 0.0000 | 0.7198 |
| **Total** | **1.5300e-003** | **5.1600e-003** | **0.0240** | **1.0000e-005** | **1.3000e-004** | **4.0000e-005** | **1.7000e-004** | **4.0000e-005** | **4.0000e-005** | **7.0000e-005** | **0.0000** | **0.7196** | **0.7196** | **1.0000e-005** | **0.0000** | **0.7198** |

### 2.2 Overall Operational

**Not Applicable**

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | General Conditions | Building Construction | 1/1/2016 | 3/10/2016 | 5 | 50 | General Conditions |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| General Conditions | Cranes | 0 | 0.00 | 226 | 0.29 |
| General Conditions | Forklifts | 0 | 0.00 | 89 | 0.20 |
| General Conditions | Tractors/Loaders/Backhoes | 0 | 0.00 | 97 | 0.37 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Conditions | 0 | 0.00 | 0.00 | 292.00 | 16.80 | 6.60 | 1.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 General Conditions - 2016

**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 | 1.5300e-003 | 5.1600e-003 | 0.0240 | 1.0000e-005 | 1.3000e-004 | 4.0000e-005 | 1.7000e-004 | 4.0000e-005 | 4.0000e-005 | 7.0000e-005 | 0.0000 | 0.7196 | 0.7196 | 1.0000e-005 | 0.0000 | 0.7198 |
| 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 | 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 |
| **Total** | **1.5300e-003** | **5.1600e-003** | **0.0240** | **1.0000e-005** | **1.3000e-004** | **4.0000e-005** | **1.7000e-004** | **4.0000e-005** | **4.0000e-005** | **7.0000e-005** | **0.0000** | **0.7196** | **0.7196** | **1.0000e-005** | **0.0000** | **0.7198** |

# CalEEMod Output, Delivery Trip Offsite Travel

# Solar Facility Phase II Construction: Delivery On-Road Travel

**Kings County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 0.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 37 |
| **Climate Zone** | 3 | | | **Operational Year** | 2016 |
| **Utility Company** | | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0 | **N2O Intensity (lb/MWhr)** | 0 |

### 1.3 User Entered Comments & Non-Default Data

Construction Phase - Luis Schedule - Adjusted for CalEEMod Input

Off-road Equipment - Per Sunpower

Trips and VMT - 292 total trips. 123 miles to southern boundary of SJVAB

Construction Off-road Equipment Mitigation - Regulation VIII Compliance

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 0.00 | 50.00 |
| tblProjectCharacteristics | OperationalYear | 2014 | 2016 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |
| tblTripsAndVMT | HaulingTripLength | 20.00 | 123.00 |
| tblTripsAndVMT | HaulingTripNumber | 0.00 | 292.00 |

## 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 | | | | | |
| 2016 | 0.0114 | 0.2245 | 0.0725 | 6.6000e-004 | 0.0154 | 3.6600e-003 | 0.0191 | 4.2400e-003 | 3.3700e-003 | 7.6100e-003 | 0.0000 | 60.2561 | 60.2561 | 4.2000e-004 | 0.0000 | 60.2650 |
| **Total** | **0.0114** | **0.2245** | **0.0725** | **6.6000e-004** | **0.0154** | **3.6600e-003** | **0.0191** | **4.2400e-003** | **3.3700e-003** | **7.6100e-003** | **0.0000** | **60.2561** | **60.2561** | **4.2000e-004** | **0.0000** | **60.2650** |

### 2.2 Overall Operational

**Not Applicable**

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | General Conditions | Building Construction | 1/1/2016 | 3/10/2016 | 5 | 50 | General Conditions |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| General Conditions | Cranes | 0 | 0.00 | 226 | 0.29 |
| General Conditions | Forklifts | 0 | 0.00 | 89 | 0.20 |
| General Conditions | Tractors/Loaders/Backhoes | 0 | 0.00 | 97 | 0.37 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Conditions | 0 | 0.00 | 0.00 | 292.00 | 16.80 | 6.60 | 123.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

## 3.2 General Conditions - 2016

**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 | 0.0114 | 0.2245 | 0.0725 | 6.6000e-004 | 0.0154 | 3.6600e-003 | 0.0191 | 4.2400e-003 | 3.3700e-003 | 7.6100e-003 | 0.0000 | 60.2561 | 60.2561 | 4.2000e-004 | 0.0000 | 60.2650 |
| 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 | 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 |
| **Total** | **0.0114** | **0.2245** | **0.0725** | **6.6000e-004** | **0.0154** | **3.6600e-003** | **0.0191** | **4.2400e-003** | **3.3700e-003** | **7.6100e-003** | **0.0000** | **60.2561** | **60.2561** | **4.2000e-004** | **0.0000** | **60.2650** |

# CalEEMod Output, Employee Onsite Travel

# Solar Facility Phase II Construction: Employee On-Site Travel

**Kings County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 0.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 37 |
| **Climate Zone** | 3 | | | **Operational Year** | 2016 |
| **Utility Company** | | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0 | **N2O Intensity (lb/MWhr)** | 0 |

### 1.3 User Entered Comments & Non-Default Data

Construction Phase - Luis Schedule - Adjusted for CalEEMod Input

Trips and VMT - Employee Travel per Sunpower. Length 0.1 mile in, 0.1 mile out.

Construction Off-road Equipment Mitigation - Regulation VIII Compliance

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblProjectCharacteristics | OperationalYear | 2014 | 2016 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |

## 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 | | | | | |
| 2016 | 7.8600e-003 | 2.0700e-003 | 0.0274 | 1.0000e-005 | 2.3000e-004 | 3.0000e-005 | 2.5000e-004 | 6.0000e-005 | 2.0000e-005 | 9.0000e-005 | 0.0000 | 0.7283 | 0.7283 | 1.2000e-004 | 0.0000 | 0.7308 |
| **Total** | **7.8600e-003** | **2.0700e-003** | **0.0274** | **1.0000e-005** | **2.3000e-004** | **3.0000e-005** | **2.5000e-004** | **6.0000e-005** | **2.0000e-005** | **9.0000e-005** | **0.0000** | **0.7283** | **0.7283** | **1.2000e-004** | **0.0000** | **0.7308** |

### 2.2 Overall Operational

**Not Applicable**

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | General Conditions | Building Construction | 1/1/2016 | 3/10/2016 | 5 | 50 | General Conditions |
| 2 | Fencing | Building Construction | 1/5/2016 | 1/11/2016 | 5 | 5 | Fencing |
| 3 | Driven Piles | Trenching | 1/7/2016 | 2/10/2016 | 5 | 25 | Driven Piles |
| 4 | Metal Erection | Building Construction | 1/9/2016 | 2/5/2016 | 5 | 20 | Metal Erection |
| 5 | PV Install | Building Construction | 1/11/2016 | 2/9/2016 | 5 | 22 | PV Install |
| 6 | String Wire Connections & Combiner | Building Construction | 1/13/2016 | 2/2/2016 | 5 | 15 | String Wire Connections & Combiner |
| 7 | Substation | Building Construction | 1/17/2016 | 2/5/2016 | 5 | 15 | Substation |
| 8 | Surveying | Building Construction | 1/19/2016 | 1/27/2016 | 5 | 7 | Surveying |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| General Conditions | Cranes | 0 | 0.00 | 226 | 0.29 |
| General Conditions | Forklifts | 0 | 0.00 | 89 | 0.20 |
| General Conditions | Tractors/Loaders/Backhoes | 0 | 0.00 | 97 | 0.37 |
| Fencing | Cranes | 0 | 4.00 | 226 | 0.29 |
| Fencing | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Fencing | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| Driven Piles | Forklifts | 0 | 0.00 | 89 | 0.20 |
| Metal Erection | Cranes | 0 | 4.00 | 226 | 0.29 |
| Metal Erection | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Metal Erection | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| PV Install | Cranes | 0 | 4.00 | 226 | 0.29 |
| PV Install | Forklifts | 0 | 6.00 | 89 | 0.20 |
| PV Install | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| String Wire Connections & Combiner | Cranes | 0 | 4.00 | 226 | 0.29 |
| String Wire Connections & Combiner | Forklifts | 0 | 6.00 | 89 | 0.20 |
| String Wire Connections & Combiner | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| Substation | Cranes | 0 | 4.00 | 226 | 0.29 |
| Substation | Cranes | 0 | 4.00 | 226 | 0.29 |
| Substation | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Substation | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| Surveying | Cranes | 0 | 4.00 | 226 | 0.29 |
| Surveying | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Surveying | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Conditions | 0 | 68.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Fencing | 0 | 16.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Driven Piles | 0 | 20.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Metal Erection | 0 | 28.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| PV Install | 0 | 32.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| String Wire Connections & | 0 | 4.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Substation | 0 | 4.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Surveying | 0 | 8.00 | 0.00 | 0.00 | 0.10 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## 3.2 General Conditions - 2016

**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 | 4.9300e-003 | 1.3000e-003 | 0.0172 | 1.0000e-005 | 1.4000e-004 | 2.0000e-005 | 1.6000e-004 | 4.0000e-005 | 1.0000e-005 | 5.0000e-005 | 0.0000 | 0.4569 | 0.4569 | 8.0000e-005 | 0.0000 | 0.4585 |
| **Total** | **4.9300e-003** | **1.3000e-003** | **0.0172** | **1.0000e-005** | **1.4000e-004** | **2.0000e-005** | **1.6000e-004** | **4.0000e-005** | **1.0000e-005** | **5.0000e-005** | **0.0000** | **0.4569** | **0.4569** | **8.0000e-005** | **0.0000** | **0.4585** |

## 3.3 Fencing - 2016

**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 | 1.2000e-004 | 3.0000e-005 | 4.0000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0108 | 0.0108 | 0.0000 | 0.0000 | 0.0108 |
| **Total** | **1.2000e-004** | **3.0000e-005** | **4.0000e-004** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0108** | **0.0108** | **0.0000** | **0.0000** | **0.0108** |

## 3.4 Driven Piles - 2016

**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 | 7.2000e-004 | 1.9000e-004 | 2.5300e-003 | 0.0000 | 2.0000e-005 | 0.0000 | 2.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0672 | 0.0672 | 1.0000e-005 | 0.0000 | 0.0674 |
| **Total** | **7.2000e-004** | **1.9000e-004** | **2.5300e-003** | **0.0000** | **2.0000e-005** | **0.0000** | **2.0000e-005** | **1.0000e-005** | **0.0000** | **1.0000e-005** | **0.0000** | **0.0672** | **0.0672** | **1.0000e-005** | **0.0000** | **0.0674** |

## 3.5 Metal Erection - 2016

**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 | 8.1000e-004 | 2.1000e-004 | 2.8300e-003 | 0.0000 | 2.0000e-005 | 0.0000 | 3.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0753 | 0.0753 | 1.0000e-005 | 0.0000 | 0.0755 |
| **Total** | **8.1000e-004** | **2.1000e-004** | **2.8300e-003** | **0.0000** | **2.0000e-005** | **0.0000** | **3.0000e-005** | **1.0000e-005** | **0.0000** | **1.0000e-005** | **0.0000** | **0.0753** | **0.0753** | **1.0000e-005** | **0.0000** | **0.0755** |

## 3.6 PV Install - 2016

**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 | 1.0200e-003 | 2.7000e-004 | 3.5600e-003 | 0.0000 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 1.0000e-005 | 0.0000 | 1.0000e-005 | 0.0000 | 0.0946 | 0.0946 | 2.0000e-005 | 0.0000 | 0.0949 |
| **Total** | **1.0200e-003** | **2.7000e-004** | **3.5600e-003** | **0.0000** | **3.0000e-005** | **0.0000** | **3.0000e-005** | **1.0000e-005** | **0.0000** | **1.0000e-005** | **0.0000** | **0.0946** | **0.0946** | **2.0000e-005** | **0.0000** | **0.0949** |

## 3.7 String Wire Connections & Combiner - 2016

**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 | 9.0000e-005 | 2.0000e-005 | 3.0000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 8.0600e-003 | 8.0600e-003 | 0.0000 | 0.0000 | 8.0900e-003 |
| **Total** | **9.0000e-005** | **2.0000e-005** | **3.0000e-004** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **8.0600e-003** | **8.0600e-003** | **0.0000** | **0.0000** | **8.0900e-003** |

## 3.8 Substation - 2016

**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 | 9.0000e-005 | 2.0000e-005 | 3.0000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 8.0600e-003 | 8.0600e-003 | 0.0000 | 0.0000 | 8.0900e-003 |
| **Total** | **9.0000e-005** | **2.0000e-005** | **3.0000e-004** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **8.0600e-003** | **8.0600e-003** | **0.0000** | **0.0000** | **8.0900e-003** |

## 3.9 Surveying - 2016

**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 | 8.0000e-005 | 2.0000e-005 | 2.8000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 7.5200e-003 | 7.5200e-003 | 0.0000 | 0.0000 | 7.5500e-003 |
| **Total** | **8.0000e-005** | **2.0000e-005** | **2.8000e-004** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **0.0000** | **7.5200e-003** | **7.5200e-003** | **0.0000** | **0.0000** | **7.5500e-003** |

# CalEEMod Output, Employee Offsite Travel

# Solar Facility Phase II Construction: Employee On-Road Travel

**Kings County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 0.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 37 |
| **Climate Zone** | 3 | | | **Operational Year** | 2016 |
| **Utility Company** | | | | | |
| **CO2 Intensity (lb/MWhr)** | 0 | **CH4 Intensity (lb/MWhr)** | 0 | **N2O Intensity (lb/MWhr)** | 0 |

### 1.3 User Entered Comments & Non-Default Data

Construction Phase - Luis Schedule - Adjusted for CalEEMod Input

Trips and VMT - Employee Travel per Sunpower

Construction Off-road Equipment Mitigation - Regulation VIII Compliance

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblProjectCharacteristics | OperationalYear | 2014 | 2016 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |

## 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 | | | | | |
| 2016 | 0.0233 | 0.0591 | 0.5127 | 9.2000e-004 | 0.0804 | 5.8000e-004 | 0.0810 | 0.0213 | 5.3000e-004 | 0.0219 | 0.0000 | 68.8681 | 68.8681 | 4.1800e-003 | 0.0000 | 68.9560 |
| **Total** | **0.0233** | **0.0591** | **0.5127** | **9.2000e-004** | **0.0804** | **5.8000e-004** | **0.0810** | **0.0213** | **5.3000e-004** | **0.0219** | **0.0000** | **68.8681** | **68.8681** | **4.1800e-003** | **0.0000** | **68.9560** |

### 2.2 Overall Operational

**Not Applicable**

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | General Conditions | Building Construction | 1/1/2016 | 3/10/2016 | 5 | 50 | General Conditions |
| 2 | Fencing | Building Construction | 1/5/2016 | 1/11/2016 | 5 | 5 | Fencing |
| 3 | Driven Piles | Trenching | 1/7/2016 | 2/10/2016 | 5 | 25 | Driven Piles |
| 4 | Metal Erection | Building Construction | 1/9/2016 | 2/5/2016 | 5 | 20 | Metal Erection |
| 5 | PV Install | Building Construction | 1/11/2016 | 2/9/2016 | 5 | 22 | PV Install |
| 6 | String Wire Connections & Combiner | Building Construction | 1/13/2016 | 2/2/2016 | 5 | 15 | String Wire Connections & Combiner |
| 7 | Substation | Building Construction | 1/17/2016 | 2/5/2016 | 5 | 15 | Substation |
| 8 | Surveying | Building Construction | 1/19/2016 | 1/27/2016 | 5 | 7 | Surveying |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| General Conditions | Cranes | 0 | 0.00 | 226 | 0.29 |
| General Conditions | Forklifts | 0 | 0.00 | 89 | 0.20 |
| General Conditions | Tractors/Loaders/Backhoes | 0 | 0.00 | 97 | 0.37 |
| Fencing | Cranes | 0 | 4.00 | 226 | 0.29 |
| Fencing | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Fencing | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| Driven Piles | Forklifts | 0 | 0.00 | 89 | 0.20 |
| Metal Erection | Cranes | 0 | 4.00 | 226 | 0.29 |
| Metal Erection | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Metal Erection | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| PV Install | Cranes | 0 | 4.00 | 226 | 0.29 |
| PV Install | Forklifts | 0 | 6.00 | 89 | 0.20 |
| PV Install | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| String Wire Connections & Combiner | Cranes | 0 | 4.00 | 226 | 0.29 |
| String Wire Connections & Combiner | Forklifts | 0 | 6.00 | 89 | 0.20 |
| String Wire Connections & Combiner | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| Substation | Cranes | 0 | 4.00 | 226 | 0.29 |
| Substation | Cranes | 0 | 4.00 | 226 | 0.29 |
| Substation | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Substation | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| Surveying | Cranes | 0 | 4.00 | 226 | 0.29 |
| Surveying | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Surveying | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|
| General Conditions | 0 | 68.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Fencing | 0 | 16.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Driven Piles | 0 | 20.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Metal Erection | 0 | 28.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| PV Install | 0 | 32.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| String Wire Connections & | 0 | 4.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Substation | 0 | 4.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Surveying | 0 | 8.00 | 0.00 | 0.00 | 39.90 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## 3.2 General Conditions - 2016

**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 | 0.0146 | 0.0371 | 0.3216 | 5.8000e-004 | 0.0504 | 3.7000e-004 | 0.0508 | 0.0134 | 3.3000e-004 | 0.0137 | 0.0000 | 43.2014 | 43.2014 | 2.6300e-003 | 0.0000 | 43.2565 |
| **Total** | **0.0146** | **0.0371** | **0.3216** | **5.8000e-004** | **0.0504** | **3.7000e-004** | **0.0508** | **0.0134** | **3.3000e-004** | **0.0137** | **0.0000** | **43.2014** | **43.2014** | **2.6300e-003** | **0.0000** | **43.2565** |

## 3.3 Fencing - 2016

**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 | 3.4000e-004 | 8.7000e-004 | 7.5700e-003 | 1.0000e-005 | 1.1900e-003 | 1.0000e-005 | 1.1900e-003 | 3.2000e-004 | 1.0000e-005 | 3.2000e-004 | 0.0000 | 1.0165 | 1.0165 | 6.0000e-005 | 0.0000 | 1.0178 |
| **Total** | **3.4000e-004** | **8.7000e-004** | **7.5700e-003** | **1.0000e-005** | **1.1900e-003** | **1.0000e-005** | **1.1900e-003** | **3.2000e-004** | **1.0000e-005** | **3.2000e-004** | **0.0000** | **1.0165** | **1.0165** | **6.0000e-005** | **0.0000** | **1.0178** |

## 3.4 Driven Piles - 2016

**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 | 2.1500e-003 | 5.4500e-003 | 0.0473 | 8.0000e-005 | 7.4100e-003 | 5.0000e-005 | 7.4700e-003 | 1.9700e-003 | 5.0000e-005 | 2.0200e-003 | 0.0000 | 6.3532 | 6.3532 | 3.9000e-004 | 0.0000 | 6.3613 |
| **Total** | **2.1500e-003** | **5.4500e-003** | **0.0473** | **8.0000e-005** | **7.4100e-003** | **5.0000e-005** | **7.4700e-003** | **1.9700e-003** | **5.0000e-005** | **2.0200e-003** | **0.0000** | **6.3532** | **6.3532** | **3.9000e-004** | **0.0000** | **6.3613** |

## 3.5 Metal Erection - 2016

**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 | 2.4100e-003 | 6.1100e-003 | 0.0530 | 9.0000e-005 | 8.3000e-003 | 6.0000e-005 | 8.3600e-003 | 2.2100e-003 | 6.0000e-005 | 2.2600e-003 | 0.0000 | 7.1155 | 7.1155 | 4.3000e-004 | 0.0000 | 7.1246 |
| **Total** | **2.4100e-003** | **6.1100e-003** | **0.0530** | **9.0000e-005** | **8.3000e-003** | **6.0000e-005** | **8.3600e-003** | **2.2100e-003** | **6.0000e-005** | **2.2600e-003** | **0.0000** | **7.1155** | **7.1155** | **4.3000e-004** | **0.0000** | **7.1246** |

## 3.6 PV Install - 2016

**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 | 3.0300e-003 | 7.6800e-003 | 0.0666 | 1.2000e-004 | 0.0104 | 8.0000e-005 | 0.0105 | 2.7700e-003 | 7.0000e-005 | 2.8400e-003 | 0.0000 | 8.9452 | 8.9452 | 5.4000e-004 | 0.0000 | 8.9567 |
| **Total** | **3.0300e-003** | **7.6800e-003** | **0.0666** | **1.2000e-004** | **0.0104** | **8.0000e-005** | **0.0105** | **2.7700e-003** | **7.0000e-005** | **2.8400e-003** | **0.0000** | **8.9452** | **8.9452** | **5.4000e-004** | **0.0000** | **8.9567** |

## 3.7 String Wire Connections & Combiner - 2016

**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 | 2.6000e-004 | 6.5000e-004 | 5.6800e-003 | 1.0000e-005 | 8.9000e-004 | 1.0000e-005 | 9.0000e-004 | 2.4000e-004 | 1.0000e-005 | 2.4000e-004 | 0.0000 | 0.7624 | 0.7624 | 5.0000e-005 | 0.0000 | 0.7634 |
| **Total** | **2.6000e-004** | **6.5000e-004** | **5.6800e-003** | **1.0000e-005** | **8.9000e-004** | **1.0000e-005** | **9.0000e-004** | **2.4000e-004** | **1.0000e-005** | **2.4000e-004** | **0.0000** | **0.7624** | **0.7624** | **5.0000e-005** | **0.0000** | **0.7634** |

## 3.8 Substation - 2016

**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 | 2.6000e-004 | 6.5000e-004 | 5.6800e-003 | 1.0000e-005 | 8.9000e-004 | 1.0000e-005 | 9.0000e-004 | 2.4000e-004 | 1.0000e-005 | 2.4000e-004 | 0.0000 | 0.7624 | 0.7624 | 5.0000e-005 | 0.0000 | 0.7634 |
| **Total** | **2.6000e-004** | **6.5000e-004** | **5.6800e-003** | **1.0000e-005** | **8.9000e-004** | **1.0000e-005** | **9.0000e-004** | **2.4000e-004** | **1.0000e-005** | **2.4000e-004** | **0.0000** | **0.7624** | **0.7624** | **5.0000e-005** | **0.0000** | **0.7634** |

## 3.9 Surveying - 2016

**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 | 6.1000e-004 | 5.3000e-003 | 1.0000e-005 | 8.3000e-004 | 1.0000e-005 | 8.4000e-004 | 2.2000e-004 | 1.0000e-005 | 2.3000e-004 | 0.0000 | 0.7116 | 0.7116 | 4.0000e-005 | 0.0000 | 0.7125 |
| **Total** | **2.4000e-004** | **6.1000e-004** | **5.3000e-003** | **1.0000e-005** | **8.3000e-004** | **1.0000e-005** | **8.4000e-004** | **2.2000e-004** | **1.0000e-005** | **2.3000e-004** | **0.0000** | **0.7116** | **0.7116** | **4.0000e-005** | **0.0000** | **0.7125** |

# Appendix C:
# PG&E Leprino Switching Station Construction CalEEMod Output

# PG&E Leprino Switching Station Construction

**Kings County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| User Defined Industrial | 1.00 | User Defined Unit | 0.00 | 0.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Rural | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 37 |
| **Climate Zone** | 3 | | | **Operational Year** | 2015 |
| **Utility Company** | Pacific Gas & Electric Company | | | | |
| **CO2 Intensity (lb/MWhr)** | 641.35 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

### 1.3 User Entered Comments & Non-Default Data

Construction Phase - CalEEMod Adjusted from Sunpower Input and VEGA Proxy

Off-road Equipment - Based on VEGA proxy

Off-road Equipment - Based on Sunpower Input

Off-road Equipment - Based on Sunpower Substation Details

Trips and VMT - Haul trips based on assumed soils, rock, and fill import and export. Vendor trips assumes 600 cy of asphalt/concrete delivery (2 trips/day).

Grading - Assumes 12,000 cy total soils import/export

Construction Off-road Equipment Mitigation - SJVAPCD Regulation VIII Compliance

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblProjectCharacteristics | OperationalYear | 2014 | 2015 |
| tblProjectCharacteristics | UrbanizationLevel | Urban | Rural |

## 2.0 Emissions Summary

### 2.1 Overall Construction

**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 | | | | | |
| 2015 | 0.2887 | 3.1317 | 1.8516 | 2.9600e-003 | 0.2659 | 0.1546 | 0.4206 | 0.1275 | 0.1425 | 0.2700 | 0.0000 | 277.7057 | 277.7057 | 0.0652 | 0.0000 | 279.0750 |
| **Total** | **0.2887** | **3.1317** | **1.8516** | **2.9600e-003** | **0.2659** | **0.1546** | **0.4206** | **0.1275** | **0.1425** | **0.2700** | **0.0000** | **277.7057** | **277.7057** | **0.0652** | **0.0000** | **279.0750** |

### 2.2 Overall Operational

**Not Applicable**

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Grading | Grading | 1/3/2015 | 3/27/2015 | 5 | 60 | Grading |
| 2 | Fencing | Building Construction | 1/13/2015 | 1/19/2015 | 5 | 5 | Fencing |
| 3 | Material Recieving | Building Construction | 1/19/2015 | 2/13/2015 | 5 | 20 | Material Recieving |
| 4 | Transmission Poles | Building Construction | 2/5/2015 | 3/18/2015 | 5 | 30 | Transmission Poles |
| 5 | Switchyard | Building Construction | 2/13/2015 | 3/12/2015 | 5 | 20 | Switchyard |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 45**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Grading | Concrete/Industrial Saws | 0 | 8.00 | 81 | 0.73 |
| Grading | Excavators | 1 | 12.00 | 162 | 0.38 |
| Grading | Graders | 1 | 12.00 | 174 | 0.41 |
| Grading | Rollers | 1 | 12.00 | 80 | 0.38 |
| Grading | Rubber Tired Dozers | 1 | 12.00 | 255 | 0.40 |
| Grading | Rubber Tired Loaders | 1 | 12.00 | 199 | 0.36 |
| Grading | Tractors/Loaders/Backhoes | 1 | 12.00 | 97 | 0.37 |
| Fencing | Cranes | 0 | 4.00 | 226 | 0.29 |
| Fencing | Forklifts | 0 | 6.00 | 89 | 0.20 |
| Fencing | Generator Sets | 4 | 7.00 | 22 | 0.74 |
| Fencing | Skid Steer Loaders | 1 | 4.00 | 79 | 0.37 |
| Fencing | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| Material Recieving | Cranes | 0 | 4.00 | 226 | 0.29 |

| | | | | | |
|---|---|---|---|---|---|
| Material Recieving | Forklifts | 2 | 6.00 | 110 | 0.20 |
| Material Recieving | Tractors/Loaders/Backhoes | 0 | 8.00 | 97 | 0.37 |
| Transmission Poles | Bore/Drill Rigs | 1 | 12.00 | 205 | 0.50 |
| Transmission Poles | Cranes | 1 | 12.00 | 226 | 0.29 |
| Transmission Poles | Forklifts | 1 | 12.00 | 89 | 0.20 |
| Transmission Poles | Rubber Tired Loaders | 1 | 12.00 | 199 | 0.36 |
| Transmission Poles | Tractors/Loaders/Backhoes | 1 | 12.00 | 97 | 0.37 |
| Switchyard | Aerial Lifts | 2 | 7.00 | 29 | 0.31 |
| Switchyard | Air Compressors | 2 | 4.80 | 13 | 0.48 |
| Switchyard | Cranes | 1 | 7.00 | 31 | 0.29 |
| Switchyard | Cranes | 1 | 3.50 | 478 | 0.29 |
| Switchyard | Excavators | 1 | 5.30 | 38 | 0.38 |
| Switchyard | Forklifts | 3 | 6.40 | 110 | 0.20 |
| Switchyard | Generator Sets | 4 | 4.30 | 22 | 0.74 |
| Switchyard | Skid Steer Loaders | 1 | 7.00 | 79 | 0.37 |
| Switchyard | Tractors/Loaders/Backhoes | 1 | 8.80 | 111 | 0.37 |

**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 |
|---|---|---|---|---|---|---|---|---|---|---|
| Grading | 6 | 15.00 | 2.00 | 1,500.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Fencing | 5 | 2.00 | 0.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Material Recieving | 2 | 2.00 | 0.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Transmission Poles | 5 | 2.00 | 0.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Switchyard | 16 | 2.00 | 0.00 | 0.00 | 16.80 | 6.60 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## 3.2 Grading - 2015

### 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 | | | | | 0.2305 | 0.0000 | 0.2305 | 0.1183 | 0.0000 | 0.1183 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.1796 | 1.9664 | 1.1580 | 1.4500e-003 | | 0.1023 | 0.1023 | | 0.0941 | 0.0941 | 0.0000 | 138.4881 | 138.4881 | 0.0413 | 0.0000 | 139.3563 |
| **Total** | **0.1796** | **1.9664** | **1.1580** | **1.4500e-003** | **0.2305** | **0.1023** | **0.3328** | **0.1183** | **0.0941** | **0.2124** | **0.0000** | **138.4881** | **138.4881** | **0.0413** | **0.0000** | **139.3563** |

### 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 | 0.0189 | 0.2379 | 0.1835 | 5.6000e-004 | 0.0226 | 3.8000e-003 | 0.0264 | 5.9200e-003 | 3.4900e-003 | 9.4100e-003 | 0.0000 | 51.9920 | 51.9920 | 4.3000e-004 | 0.0000 | 52.0010 |
| Vendor | 8.7000e-004 | 6.5400e-003 | 8.9700e-003 | 1.0000e-005 | 6.1000e-004 | 1.2000e-004 | 7.3000e-004 | 1.6000e-004 | 1.1000e-004 | 2.7000e-004 | 0.0000 | 1.2004 | 1.2004 | 1.0000e-005 | 0.0000 | 1.2007 |
| Worker | 2.7100e-003 | 4.8400e-003 | 0.0432 | 7.0000e-005 | 0.0105 | 5.0000e-005 | 0.0105 | 2.6900e-003 | 4.0000e-005 | 2.7300e-003 | 0.0000 | 5.0463 | 5.0463 | 3.3000e-004 | 0.0000 | 5.0534 |
| **Total** | **0.0225** | **0.2493** | **0.2357** | **6.4000e-004** | **0.0337** | **3.9700e-003** | **0.0376** | **8.7700e-003** | **3.6400e-003** | **0.0124** | **0.0000** | **58.2388** | **58.2388** | **7.7000e-004** | **0.0000** | **58.2550** |

## 3.3 Fencing - 2015

### 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 | 2.1800e-003 | 0.0147 | 8.8500e-003 | 2.0000e-005 | | 7.9000e-004 | 7.9000e-004 | | 7.7000e-004 | 7.7000e-004 | 0.0000 | 1.5943 | 1.5943 | 2.5000e-004 | 0.0000 | 1.5996 |
| **Total** | **2.1800e-003** | **0.0147** | **8.8500e-003** | **2.0000e-005** | | **7.9000e-004** | **7.9000e-004** | | **7.7000e-004** | **7.7000e-004** | **0.0000** | **1.5943** | **1.5943** | **2.5000e-004** | **0.0000** | **1.5996** |

### 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 | 3.0000e-005 | 5.0000e-005 | 4.8000e-004 | 0.0000 | 1.2000e-004 | 0.0000 | 1.2000e-004 | 3.0000e-005 | 0.0000 | 3.0000e-005 | 0.0000 | 0.0561 | 0.0561 | 0.0000 | 0.0000 | 0.0562 |
| **Total** | **3.0000e-005** | **5.0000e-005** | **4.8000e-004** | **0.0000** | **1.2000e-004** | **0.0000** | **1.2000e-004** | **3.0000e-005** | **0.0000** | **3.0000e-005** | **0.0000** | **0.0561** | **0.0561** | **0.0000** | **0.0000** | **0.0562** |

## 3.4 Material Recieving - 2015

### 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 | 4.4700e-003 | 0.0384 | 0.0237 | 3.0000e-005 | | 3.2300e-003 | 3.2300e-003 | | 2.9700e-003 | 2.9700e-003 | 0.0000 | 2.6971 | 2.6971 | 8.1000e-004 | 0.0000 | 2.7141 |
| **Total** | **4.4700e-003** | **0.0384** | **0.0237** | **3.0000e-005** | | **3.2300e-003** | **3.2300e-003** | | **2.9700e-003** | **2.9700e-003** | **0.0000** | **2.6971** | **2.6971** | **8.1000e-004** | **0.0000** | **2.7141** |

### 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 | 1.2000e-004 | 2.2000e-004 | 1.9200e-003 | 0.0000 | 4.7000e-004 | 0.0000 | 4.7000e-004 | 1.2000e-004 | 0.0000 | 1.2000e-004 | 0.0000 | 0.2243 | 0.2243 | 1.0000e-005 | 0.0000 | 0.2246 |
| **Total** | **1.2000e-004** | **2.2000e-004** | **1.9200e-003** | **0.0000** | **4.7000e-004** | **0.0000** | **4.7000e-004** | **1.2000e-004** | **0.0000** | **1.2000e-004** | **0.0000** | **0.2243** | **0.2243** | **1.0000e-005** | **0.0000** | **0.2246** |

## 3.5 Transmission Poles - 2015

### 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 | 0.0504 | 0.6099 | 0.2423 | 5.7000e-004 | | 0.0283 | 0.0283 | | 0.0260 | 0.0260 | 0.0000 | 53.8639 | 53.8639 | 0.0161 | 0.0000 | 54.2015 |
| **Total** | **0.0504** | **0.6099** | **0.2423** | **5.7000e-004** | | **0.0283** | **0.0283** | | **0.0260** | **0.0260** | **0.0000** | **53.8639** | **53.8639** | **0.0161** | **0.0000** | **54.2015** |

### 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 | 1.8000e-004 | 3.2000e-004 | 2.8800e-003 | 0.0000 | 7.0000e-004 | 0.0000 | 7.0000e-004 | 1.8000e-004 | 0.0000 | 1.8000e-004 | 0.0000 | 0.3364 | 0.3364 | 2.0000e-005 | 0.0000 | 0.3369 |
| **Total** | **1.8000e-004** | **3.2000e-004** | **2.8800e-003** | **0.0000** | **7.0000e-004** | **0.0000** | **7.0000e-004** | **1.8000e-004** | **0.0000** | **1.8000e-004** | **0.0000** | **0.3364** | **0.3364** | **2.0000e-005** | **0.0000** | **0.3369** |

## 3.6 Switchyard - 2015

### 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 | 0.0291 | 0.2521 | 0.1758 | 2.4000e-004 | | 0.0161 | 0.0161 | | 0.0150 | 0.0150 | 0.0000 | 21.9824 | 21.9824 | 5.9000e-003 | 0.0000 | 22.1063 |
| **Total** | **0.0291** | **0.2521** | **0.1758** | **2.4000e-004** | | **0.0161** | **0.0161** | | **0.0150** | **0.0150** | **0.0000** | **21.9824** | **21.9824** | **5.9000e-003** | **0.0000** | **22.1063** |

### 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 | 1.2000e-004 | 2.2000e-004 | 1.9200e-003 | 0.0000 | 4.7000e-004 | 0.0000 | 4.7000e-004 | 1.2000e-004 | 0.0000 | 1.2000e-004 | 0.0000 | 0.2243 | 0.2243 | 1.0000e-005 | 0.0000 | 0.2246 |
| **Total** | **1.2000e-004** | **2.2000e-004** | **1.9200e-003** | **0.0000** | **4.7000e-004** | **0.0000** | **4.7000e-004** | **1.2000e-004** | **0.0000** | **1.2000e-004** | **0.0000** | **0.2243** | **0.2243** | **1.0000e-005** | **0.0000** | **0.2246** |

# Attachment 2

# Supplemental Biological Resources Study

# Henrietta Solar Project

# PG&E Leprino Switching Station

**September 2014**

**Prepared by Ecology and Environment, Inc.**

# Supplemental Biological Resources Study
# Henrietta Solar Project
# PG&E Leprino Switching Station

**September 2014**

**Prepared by:**
**Tyler M. Barns**
**Ecology and Environment, Inc.**

# 1.0 Introduction

In March 2012 Michael Brandman and Associates prepared a Biological Resources Study for the Henrietta Solar Project on behalf of River West Investments, Inc. The study was incorporated into the Initial Study/Mitigated Negative Declaration as Appendix B. Through adoption of Resolution No. 12-09 (Resolution), the Kings County Planning Commission (hereinafter, County) acting as lead agency, certified the Revised Initial Study/Mitigated Negative Declaration (IS/MND), adopted the Mitigation Monitoring and Reporting Plan (MMRP), and approved the Conditional Use Permit (CUP) No.11-03 for the Henrietta Solar Project (Henrietta Project or Project) on August 6, 2012.

The CUP allows the Applicant (and any successor in interest for the life of the Project) to construct and operate a 136-megawatt alternating current (MWac) photovoltaic (PV) electricity generating facility and associated infrastructure on approximately 836 acres in northwest Kings County near the unincorporated community of Stratford.

In addition to the solar facility, the County's certified IS/MND described and analyzed potential environmental impacts from the Leprino Switching Station that will be constructed, owned, and operated by Pacific Gas and Electric (PG&E).

# 2.0 Reconnaissance Survey

## 2.1 Survey Purpose

To address minor modifications to the design for the PG&E switching station that have been identified since the IS/MND was prepared and certified, Ecology and Environment, Inc. (E & E) conducted a biological resources study of the location for the PG&E switching station to inform the preparation of an MND Addendum.

The study included a reconnaissance level survey of an approximately 10-acre area, within which the approximately 5-acre switching station will be constructed (herein referred to as the survey area). The reconnaissance level survey was intended to identify and document if potentially suitable habitat is present for special status species, as identified by the California Department of Fish and Wildlife (CDFW) and the United States Fish and Wildlife Service (USFWS). In addition, E & E's biologist traveled to publicly accessible areas within 0.5 miles of the switching station site to assess potential bird nesting habitat.

## 2.2 Existing Setting

The PG&E switching station is planned for construction in the southeast corner of the intersection of Jersey and 21st Avenues in Kings County, California (see Figure 1). At the time of the survey, the approximately 10-acre survey area was planted with tomatoes measuring about 3 to 4 feet tall, which provided herbaceous cover over the site. Vegetation within the switching station area is General Agriculture (Holland Code 18000), which includes lands that support an active agricultural operation, such as orchards/vineyards, dairies and nurseries, fields/pastures, and row crops.

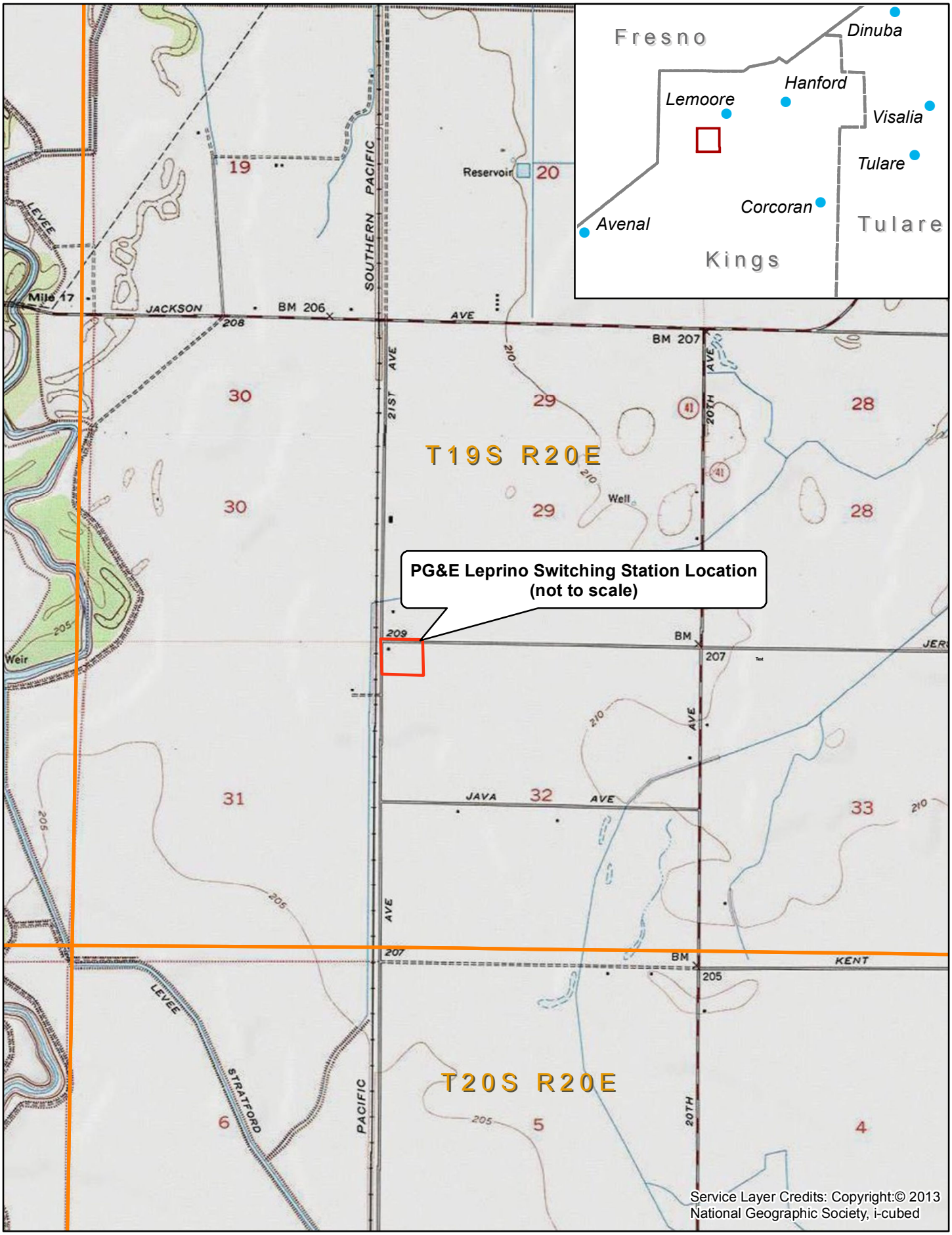


Figure 1. PG&E Leprino Switching Station Location
Kings County, California

Not to Scale
N

The switching station site is surrounded by active agricultural fields (south and east), fallow agricultural fields across 21st Avenue (west), and the construction of a solar generation facility across Jersey Avenue (north) (see Figure 2). An irrigation canal is located about 200 feet west of the survey area across 21st Avenue and 100 feet north of the survey area across Jersey Avenue at its nearest points.[1]

Small fish were observed in the canal. The portions of the canal within the vicinity of the switching station site are narrow and do not provide riparian habitat that could be used by tree-nesting birds because there are no riparian trees or shrubs. Multiple transmission lines are located within the survey area; however, no trees or other similar potential nesting structures were observed within 0.5 miles of the survey area.

## 2.3 Field Surveys

On August 25 and 26, 2014, E & E's qualified biologist conducted a reconnaissance-level survey throughout an approximately 10-acre area, within which PG&E's approximately 5-acre switchyard will be sited (survey area). The reconnaissance level survey specifically focused on species known to occur within the region, or for which potential habitat was present, including nesting birds; raptors (i.e., birds of prey, including hawks, eagles, owls, and falcons); reptiles and amphibians (including western pond turtles, silvery legless lizards, San Joaquin coachwhip and western spadefoot); valley elderberry longhorn beetles; and small mammals, including kangaroo rats and pocket mice. The biologist documented habitat within the survey area and immediate vicinity as well as wildlife species observed during the site visit. In addition, the biologist traveled to publicly accessible areas within 0.5 miles to assess potential bird nesting habitat.

## 2.4 Results of Field Surveys

Table 1 includes a list of the 11 vertebrate species (nine bird species and two mammal species) which were observed within the survey area. Many common and regionally abundant birds were observed, along with birds of several wintering and migrating species (i.e., not locally prevalent). No special status animals or plants were observed within the survey area.

The biologist also assessed publicly accessible areas within 0.5 miles of the switching station site for potential bird nesting habitat. The biologists did not observe any bird nests within survey area or within a 0.5-mile buffer. Multiple transmission lines are located within the survey area; however, no trees or other similar potential nesting structures were observed. In addition, there is no continuous riparian habitat or scattered stands of trees that could provide adequate nesting habitat for tree-nesting birds within a half mile radius of the switching station site.

[1] Google Earth. 2012. Version 6.2.1.6014 (beta). February 2. Digital Globe base map.
National Hydrography Dataset (NHD). 2010. NHD Data. United States Geological Survey. http://nhd.usgs.gov/data.html. Accessed September 3, 2014.
National Wetlands Inventory (NWI). 2014. Wetlands Data Extraction Tool. United States Fish and Wildlife Service. http://www.fws.gov/wetlands/. Accessed September 3, 2014.

Data Sources: ESRI, Data & Maps for ArcGIS® 2012; Ecology and Environment, Inc. 2014; Bing Maps (c)2014 Microsoft Corporation

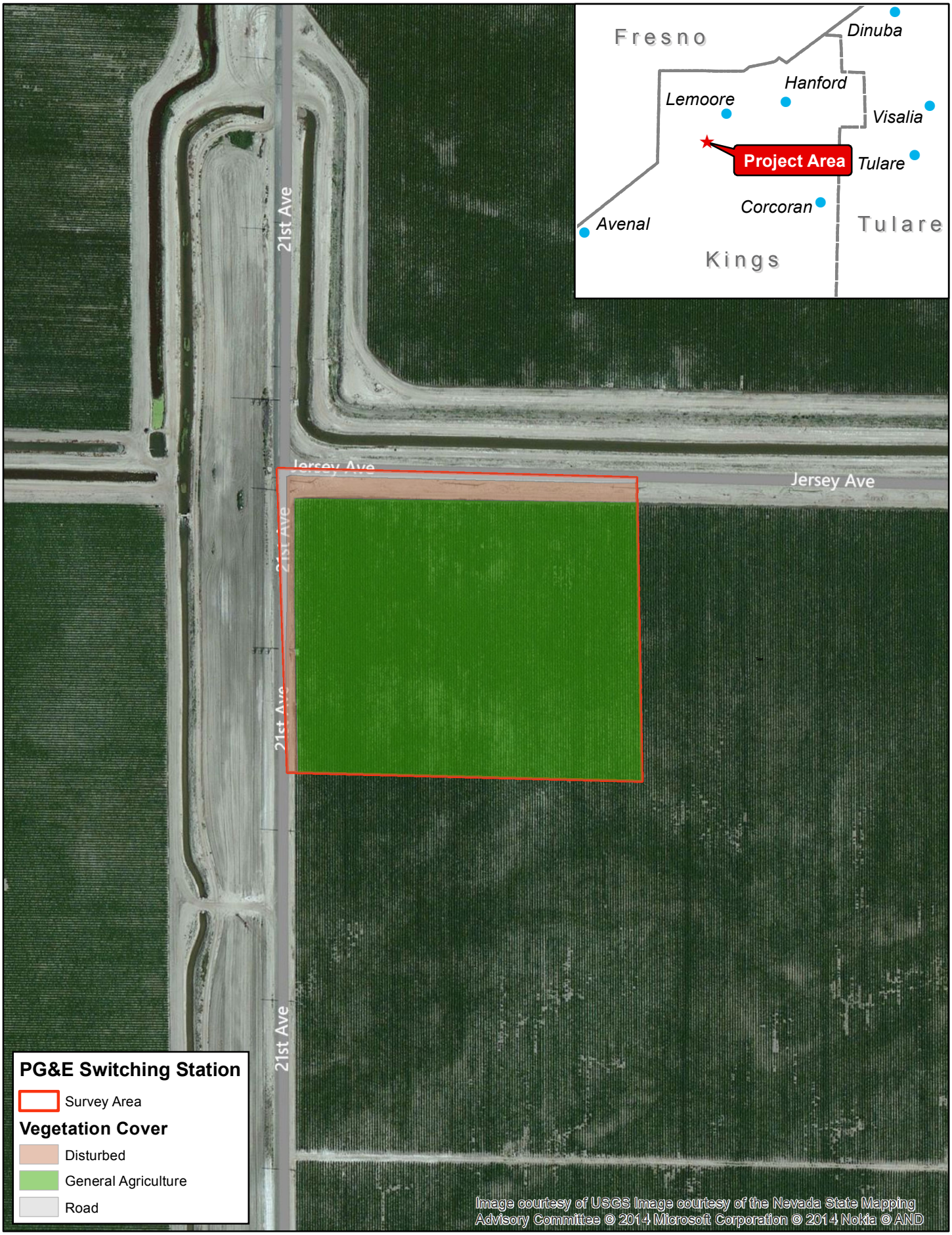


Figure 2.Vegetation Coverage
Kings County, California

Not to Scale

N

No burrowing owls or evidence of burrowing owls were observed in the survey area. The site does not constitute burrowing owl habitat because of the presence of row crops and an absence of suitable burrows. Representative site photographs are included in Attachment 1.

**Table 1: Wildlife Species Observed in the Survey Area**

| Common Name | Scientific Name | Potential to nest on site, in the survey area |
|---|---|---|
| American crow | *Corvus brachyrhynchos* | Yes |
| House finch | *Carpodacus mexicanus* | No |
| Mourning dove | *Zenaida macroura* | No |
| Northern mockingbird | *Mimus polyglottos* | No |
| Great blue heron | *Ardea herodias* | No |
| Cattle egret | *Bubulcus ibis* | No |
| Great egret | *Ardea alba* | No |
| Killdeer | *Charadrius vociferus* | Yes |
| Brewer's blackbird | *Euphagus cyanocephalus* | No |
| Long billed curlew | *Numenius americanus* | No |
| Barn swallow | *Hirundo rustica* | No |
| Raccoon | *Procyon lotor* | No (prints) |
| Coyote | *Canis latrans* | No (prints) |

## 3.0 Desktop Analysis

Prior to field surveys, E & E conducted a desktop analysis to determine if any documented special status species occurrences have been recorded within the survey area or its vicinity using a number of reasonably available resources. Research included review of the California Natural Diversity Database (CNDDB)[2], which is maintained by CDFW, for new occurrences of special status birds in the survey area. In addition, E & E reviewed a list of USFWS threatened and endangered species that have the potential to occur within the survey area.[3] Based on E & E's research, no CNDDB occurrences have been recorded for the survey area. However, several special status species have been documented within 0.5 mile of the survey area.

## 4.0 Conclusions

Based on the site reconnaissance and desktop surveys, and the highly disturbed nature of the switching station site, no suitable habitat for any sensitive plant species occurs within the survey area and no special status plants were observed or are known to occur within the switching station site or its vicinity.

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2 California Natural Diversity Database (CNDDB). 2014. Geographic Information Systems. http://www.dfg.ca.gov/biogeodata/gis. Accessed August 25, 2014

3 USFWS (United States Fish and Wildlife Service). 2013a. Critical Habitat Portal. http://ecos.fws.gov/crithab/. Accessed on September 3, 2014.
_____. 2013b. IPaC – Information, Planning, and Conservation System. http://ecos.fws.gov/ipac/. Accessed on September 3, 2014.

There are no wetlands, Waters of the State, or Waters of the U.S. located within the switching station site. The irrigation canal located about 100 feet north and 200 feet west of the edge of the survey area could be considered a Water of the State and Water of the U.S. However, the portions of the canal within the vicinity of the switching station site are narrow and do not provide adequate riparian habitat for tree nesting birds because there are no riparian shrubs or trees.

No nests were observed within the survey area or within 0.5 miles of the switching station site; however, raptors were observed within 0.5 miles of the existing power line. The quality of potential avian nesting habitat within the survey area is low because the habitat is degraded and subject to continual human disturbances, specifically active agricultural cultivation and traffic along the existing roadways. Multiple transmission lines are located within the survey area; however, no trees or other similar potential nesting structures were observed. In addition, there is no continuous riparian habitat or scattered stands of trees that could provide adequate nesting habitat for tree-nesting birds within a half mile radius of the switching station site. However, trees along the Kings River corridor, which is located approximately 0.85 miles from the switching station site, could provide high quality nesting habitat for birds, which may use the site for foraging.

The switching station site has low to moderate potential to provide foraging habitat for wildlife. Several factors make the switching station site less than optimal for large raptor foraging, including the height of the herbaceous cover (3 to 4 feet tall) present over the entire switching station site, and little evidence of high numbers of small mammals in the area. No evidence was observed of California meadow vole (*Microtus californicus*) (a primary prey item for Swainson's hawks in this portion of the species' range). Further, California ground squirrels, normally the most numerous small diurnal mammals in this part of Kings County, are not common in the survey area. Comparatively, much of the fallow and agricultural land adjacent to the switching station site, as well as the riparian corridor along portions of the Kings River, and within the larger region provides higher quality foraging habitat for wildlife. No evidence of burrowing owls or western snowy plover was observed in the survey area..

## 5.0 Recommendations

Impacts from construction and operation of the PG&E switching station within the survey area would be similar to those described for the solar facility. Based on E & E's desktop analysis and reconnaissance level field survey, E & E recommends the following measures to reduce the potential for impacts on biological resources during construction:

1. A preconstruction survey be conducted for nesting birds within the site and a 250-foot buffer.
2. If nesting birds are observed prior to or during construction of the switching station that have the potential to be impacted by construction activities, a construction-free buffer should be installed around the active nest. The appropriate buffer shall be determined by a qualified biologist, but it is generally 250 feet for raptors.

# Attachment 1
# Representative Survey Area Photographs

View of the survey area toward southeast.

Tomato plants dominant in the vegetation coverage.

Irrigation canal west of 21st Avenue.

View of solar construction area north of Jersey Avenue from northeast corner of survey area.

# Attachment 3

# Supplemental Cultural Resources Study

# Henrietta Solar Project

# PG&E Leprino Switching Station

**September 2014**

**Prepared by Ecology and Environment, Inc.**

# Supplemental Cultural Resources Study
# Henrietta Solar Project
# PG&E Leprino Switching Station

**September 2014**

**Prepared by:**
**G. Timothy Gross**
**Ecology and Environment, Inc.**

## 1.0 Introduction

In October 2011 Michael Brandman and Associates prepared a Cultural Resource Study for the Henrietta Solar Project on behalf of River West Investments, Inc.[1] The results of the study were incorporated into the Initial Study/Mitigated Negative Declaration as Appendix C. Through adoption of Resolution No. 12-09 (Resolution), the Kings County Planning Commission (hereinafter, County) acting as lead agency, certified the Revised Initial Study/Mitigated Negative Declaration (IS/MND), adopted the Mitigation Monitoring and Reporting Plan (MMRP), and approved the Conditional Use Permit (CUP) No. 11-03 for the Henrietta Solar Project (Henrietta Project or Project) on August 6, 2012.

The CUP allows the Applicant (and any successor in interest for the life of the Project) to construct and operate a 136-megawatt alternating current (MWac) photovoltaic (PV) electricity generating facility and associated infrastructure on approximately 836 acres in northwest Kings County near the unincorporated community of Stratford.

In addition to the solar facility, the County's certified IS/MND described and analyzed potential environmental impacts from the Leprino Switching Station that will be constructed, owned, and operated by Pacific Gas and Electric (PG&E).

## 2.0 Pedestrian Survey

### 2.1 Survey Purpose

To address minor modifications to the design for the PG&E switching station facility that have been identified since the IS/MND was prepared and certified, Ecology and Environment, Inc. (E & E) conducted a supplemental cultural resources study of the location for the PG&E switching station to inform the preparation of an MND Addendum. The study included a pedestrian cultural resources survey of a 10-acre study area, within which the approximately 5-acre switchyard site is planned to be constructed. The pedestrian survey was intended to determine the presence or absence of surface level cultural resources.

### 2.2 Existing Setting

The PG&E switching station is planned for construction in the northwest corner of Section 32, Township 19 S, Range 20 E, on the southeast corner of the intersection of Jersey and 21st Avenues in Kings County, California (See Figure 1). At the time of the survey, the approximately 10-acre study area was planted with tomatoes. Tomato crops on the site were measured at 3 to 4 feet tall and provided herbaceous cover over the site which resulted in very low ground visibility. The project area is about 1 mile east of the nearest point on the Kings River. The switching station site is approximately 4 miles west of the Santa Rosa Rancheria of the Tachi Yokuts Tribe.

[1] Dice, Michael H., Arabesque Said, and David Cohen. 2011. *Cultural Resource Survey of the SunPower Henrietta Solar Project, County of Kings, California*. Prepared for River West Investments, Inc., by Michael Brandman Associates.

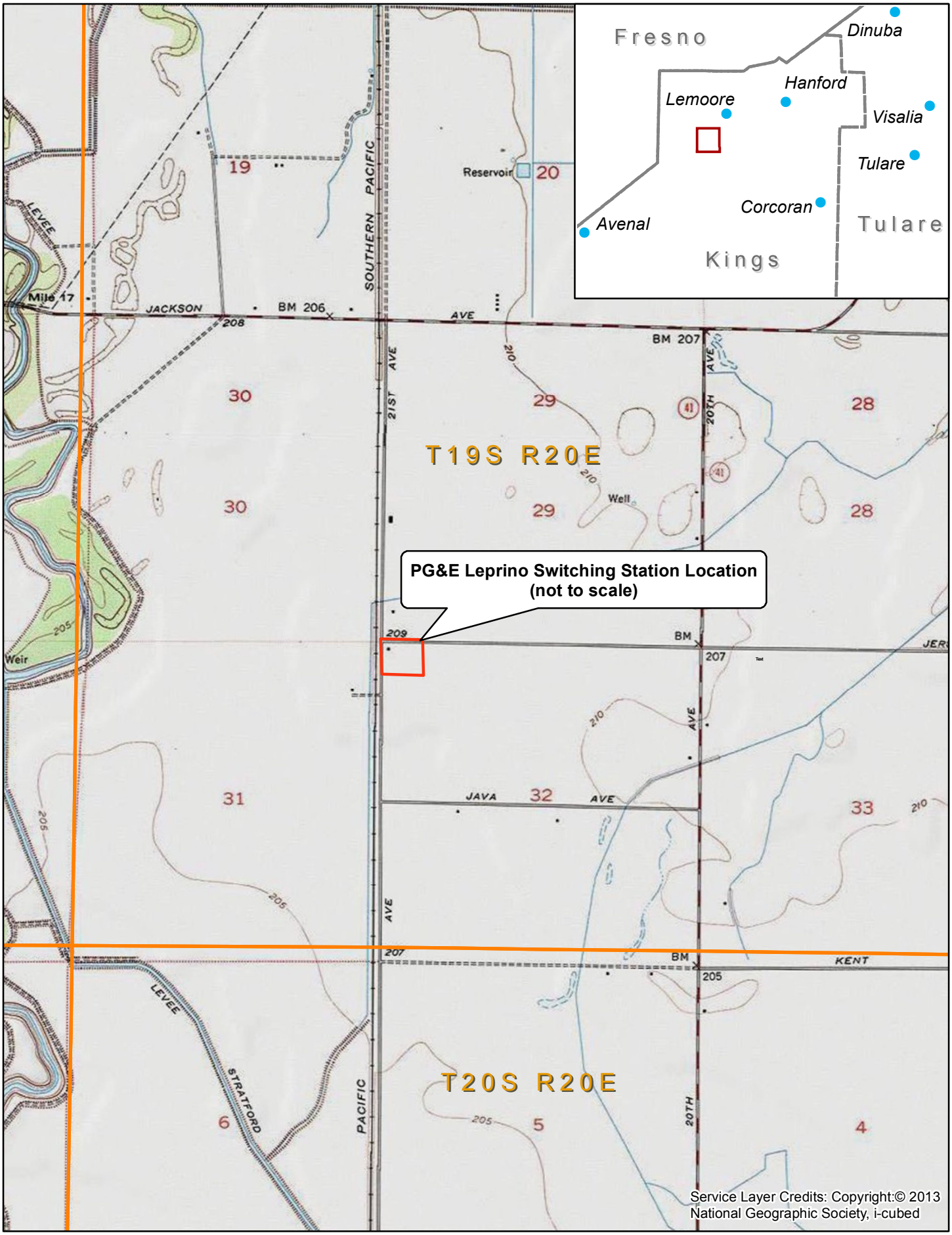


Figure 1. PG&E Leprino Switching Station Location
Kings County, California

Not to Scale
N

## 2.3 Field Methods

Mr. G. Timothy Gross, PhD, RPA, conducted the pedestrian cultural resources survey of the 10-acre PG&E switching station study area. Dr. Gross' qualifications exceed the Secretary of the Interior's Standards for Archeology (36 CFR Part 61). The plan for the survey was to walk 15 meter transects in order to determine whether any cultural resources were present at surface level within the switching station study area. However, due to the presence of dense herbaceous coverage from the tomato crops, ground visibility within the area was very limited (see Photo 1).

**Photo1: Tomato plants dominant the vegetation coverage at the switching station site.**

In minimal locations where vegetation was thinner, particularly in the western and northern margins of the site area, E & E's archeologist made forays into the plants where there were areas of sparser growth. Following the peripheral survey, E & E's archeologist attempted a series of transects in the furrows between the rows of tomato crop. However, given the overgrowth and limited ground surface visibility (estimated to be approximately 1%), transects were typically abandoned after approximately 20-60 meters when the overgrowth became too dense to pass.

## 2.4 Survey Results

No cultural resources were observed during the survey. A recent metal object, most likely from agricultural machinery, and a piece of recent clear glass were noted but not recorded. No prehistoric artifacts were found. Given the lack of ground visibility, however, the results of this survey cannot conclude that no cultural resources are present within the 10-acre study area.

## 3.0 Desktop Analysis

In addition to the pedestrian cultural resources survey, E & E requested a records search at the Southern San Joaquin Valley Information Center and a Sacred Lands File search at the California Native American Heritage Commission (NAHC) for the PG&E switching station study area.

## 3.1 San Joaquin Valley Information Center Records Search

On August 22, 2014, E & E submitted a request for San Joaquin Valley Information Center to conduct a records search to determine if there were any recorded resources, including archeological and historic sites, or properties on the Office of Historic Preservation Historic Properties Directory within 1 mile of the 10-acre study area. A review of the records from previous surveys and historic maps was also requested.

The San Joaquin Valley Information Center completed its search on August 27, 2014. Records at the information center indicate no previous surveys have been undertaken on the 10-acre study area and no cultural resources have been recorded on the switching station site or within 1 mile of it. The only surveys reported within the record search area are two linear surveys that are recorded along State Route 41. Although a review of the historic maps for the area was requested, the information center responded that these were not available.

## 3.2 Native American Heritage Commission Sacred Lands File Search

On August 26, 2014, E & E submitted a request for the NAHC to conduct a search of their Sacred Lands Files for the PG&E switching station site. A similar letter previously sent in 2011 for the Henrietta Project focused on the solar facility parcels. The July 26, 2011, response from the NAHC to that earlier request indicated that no sacred sites were recorded on the Henrietta Project parcels. Similarly, on September 4, 2014, the NAHC responded that the sacred land files do not indicate the presence of Native American cultural resources in the area of the switching station site.

The 2011 response from the NAHC also included a list of seven tribal contacts that were recommended to be contacted for information about the Project area. While continuing to wait for a response from the NAHC to the 2014 information request, E & E mailed letters to six of the previously identified tribal contacts on August 26, 2014. E & E learned that one of the previously identified contacts is now deceased. In its September 4, 2014, letter, the NAHC identified five additional tribal contacts with possible knowledge of cultural resources in the vicinity of the switching station site. On September 5, 2014, E & E sent letters to the additional tribal contacts identified.

The 11 letters were sent to the tribal contacts via fax and e-mail, when feasible, and all were also sent via U.S. mail. The letters clarified that the Henrietta Project also includes construction of a PG&E switching station, which will be located about 1 mile northwest of the solar generation facility and requested information regarding cultural resources there.

On August 27, 2014, Ms. Gemma Benton of the Santa Rosa Rancheria of Tachi Yokuts contacted E & E's project manager, Ms. Karen Ladd, expressing concerns about the possibility of uncovering cultural resources during disturbance of the switching station.[2] She indicated that human remains had been encountered in the vicinity of the switching station site and requested a site visit and meeting with the tribe.

[2] Benton, Gemma. 2014. Personal communication to Karen Ladd. August 27, 2014.

On August 28, 2014, Ms. Benton submitted a written comment via e-mail expressing the Santa Rosa Rancheria of Tachi Yokuts' opinion regarding the high probability during ground disturbing activities of encountering cultural resources, including human remains and other culturally significant items.[3] She restated the request for a meeting and site visit with the tribe, and recommended Native American cultural monitoring during ground disturbing activities during construction. The Table Mountain Rancheria responded that the switching station site is beyond the area of interest for the tribe.

PG&E plans to hold a meeting and site visit with the Santa Rosa Rancheria of Tachi Yokuts on September 18, 2014, to discuss the tribe's comments. See Appendix 1 for correspondence with the Native American Heritage Commission and tribal contacts.

## 4.0 Recommendations

Due to the lack of ground surface visibility encountered during E & E's pedestrian survey and based on the information provided in the records search and through coordination with the Santa Rosa Rancheria of Tachi Yokuts, the following measures are recommended to reduce the potential for impacts on cultural resources during ground disturbing activities:

A cultural resources pedestrian survey be conducted following removal of the agricultural crops and prior to construction to assess the presence or absence of cultural resources on the ground surface within the planned disturbance area.

1. In the event that a potential cultural resource is discovered during the preconstruction survey or during construction, all activity should be halted within 100 feet of the find until its significance can be evaluated by a qualified archeologist.
2. If a resource is discovered and the archeologist determines that it is eligible or potentially eligible for the California Register of Historic Resources, E & E recommends that a treatment plan be developed for the resource. The archeologist will determine the appropriate treatment of the resource, which may include avoidance, data recovery, or a combination of the two.
3. Based on the significance of the resource, the archeologist should determine if additional investigations or construction monitoring is warranted to mitigate adverse impacts from construction.
4. If an unearthed cultural resource is suspected to be Native American in nature, the archeologist should determine if the appropriate Native American representatives identified by the NAHC should be contacted to determine appropriate treatment, disposition, or curation.

[3] Benton, Gemma, 2014. Henrietta Solar Project, PG&E Switchyard, Stratford USGS 7.5 quad, Township 19 South, Range 20 East, Sections 29 and 32. E-mail correspondence, August 28, 2014.

# Appendix 1

# Correspondence

# Letter to Native American Heritage Commission
# August 26, 2014

ecology and environment, inc.
Global Environmental Specialists
505 Sansome Street, Suite 300
San Francisco, California 94111
Tel: (415) 398-5326, Fax (415) 398-5326

August 26, 2014

Ms. Katy Sanchez, Program Analyst *Sent via fax*
Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691

Re: **Sacred Lands File Search and Native American Contacts List Request**
**Henrietta Solar Project, Kings County, Conditional Use Permit No. 11-3**
**USGS topo map: Stratford Quadrangle, California, 7.5-Minute Series**
**Township 19 South; Range 20 East; Sections 29 and 32**

Dear Ms. Sanchez:

Ecology and Environment, Inc. (E & E) is preparing an environmental document for use by Kings County related to the Henrietta Solar Project (Project). The Project is a 136-megawatt photovoltaic electricity generating facility and associated infrastructure planned to be constructed in northwest Kings County near the unincorporated community of Stratford.

A request for a Sacred Lands File Search and Native American Contacts List was previously submitted to the Native American Heritage Commission (NAHC) for the Project on July 18, 2011. In a letter dated July 26, 2011, the NAHC responded that Native American cultural resources were not identified in the Area of Potential Effect (APE), and provided a list of seven Native American contacts that the NAHC recommended to be consulted. See attached copy of the July 26, 2011, letter.

The description included in the previous request letter may not have been clear that the Project also includes construction of a PG&E switchyard on about 5 acres of land located about 1 mile northwest of the solar generation facility. We are writing to request a Sacred Lands File Search for the PG&E switchyard site and to confirm that the seven contacts previously identified remain those with whom the NAHC recommends consultation.

The approximate location of the PG&E switchyard site is shown on the attached Figure 1. The site, at the intersection of Jersey Avenue and 21st Avenue, is located on the Stratford USGS topographic quadrangle (T19S, R20E, Sections 29 and 32).

We would greatly appreciate your response and confirmation as soon as possible, ideally by September 16, 2014. Thank you for your assistance in this matter. Please don't hesitate to contact me at 415-971-0967 or via email at kladd@ene.com if you have any questions.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Karen Ladd

Karen Ladd
Project Manager

Attachments: NAHC letter dated July 26, 2011
Figure 1: Henrietta Solar Project, PG&E Switchyard Site

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

**NATIVE AMERICAN HERITAGE COMMISSION**
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

July 26, 2011

Arabesque Said, Staff Archaeologist
**Michael Brandman Associates**
621 E. Carnegie Drive, Suite 100
San Bernardino, CA 92408

Sent by FAX to: 909-884-2113
No. of Pages: 3

Re: Sacred Lands File Search and Native American Contacts list for the **"Proposed Solar Power Station Project;"** located in the City of Lemoore; Kings County, California

Dear Arabesque Said:

The Native American Heritage Commission (NAHC) conducted a Sacred Lands File search of the 'area of potential effect,' (APE) based on the USGS coordinates provided and found **Native American cultural resources were not identified** in the USGS coordinates you specified. Also, please note; the NAHC Sacred Lands Inventory is not exhaustive. Native American cultural resources may be inadvertently discovered during ground breaking activity.

The California Environmental Quality Act (CEQA – CA Public Resources Code §§ 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ... objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. CA Government Code §65040.12(e) defines "environmental justice" provisions and is applicable to the environmental review processes.

Early consultation, even during Initial Study or First Phase surveys with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Local Native Americans may have knowledge of the religious and cultural significance of the historic properties of the proposed project for the area (e.g. APE). Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). We urge consultation with those tribes and interested Native Americans on the list of Native American Contacts we attach to this letter in order to see if your proposed project might impact Native American cultural resources. Lead agencies should consider avoidance as defined in §15370 of the CEQA Guidelines when significant cultural resources as defined by the CEQA Guidelines §15064.5 (b)(c)(f) may be affected by a proposed project. If so, Section 15382 of the CEQA Guidelines defines a

significant impact on the environment as "substantial," and Section 2183.2 which requires documentation, data recovery of cultural resources.

Partnering with local tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C 4321-43351) and Section 106 4(f), Section 110 (f)(k) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation.

Also, California Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery', another important reason to have Native American Monitors on board with the project.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. An excellent way to reinforce the relationship between a project and local tribes is to employ Native American Monitors in all phases of proposed projects including the planning phases.

Confidentiality of "historic properties of religious and cultural significance" may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APE and possibility threatened by proposed project activity.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton

Attachment: Native American Contact List

# California Native American Contact List
Kings County
July 26, 2011

Santa Rosa Rancheria
Rueben Barrios, Chairperson
P.O. Box 8
Lemoore , CA 93245
(559) 924-1278
(559) 924-3583 Fax
Tache
Tachi
Yokut

Esohm Valley Band of Indians/Wuksache Tribe
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas , CA 93906
kwood8934@aol.com
831-443-9702
Foothill Yokuts
Mono

Tule River Indian Tribe
Ryan Garfield, Chairperson
P.O. Box 589
Porterville , CA 93258
(559) 781-4271
chairman@tulerivertribe-nsn.gov
(559) 781-4610 FAX
Yokuts

Kings River Choinumni Farm Tribe
Stan Alec
2248 Vartikian
Clovis , CA 93611
559-297-1787
559-647-3227 - cell
Foothill Yokuts
Choinumni

Table Mountain Rancheria
Bob Pennell, Cultural Resources Director
P.O. Box 410
Friant , CA 93626-0177
(559) 325-0351
(559) 217-9718 - cell
(559) 325-0394 FAX
Yokuts

Santa Rosa Tachi Rancheria
Lalo Franco, Cultural Coordinator
P.O. Box 8
Lemoore , CA 93245
(559) 924-1278 - Ext. 5
(559) 924-3583 - FAX
Tachi
Tache
Yokut

Kings River Choinumni Farm Tribe
John Davis, Chairman
1064 Oxford Avenue
Clovis , CA 93612-2211
(669) 307-6430
Foothill Yokuts
Choinumni

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

**This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Solar Power Station Project; located in the City of Lemoore; Kings County, California for which a Sacred Lands File search and Native American Contacts list were requested.**

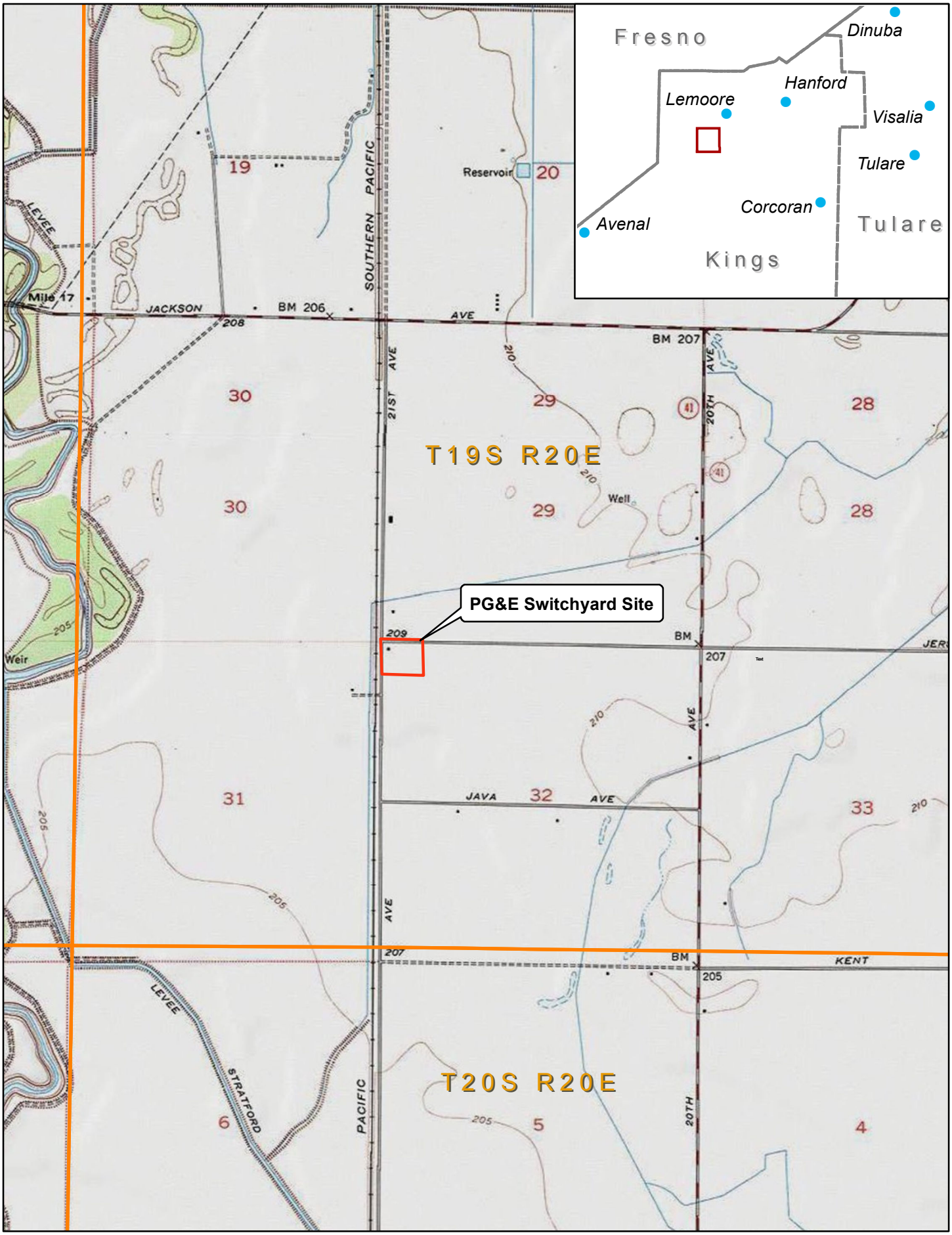


Figure 1.Henrietta Solar Project, PG&E Switchyard Site
Kings County, California

# Letter from Native American Heritage Commission
# September 4, 2014

STATE OF CALIFORNIA Edmund G. Brown, Jr., *Governor*

**NATIVE AMERICAN HERITAGE COMMISSION**
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471

September 4, 2014

Karen Ladd
ecology and environment, inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Sent by Fax: (415) 398-5326
Number of Pages: 2

Re: Henrietta Solar Project, Kings County.

Dear Ms. Ladd,

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 373-3712.

Sincerely,

Katy Sanchez

Katy Sanchez
Associate Government Program Analyst

**Native American Contact List**
Kings County
September 4, 2014

Santa Rosa Rancheria Tachi Yokut Tribe
Rueben Barrios Sr., Chairperson
P.O. Box 8
Lemoore , CA 93245
(559) 924-1278
(559) 924-3583 Fax
Tache
Tachi
Yokut

Wuksache Indian Tribe/Eshom Valley Band
Kenneth Woodrow, Chairperson
1179 Rock Haven Ct.
Salinas , CA 93906
kwood8934@aol.com
(831) 443-9702
Foothill Yokuts
Mono
Wuksache

Table Mountain Rancheria
Leann Walker Grant, Chairperson
P.O. Box 410
Friant , CA 93626
(559) 822-2587
(559) 822-2693 Fax
Yokuts

Kings River Choinumni Farm Tribe
Stan Alec
3515 East Fidora Avenue
Fresno , CA 93726
(559) 647-3227 Cell
Foothill Yokuts
Choinumni

Tule River Indian Tribe
Neil Peyron, Chairperson
P.O. Box 589
Porterville , CA 93258
chairman@tulerivertribe-nsn.gov
(559) 781-4271
(559) 781-4610 Fax
Yokuts

Santa Rosa Rancheria Tachi Yokut Tribe
Lalo Franco, Cultural Coordinator
P.O. Box 8
Lemoore , CA 93245
(559) 924-1278 Ext. 5
(559) 924-3583 Fax
Tachi
Tache
Yokut

Table Mountain Rancheria
Michael Russell, Tribal Administrator
P.O. Box 410
Friant , CA 93626
(559) 822-2587
(559) 822-2693 Fax
Yokuts

Tule River Indian Tribe
Kerri Vera, Environmental Department
P.O. Box 589
Porterville , CA 93258
(559) 783-8892
Yokuts

Table Mountain Rancheria
Bob Pennell, Cultural Resources Director
P.O. Box 410
Friant , CA 93626
(559) 325-0351
(559) 217-9718 - cell
(559) 325-0394 FAX
Yokuts

Tule River Indian Tribe
Joey Garfield, Tribal Archeological
P.O. Box 589
Porterville , CA 93258
(559) 783-8892
Yokuts

**This list is current only as of the date of this document.**

**Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.**

**This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Henrietta Solar Project,**

# Letters to Tribal Contacts
# August 26 and September 5, 2014

ecology and environment, inc.
Global Environmental Specialists
505 Sansome Street, Suite 300
San Francisco, California 94111
Tel: (415) 398-5326, Fax (415) 398-5326

August 26, 2014

Cultural Resources Director Bob Pennell *Sent via fax*
Table Mountain Rancheria
P.O. Box 410
Friant, CA 93626

Re: **Henrietta Solar Project, PG&E Switchyard Cultural Resources**
**Kings County, Conditional Use Permit No. 11-3**

Dear Cultural Resources Director Bob Pennell:

On July 28, 2011, Arabesque A. Said (staff archaeologist for Michael Brandman Associates) contacted you in connection with the preparation of an environmental review document for a proposed solar generation project, known as the Henrietta Solar Project (Henrietta Project or Project), located on approximately 800 acres south of the City of Lemoore in Kings County. You were contacted at that time as a result of a response received from the Native American Heritage Commission to a request for a Sacred Lands File Search.

The description included in the above-referenced letter may not have been clear that the Project also includes construction of a PG&E switchyard on about 5 acres of land located about 1 mile northwest of the solar generation facility.

The PG&E switchyard site is shown on the attached Figure 1 and is located on the Stratford USGS 7.5' quad. It is found in Township 19 South, Range 20 East, Sections 29 and 32.

A cultural resources survey is being conducted for the PG&E switchyard site to supplement the previous survey done for the Project described in the July 28, 2011 letter. No cultural resources were found during the previous survey, which focused on the solar generating facility parcels.

The purpose of this letter is to request any information that you, and any tribal elders, may have regarding cultural resources located in the area of potential effect associated with the PG&E switchyard site. Any information you may have about cultural resources on the PG&E switchyard site would greatly benefit our study.

If you or other tribal members have any such information, I would very much appreciate it if you would contact me as soon as possible, ideally by September 16, 2014. If I can provide any additional information, please contact me immediately at 415-971-0967 or via email at kladd@ene.com. Thank you for your assistance in this matter.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Karen Ladd

Karen Ladd
Project Manager

Attachment: Figure 1: Henrietta Solar Project, PG&E Switchyard Site

ecology and environment, inc.
Global Environmental Specialists
505 Sansome Street, Suite 300
San Francisco, California 94111
Tel: (415) 398-5326, Fax (415) 398-5326

August 26, 2014

Chairperson Kenneth Woodrow *Sent via email*
Esohm Valley Band of Indians/Wuksache Tribe
1179 Rock Haven Ct.
Salinas, CA 93906

Re: **Henrietta Solar Project, PG&E Switchyard Cultural Resources**
**Kings County, Conditional Use Permit No. 11-3**

Dear Chairperson Kenneth Woodrow:

On July 28, 2011, Arabesque A. Said (staff archaeologist for Michael Brandman Associates) contacted you in connection with the preparation of an environmental review document for a proposed solar generation project, known as the Henrietta Solar Project (Henrietta Project or Project), located on approximately 800 acres south of the City of Lemoore in Kings County. You were contacted at that time as a result of a response received from the Native American Heritage Commission to a request for a Sacred Lands File Search.

The description included in the above-referenced letter may not have been clear that the Project also includes construction of a PG&E switchyard on about 5 acres of land located about 1 mile northwest of the solar generation facility.

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If you or other tribal members have any such information, I would very much appreciate it if you would contact me as soon as possible, ideally by September 16, 2014. If I can provide any additional information, please contact me immediately at 415-971-0967 or via email at kladd@ene.com. Thank you for your assistance in this matter.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Karen Ladd

Karen Ladd
Project Manager

Attachment: Figure 1: Henrietta Solar Project, PG&E Switchyard Site

ecology and environment, inc.
Global Environmental Specialists
505 Sansome Street, Suite 300
San Francisco, California 94111
Tel: (415) 398-5326, Fax (415) 398-5326

August 26, 2014

Cultural Coordinator Lalo Franco
Santa Rosa Tachi Rancheria
P.O. Box 8
Lemoore, CA 93245

*Sent via fax*

Re: **Henrietta Solar Project, PG&E Switchyard Cultural Resources**
**Kings County, Conditional Use Permit No. 11-3**

Dear Cultural Coordinator Lalo Franco:

On July 28, 2011, Arabesque A. Said (staff archaeologist for Michael Brandman Associates) contacted you in connection with the preparation of an environmental review document for a proposed solar generation project, known as the Henrietta Solar Project (Henrietta Project or Project), located on approximately 800 acres south of the City of Lemoore in Kings County. You were contacted at that time as a result of a response received from the Native American Heritage Commission to a request for a Sacred Lands File Search.

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If you or other tribal members have any such information, I would very much appreciate it if you would contact me as soon as possible, ideally by September 16, 2014. If I can provide any additional information, please contact me immediately at 415-971-0967 or via email at kladd@ene.com. Thank you for your assistance in this matter.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Karen Ladd

Karen Ladd
Project Manager

Attachment: Figure 1: Henrietta Solar Project, PG&E Switchyard Site

ecology and environment, inc.
Global Environmental Specialists
505 Sansome Street, Suite 300
San Francisco, California 94111
Tel: (415) 398-5326, Fax (415) 398-5326

August 26, 2014

Chairperson Rueben Barrios
Santa Rosa Rancheria
P.O. Box 8
Lemoore, CA 93245

*Sent via fax*

Re: **Henrietta Solar Project, PG&E Switchyard Cultural Resources**
**Kings County, Conditional Use Permit No. 11-3**

Dear Chairperson Rueben Barrios:

On July 28, 2011, Arabesque A. Said (staff archaeologist for Michael Brandman Associates) contacted you in connection with the preparation of an environmental review document for a proposed solar generation project, known as the Henrietta Solar Project (Henrietta Project or Project), located on approximately 800 acres south of the City of Lemoore in Kings County. You were contacted at that time as a result of a response received from the Native American Heritage Commission to a request for a Sacred Lands File Search.

The description included in the above-referenced letter may not have been clear that the Project also includes construction of a PG&E switchyard on about 5 acres of land located about 1 mile northwest of the solar generation facility.

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If you or other tribal members have any such information, I would very much appreciate it if you would contact me as soon as possible, ideally by September 16, 2014. If I can provide any additional information, please contact me immediately at 415-971-0967 or via email at kladd@ene.com. Thank you for your assistance in this matter.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Karen Ladd

Karen Ladd
Project Manager

Attachment: Figure 1: Henrietta Solar Project, PG&E Switchyard Site

ecology and environment, inc.
Global Environmental Specialists
505 Sansome Street, Suite 300
San Francisco, California 94111
Tel: (415) 398-5326, Fax (415) 398-5326

August 26, 2014

Chairperson Ryan Garfield
Tule River Indian Tribe
P.O. Box 589
Porterville, CA 93258

*Sent via fax*

Re: **Henrietta Solar Project, PG&E Switchyard Cultural Resources**
**Kings County, Conditional Use Permit No. 11-3**

Dear Chairperson Ryan Garfield:

On July 28, 2011, Arabesque A. Said (staff archaeologist for Michael Brandman Associates) contacted you in connection with the preparation of an environmental review document for a proposed solar generation project, known as the Henrietta Solar Project (Henrietta Project or Project), located on approximately 800 acres south of the City of Lemoore in Kings County. You were contacted at that time as a result of a response received from the Native American Heritage Commission to a request for a Sacred Lands File Search.

The description included in the above-referenced letter may not have been clear that the Project also includes construction of a PG&E switchyard on about 5 acres of land located about 1 mile northwest of the solar generation facility.

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If you or other tribal members have any such information, I would very much appreciate it if you would contact me as soon as possible, ideally by September 16, 2014. If I can provide any additional information, please contact me immediately at 415-971-0967 or via email at kladd@ene.com. Thank you for your assistance in this matter.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Karen Ladd

Karen Ladd
Project Manager

Attachment: Figure 1: Henrietta Solar Project, PG&E Switchyard Site

ecology and environment, inc.
Global Environmental Specialists
505 Sansome Street, Suite 300
San Francisco, California 94111
Tel: (415) 398-5326, Fax (415) 398-5326

August 26, 2014

Stan Alec
Kings River Choinumni Farm Tribe
3515 E. Fedora
Fresno, CA 93726

Re: **Henrietta Solar Project, PG&E Switchyard Cultural Resources**
**Kings County, Conditional Use Permit No. 11-3**

Dear Stan Alec:

On July 28, 2011, Arabesque A. Said (staff archaeologist for Michael Brandman Associates) contacted you in connection with the preparation of an environmental review document for a proposed solar generation project, known as the Henrietta Solar Project (Henrietta Project or Project), located on approximately 800 acres south of the City of Lemoore in Kings County. You were contacted at that time as a result of a response received from the Native American Heritage Commission to a request for a Sacred Lands File Search.

The description included in the above-referenced letter may not have been clear that the Project also includes construction of a PG&E switchyard on about 5 acres of land located about 1 mile northwest of the solar generation facility.

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Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Karen Ladd

Karen Ladd
Project Manager

Attachment: Figure 1: Henrietta Solar Project, PG&E Switchyard Site

ecology and environment, inc.
Global Environmental Specialists
505 Sansome Street, Suite 300
San Francisco, California 94111
Tel: (415) 398-5326, Fax (415) 398-5326

September 5, 2014

Joey Garfield *Sent via fax*
Tribal Archeological
Tule River Indian Tribe
P.O. Box 589
Porterville, CA 93258

Re: **Henrietta Solar Project, PG&E Switchyard Cultural Resources**
**Kings County, Conditional Use Permit No. 11-3**

Dear Joey Garfield:

I recently sent a letter to former Tule River Indian Tribal Chairperson Ryan Garfield, asking for any information regarding cultural resources located in the area of potential effect associated with the above-referenced PG&E switchyard site. The purpose was to follow up on an earlier request for information in connection with the Henrietta Solar Project. See attached letter.

My apologies for any confusion, but when I wrote the letter, I was unaware that Neil Peyron is now the Chairperson. Subsequently, the Native American Heritage Commission has advised me of additional tribal contacts that may have knowledge of cultural resources in the project area, in addition to Neil Peyron, and you were included on the list.

Therefore, I am also writing to you to ask if you have any information regarding cultural resources associated with the PG&E switchyard site. Please see figure and description of the site location in the attached letter.

If you or other tribal members have any such information, I would very much appreciate it if you would contact me as soon as possible, ideally by September 19, 2014. If I can provide any additional information, please contact me immediately at 415-971-0967 or via email at kladd@ene.com. Thank you for your assistance in this matter.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Karen Ladd

Karen Ladd
Project Manager

Attachment: Letter to former Chairperson Ryan Garfield, Tule River Indian Tribe

ecology and environment, inc.
Global Environmental Specialists
505 Sansome Street, Suite 300
San Francisco, California 94111
Tel: (415) 398-5326, Fax (415) 398-5326

September 5, 2014

Kerri Vera *Sent via fax*
Environmental Department
Tule River Indian Tribe
P.O. Box 589
Porterville, CA 93258

Re: **Henrietta Solar Project, PG&E Switchyard Cultural Resources**
**Kings County, Conditional Use Permit No. 11-3**

Dear Kerri Vera:

I recently sent a letter to former Tule River Indian Tribal Chairperson Ryan Garfield, asking for any information regarding cultural resources located in the area of potential effect associated with the above-referenced PG&E switchyard site. The purpose was to follow up on an earlier request for information in connection with the Henrietta Solar Project. See attached letter.

My apologies for any confusion, but when I wrote the letter, I was unaware that Neil Peyron is now the Chairperson. Subsequently, the Native American Heritage Commission has advised me of additional tribal contacts that may have knowledge of cultural resources in the project area, in addition to Neil Peyron, and you were included on the list.

Therefore, I am also writing to you to ask if you have any information regarding cultural resources associated with the PG&E switchyard site. Please see figure and description of the site location in the attached letter.

If you or other tribal members have any such information, I would very much appreciate it if you would contact me as soon as possible, ideally by September 19, 2014. If I can provide any additional information, please contact me immediately at 415-971-0967 or via email at kladd@ene.com. Thank you for your assistance in this matter.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Karen Ladd

Karen Ladd
Project Manager

Attachment: Letter to former Chairperson Ryan Garfield, Tule River Indian Tribe

ecology and environment, inc.
Global Environmental Specialists
505 Sansome Street, Suite 300
San Francisco, California 94111
Tel: (415) 398-5326, Fax (415) 398-5326

September 5, 2014

Leanne Walker-Grant, Tribal Chairperson *Sent via fax*
Table Mountain Rancheria
P.O. Box 410
Friant, CA 93626

Re: **Henrietta Solar Project, PG&E Switchyard Cultural Resources**
**Kings County, Conditional Use Permit No. 11-3**

Dear Chairperson Walker-Grant:

In previous correspondence to Bob Pennell, Cultural Resources Director for the Table Mountain Rancheria, I asked for any information regarding cultural resources located in the area of potential effect associated with the above-referenced PG&E switchyard site.

Mr. Pennell responded in a letter (received September 4, 2014). Mr. Pennell's letter stated that the project site is beyond the area of interest for the tribe. See attached letter and response.

The Native American Heritage Commission subsequently advised me of additional tribal contacts that may have knowledge of cultural resources in the project area, and you were included on the list. Therefore, I am also writing to you to ask if you have any information regarding cultural resources associated with the PG&E switchyard site. Please see figure and description of the site location in the attached letter.

If you or other tribal members have any such information, I would very much appreciate it if you would contact me as soon as possible, ideally by September 19, 2014. If I can provide any additional information, please contact me immediately at 415-971-0967 or via email at kladd@ene.com. Thank you for your assistance in this matter.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Karen Ladd

Karen Ladd
Project Manager

Attachments: Letter to Bob Pennell, Cultural Resources Director, Table Mountain Rancheria
Letter from Bob Pennell, Cultural Resources Director, Table Mountain Rancheria

ecology and environment, inc.
Global Environmental Specialists
505 Sansome Street, Suite 300
San Francisco, California 94111
Tel: (415) 398-5326, Fax (415) 398-5326

September 5, 2014

Michael Russell, Tribal Administrator
Table Mountain Rancheria
P.O. Box 410
Friant, CA 93626

*Sent via fax*

Re: **Henrietta Solar Project, PG&E Switchyard Cultural Resources**
**Kings County, Conditional Use Permit No. 11-3**

Dear Michael Russell:

In previous correspondence to Bob Pennell, Cultural Resources Director for the Table Mountain Rancheria, I asked for any information regarding cultural resources located in the area of potential effect associated with the above-referenced PG&E switchyard site.

Mr. Pennell responded in a letter (received September 4, 2014). Mr. Pennell's letter stated that the project site is beyond the area of interest for the tribe. See attached letter and response.

The Native American Heritage Commission subsequently advised me of additional tribal contacts that may have knowledge of cultural resources in the project area, and you were included on the list. Therefore, I am also writing to you to ask if you have any information regarding cultural resources associated with the PG&E switchyard site. Please see figure and description of the site location in the attached letter.

If you or other tribal members have any such information, I would very much appreciate it if you would contact me as soon as possible, ideally by September 19, 2014. If I can provide any additional information, please contact me immediately at 415-971-0967 or via email at kladd@ene.com. Thank you for your assistance in this matter.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Karen Ladd

Karen Ladd
Project Manager

Attachments: Letter to Bob Pennell, Cultural Resources Director, Table Mountain Rancheria
Letter from Bob Pennell, Cultural Resources Director, Table Mountain Rancheria

ecology and environment, inc.
Global Environmental Specialists
505 Sansome Street, Suite 300
San Francisco, California 94111
Tel: (415) 398-5326, Fax (415) 398-5326

September 5, 2014

Chairperson Neil Peyron
Tule River Indian Tribe
P.O. Box 589
Porterville, CA 93258

*Sent via fax*

Re: **Henrietta Solar Project, PG&E Switchyard Cultural Resources**
**Kings County, Conditional Use Permit No. 11-3**

Dear Chairperson Peyron:

I recently sent a letter to former Tule River Indian Tribal Chairperson Ryan Garfield, asking for any information regarding cultural resources located in the area of potential effect associated with the above-referenced PG&E switchyard site. The purpose was to follow up on an earlier request for information in connection with the Henrietta Solar Project. See attached letter.

My apologies for any confusion, but when I wrote the letter, I was unaware that you are now the Chairperson. Subsequently, the Native American Heritage Commission has advised me of the change in chairperson and of additional tribal contacts that may have knowledge of cultural resources in the project area, including yourself.

Therefore, I am also writing to you to ask if you have any information regarding cultural resources associated with the PG&E switchyard site. Please see figure and description of the site location in the attached letter.

If you or other tribal members have any such information, I would very much appreciate it if you would contact me as soon as possible, ideally by September 19, 2014. If I can provide any additional information, please contact me immediately at 415-971-0967 or via email at kladd@ene.com. Thank you for your assistance in this matter.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Karen Ladd

Karen Ladd
Project Manager

Attachment: Letter to former Chairperson Ryan Garfield, Tule River Indian Tribe

# Letters from Tribal Contacts
# August 28 and September 4, 2014

## Ladd, Karen

**From:** Gemma Benton <GBenton@tachi-yokut-nsn.gov>
**Sent:** Thursday, August 28, 2014 8:47 AM
**To:** Ladd, Karen
**Subject:** Henrietta Solar Project, PG&E Switchyard, Stratford USGS 7.5 quad, township 19 South, Range 20 East, Sections 29 and 32

Ms. Karen Ladd
Project Manager
Ecology & Environment Inc
505 Sansome Street, STE 300
San Francisco, CA 94111

RE: Henrietta Solar Project, PG&E Switchyard, Stratford USGS 7.5 quad, township 19 South, Range 20 East, Sections 29 and 32, Kings County

The Santa Rose Rancheria Tachi Yokut Tribe appreciates the opportunity to respond to the proposed Henrietta Solar Project, PG&E Switchyard, Stratford USGS 7.5 quad, township 19 South, Range 20 East, Sections 29 and 32 .

The Tachi Yokut Tribe, along with other Yokut communities, comprised one of the largest tribal nations in California and historically occupied twelve counties within the greater San Joaquin Valley. Based on the information we have received, we are assigning a high level of risk potential for historical and cultural impact due to proximity to ancient waterways, previously high populations and long term sustained habitation. This high risk potential makes the possibility of encountering cultural resources, including human remains and other culturally significant items, in the proposed ground disturbing activities area highly probable.

Therefore, after careful consideration and discussion with Tribal Elders and Historians, we are recommending that a field visit be conducted prior to any construction on the site and that Native American Cultural Monitoring be present throughout any and all ground disturbance. Please feel free to contact me at 559-924-1278 ext 4012, or via email, with any questions you might have or to make arrangements for a site visit and for cultural monitoring.

Gemma Benton
Santa Rosa Rancheria Tachi Yokut Tribe
Cultural and Historic Preservation Department
Cultural Specialist I
Office: (559) 924-1278 Ext 4012
Wk. Cell: (559) 998-9263

# TABLE MOUNTAIN RANCHERIA
## TRIBAL GOVERNMENT OFFICE

January 26, 2014

RECEIVED SEP 0 4 2014

Karen Ladd, Project Manager
Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, Ca. 94111



RE: Henrietta Solar Project, PG&E Switchyard Cultural Resources Kings County, Conditional Use Permit No. 11-3

Dear Karen Ladd:

This is in response to your letter dated August 26, 2014, Henrietta Solar Project, PG&E Switchyard Cultural Resources Kings County, Conditional Use Permit No. 11-3.

We appreciate receiving notice; however, this project site is beyond our area of interest.

Sincerely,

Bob Pennell
Cultural Resources Director

23736
Sky Harbour Road
Post Office
Box 410
Friant
California
93626
(559) 822-2587
Fax
(559) 822-2693

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# KINGS COUNTY PLANNING COMMISSION
# STAFF REPORT

## Conditional Use Permit No. 14-04
## Zoning Ordinance No. 269.69

**APPLICANT:** Carl Jones, New Cingular Wireless PCS, P.O. Box 6043, Folsom, CA 95763

**PROPERTY OWNER:** John Garcia, 15315 17th Ave., Lemoore, CA 93245

**LOCATION:** 15315 17th Ave., Lemoore

**GENERAL PLAN DESIGNATION:** General Agriculture 20 (AG-20)

**ZONE DISTRICT CLASSIFICATION:** General Agricultural 20 (AG-20)

**CONDITIONAL USE PROPOSED:** The applicant proposes to establish a new 100-foot monopole wireless communication facility. Twelve (12) antennas are proposed to be mounted at a height of 104 feet and twenty-one (21) radio units in the future to be located on the tower below the antennas. A prefabricated 11.5 foot by 12 foot equipment shelter is proposed to be placed at the base of the tower including a standby propane generator.

**DISCUSSION:**

The applicant proposes to construct a wireless telecommunications facility consisting of a 100 foot tall monopole tower. Twelve (12) antennas are proposed to be mounted at a height of 104 feet and twenty-one (21) radio units are proposed to be located on the tower below the antennas in the future. A prefabricated 11.5 foot by 12 foot equipment shelter is proposed to be placed at the base of the tower including a standby propane generator. The project site contains one Assessor's Parcel Number (APN: 024-150-008) totaling 37.77 acres in size. The proposed communications facility is planned for development on only a 960 square foot portion of the parcel. The lease area is within the existing home site area in the northwest portion of the parcel and will be leased from the property owner. The tower/lease area will be located in the southwestern part of the approximate one acre disturbed/developed home site and fencing will surround the 960 square foot lease area with a six (6) foot tall chain link fence.

The equipment shelter will be a prefabricated California Department of Housing approved exposed aggregate concrete, self-contained fire protected building. The electronic equipment will operate at frequencies that will not interfere with other communication signals in the area and are licensed and regulated by the Federal Communications Commission (FCC). This proposed space is for electronic storage only and will be unmanned.

The applicant has investigated co-location opportunities within the area; however no tall buildings or other towers exist within the vicinity. There are two existing towers in the area, one located on Java Avenue and the other located on Iona Avenue. The Iona Avenue tower is approximately 3 miles away and only covers a 1 mile radius. The Java Avenue tower is approximately 1 mile away; however the tower is at capacity and has a weak or absent signal. The subject property was chosen as it provides the best location for the most optimal coverage. The current and proposed coverage areas are provided as Attachments #1 and #2.

The proposed facility will not generate any environmental effects related to noise, air pollution, smoke, odors, pest control, litter, gases, waste by-products, heavy demands upon streets, sewer and water systems. This proposed facility will be unmanned and will only be visited by a technician as required to maintain the radio equipment. The site will be in operation 7 days per week, 24 hours per day.

A land division is not necessary since Section 66412.(j) of the Subdivision Map Act excludes leasing a portion of a parcel, to a telephone corporation as defined in Section 234 of the Public Utilities Code, exclusively for the placement and operation of cellular radio transmission facilities, including antenna support structures microwave dishes, structures to house cellular communications transmission equipment, power sources, and other equipment incidental to the transmission of cellular communications.

It should be noted that the proposed tower is not located within any of the Compatibility Zones for any of the Municipal Airports within Kings County as shown on Figures HS-22 and HS-23 of the Health and Safety Element of the 2035 Kings County General Plan. The proposed tower site is located approximately eight (8) miles southwest of the City of Hanford.

The required utilities will be brought in from the nearest available source which is along 17$^{th}$ Avenue. Access and easement issues have been approved by the owner. No public utilities such as water or sewer are necessary for operation of the proposed communications facility.

It should also be noted that Section 704 of the Telecommunications Act of 1996 states that "No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions." The Federal Communications Commission adopted a Report and Order, FCC 96-326, on August 1, 1996, which revised the guidelines that the Commission will use to evaluate the environmental effects of transmitters licensed or authorized by the Commission.

Section 15064(f)(4) of the *CEQA Guidelines* states "The existence of public controversy of the environment effects of a project will not require the preparation of an EIR if there is no substantial evidence before the agency that the project may have a significant effect on the environment."

Section 15064(f)(5) of the *CEQA Guidelines* states "Argument, speculation, unsubstantiated opinion or narrative, or evidence that is clearly inaccurate or erroneous, or evidence that is not credible shall not constitute substantial evidence. Substantial shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts."

**PARCEL ZONING PERMIT HISTORY:**

1. Conditional Use Permit 1407 – A proposal to initiate a borrow site for the purpose of excavating road fill material was approved on October 3, 1983.

**CURRENT USE OF THE SITE:** The parcel is in active agricultural production with a one acre developed with a single family residence and accessory residential buildings.

**LAND USE SURROUNDING SITE:** Agricultural land (farm fields) and the Tachi Casino & Resort located to the south across Jersey Avenue and the Santa Rosa Rancheria at the southeast corner of Jersey Ave and 17th Avenue intersection. The subject parcel is located on the northwest corner of the Jersey Avenue and 17th Avenue intersection.

**ENVIRONMENTAL REVIEW:**

The Initial Study/Mitigated Negative Declaration (IS/MND) was circulated for public review from September 5, 2014, through September 24, 2014. Five letters were received before the end of the public review period from the Building Division of the Kings County Community Development Agency, the Kings County Fire Department, the Kings County Environmental Health Department, the Kings County Public Works Department, and the Santa Rosa Rancheria Tachi Yokut Tribe. The letters from the Building Division of the Kings County Community Development Agency, the Kings County Fire Department, the Kings County Environmental Health Department, and the Kings County Public Works Department contained comments, standards, and requirements from those agencies, which have been listed in both the staff report and the resolution for this project. The comments from the Cultural Department of the Santa Rosa Rancheria Tachi Yokut Tribe are attached to this staff report as Attachment No. 3.

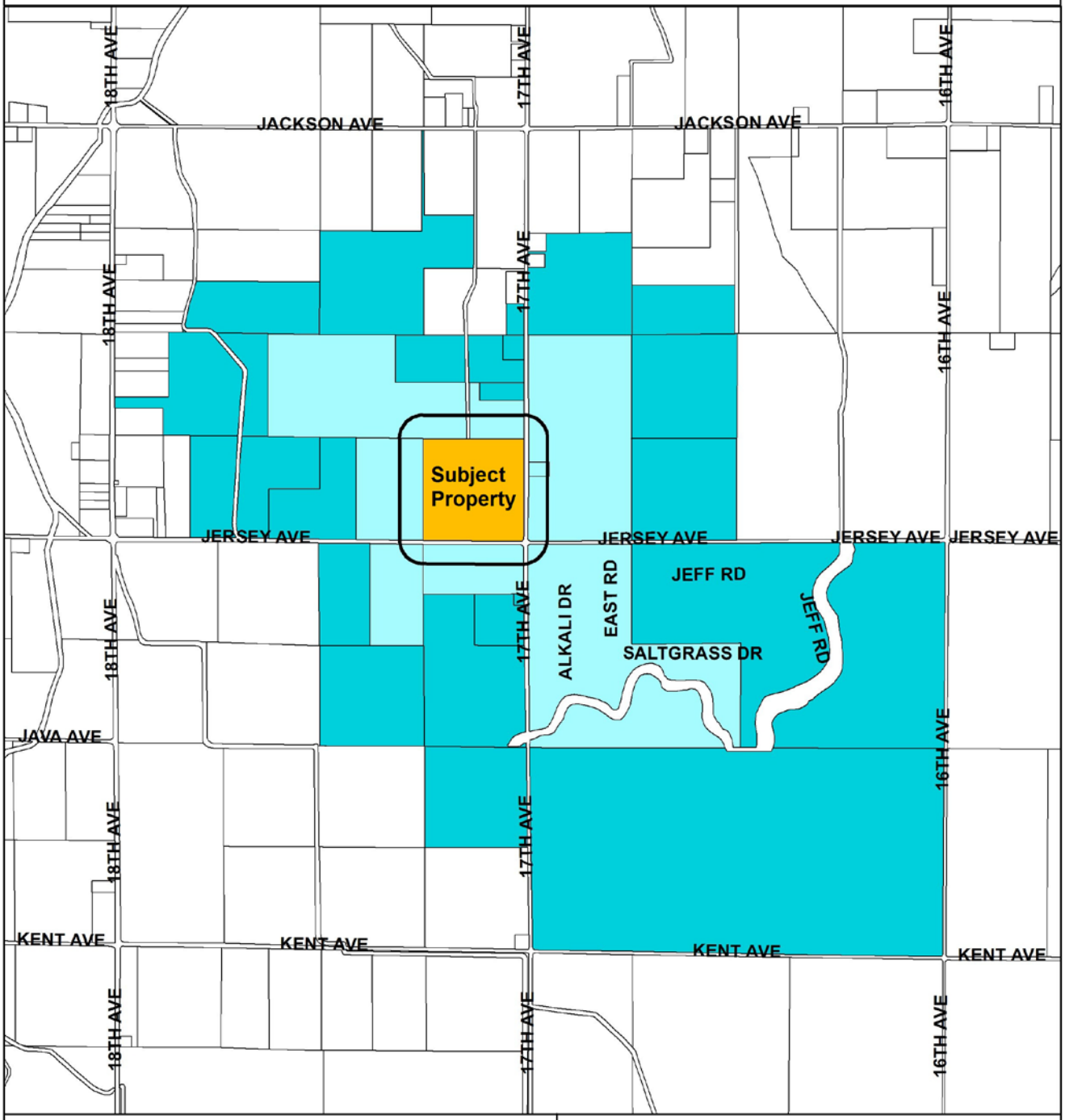
Staff's responses to the comments received from the Santa Rosa Rancheria Tachi Yokut Tribe during the public review period for the IS/MND, from September 5, 2014, through September 24, 2014, are attached to this staff report as Attachment No. 3. While these comments resulted in minor changes to the IS/MND, the comments did not identify a new significant effect, nor did they result in a finding that the proposed mitigation measures in the IS/MND will not reduce potential effects to a less than significant level. Instead, the minor changes serve merely to clarify, amplify and make insignificant modifications to the IS/MND. Accordingly, pursuant to CEQA Guidelines § 15073.5, recirculation of the IS/MND is not required. The revisions to the IS/MND are contained in staff's responses to comments, which are attached to this staff report as a part of Attachment No. 4.

A review of this Project in compliance with the *California Environmental Quality Act (CEQA)* indicates that there may be significant adverse impacts to the environment; however, those impacts can be mitigated to an insignificant level by implementing the Mitigation Monitoring and Reporting Program, which is attached to the Planning Commission Resolution for this project as Exhibit "A". There is no evidence in the record that indicates that the Project has potential for adverse effects on wildlife, resources or habitat for wildlife. A copy of the Initial Study is attached.

**PROJECT REVIEW:**

| | |
|---|---|
| July 31, 2014 | Application submitted |
| August 1, 2014 | Application certified complete |
| September 5, 2014 | Begin 20-day review period for environmental review |
| September 24, 2014 | 20 day environmental review period ends |
| October 6, 2014 | Planning Commission hearing |

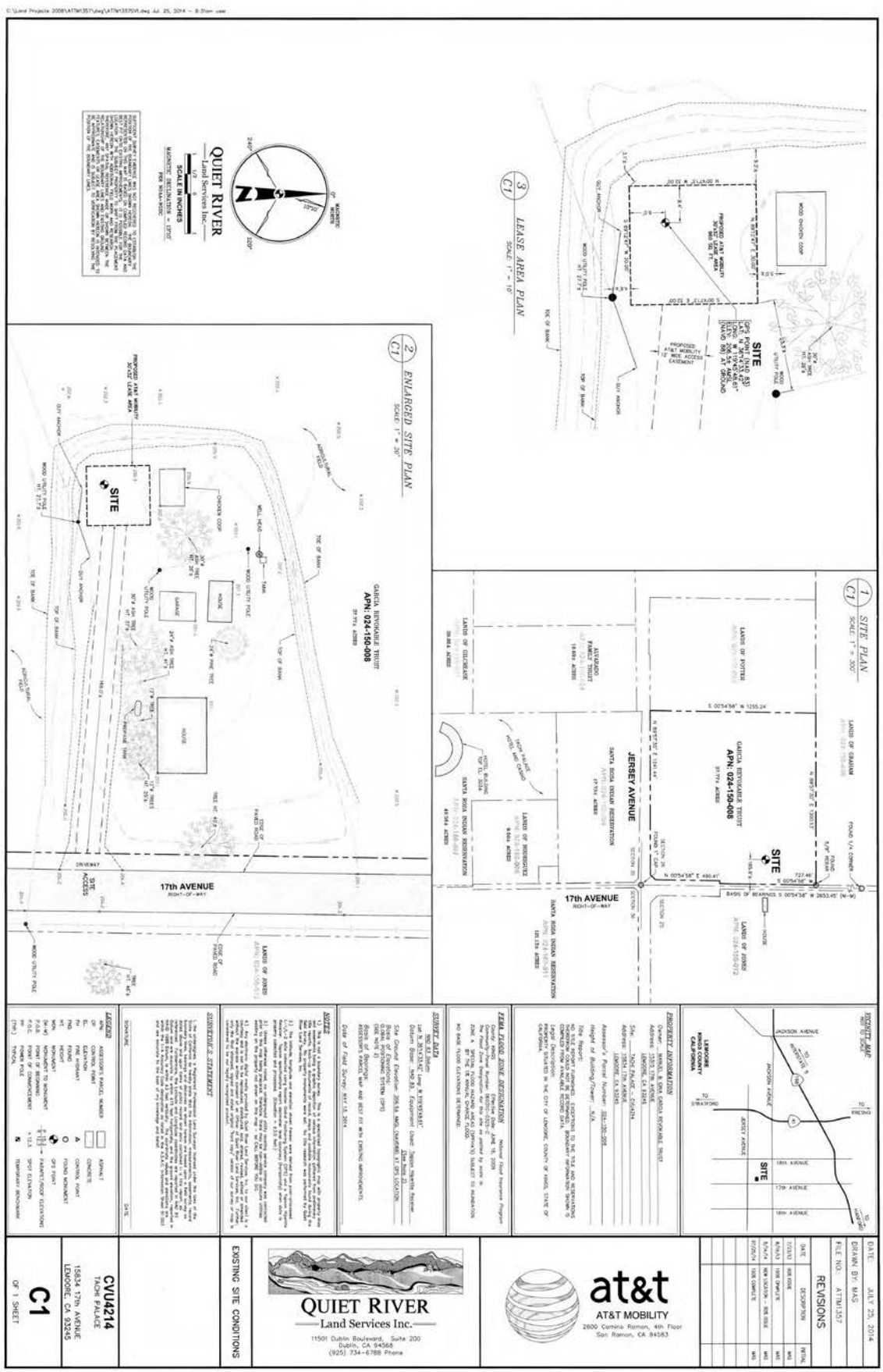
# CUP 14-04
# Site and Notification Map

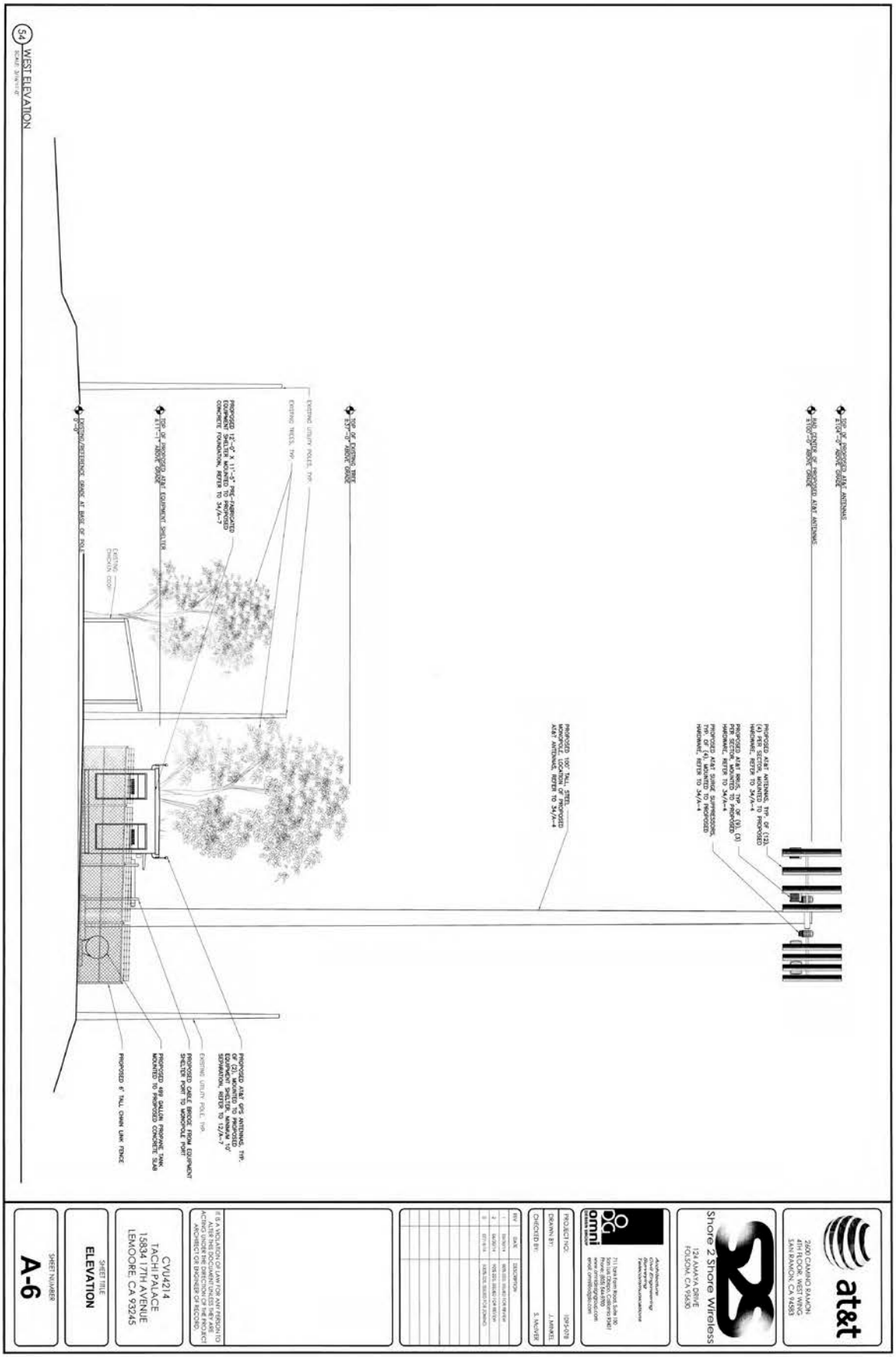



Map prepared by
**Dan Kassik**
**Kings County Community Development Agency**
**August 7, 2014**
1400 W. Lacey Blvd., Hanford, CA 93230

**Legend**

- Subject Property
- 300 Foot Radius
- Next Adjacent


1 C1 SITE PLAN
SCALE: 1" = 300'
2 C1 ENLARGED SITE PLAN
SCALE: 1" = 30'
3 C1 LEASE AREA PLAN
SCALE: 1" = 10'
SITE
17th AVENUE
JERSEY AVENUE
GARCIA REVOCABLE TRUST
APN: 024-150-008
QUIET RIVER
Land Services Inc.
11501 Dublin Boulevard, Suite 200
Dublin, CA 94568
(925) 734-6788 Phone
at&t
AT&T MOBILITY
2600 Camino Ramon, 4th Floor
San Ramon, CA 94583
CVU4214
TACHI PALACE
15634 17th AVENUE
LEMOORE, CA 93245
C1
OF 1 SHEET
EXISTING SITE CONDITIONS
DATE: JULY 25, 2014
DRAWN BY: MAS
FILE NO: ATTM1357
REVISIONS


54 WEST ELEVATION
SCALE: 3/16"=1'-0"
TOP OF PROPOSED AT&T ANTENNAS
±104'-4" ABOVE GRADE
RAD CENTER OF PROPOSED AT&T ANTENNAS
±100'-0" ABOVE GRADE
PROPOSED AT&T ANTENNAS, TYP. OF (12) (4) PER SECTOR, MOUNTED TO PROPOSED HARDWARE, REFER TO 34/A-4
PROPOSED RRH'S, TYP. OF (6) (2) PER SECTOR, MOUNTED TO PROPOSED HARDWARE, REFER TO 34/A-4
PROPOSED AT&T SURGE SUPPRESSORS, TYP. OF (4) MOUNTED TO PROPOSED HARDWARE, REFER TO 34/A-4
PROPOSED 100'-0" TALL STEEL MONOPOLE, LOCATION OF PROPOSED AT&T ANTENNAS, REFER TO 34/A-4
TOP OF EXISTING TREE
±37'-0" ABOVE GRADE
EXISTING UTILITY POLE, TYP.
EXISTING TREES, TYP.
PROPOSED 10'-0" W x 11'-0" D PRE-FABRICATED EQUIPMENT SHELTER MOUNTED TO PROPOSED CONCRETE FOUNDATION, REFER TO 34/A-7
TOP OF PROPOSED AT&T EQUIPMENT SHELTER
±11'-1" ABOVE GRADE
EXISTING CHICKEN COOP
EXISTING/PROPOSED GRADE AT BASE OF POLE
PROPOSED AT&T GPS ANTENNAS, TYP. OF (2) MOUNTED TO PROPOSED EQUIPMENT SHELTER, MINIMUM 10' SEPARATION, REFER TO 12/A-7
EXISTING UTILITY POLE, TYP.
PROPOSED 6' WIDE ACCESS GATE FROM EQUIPMENT SHELTER PORT TO MONOPOLE PORT
PROPOSED 499 GALLON PROPANE TANK, MOUNTED TO PROPOSED CONCRETE SLAB
PROPOSED 6' TALL CHAIN LINK FENCE
at&t
2600 CAMINO RAMON
4TH FLOOR, WEST WING
SAN RAMON, CA 94583
Shore 2 Shore Wireless
12 JUNIPER DRIVE
FOLSOM, CA 95630
omni
711 Sun Park Road, Suite 110
Roseville, CA 95661
Phone: (916) 644-8700
www.omnidesigngroup.com
email: omni@sbcglobal.net
PROJECT NO: 09-078
DRAWN BY: J. MEMEL
CHECKED BY: S. MAJOR
REV DATE DESCRIPTION
1 04/30/14 PER SEC. 6409 (A) REVIEW
2 06/30/14 PER SEC. 6409 (A) REVIEW
3 07/11/14 PER SEC. 6409 (A) REVIEW
IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DOCUMENT UNLESS ACTING UNDER THE DIRECTION OF THE PROJECT ARCHITECT OR ENGINEER OF RECORD.
CVU4214
TACHI PALACE
15834 17TH AVENUE
LEMOORE, CA 93245
SHEET TITLE
ELEVATION
SHEET NUMBER
A-6

**STAFF ANALYSIS:** In order to approve this permit, the Commission is first required to find that:

(A) The use conforms with objectives of the ordinance and policies of the General Plan.

(B) The use should not be detrimental to public health and safety, nor materially injurious to properties in the vicinity.

(C) The use will comply with applicable provisions of the ordinance.

With regard to these required findings, staff comments that:

1. This proposal conforms with the objectives of the ordinance and policies of the Kings County General Plan, specifically:

   A. Figure LU-11, the Kings County Land Use Map, of the Land Use Element of the *2035 Kings County General Plan* designates this site as General Agriculture (AG-20).

   B. Page LU-13, Section III.A.1. of the "Land Use Element" states that the AG-20 designation is applied to rural areas of the county north of Kansas Avenue, excluding the Urban Fringe areas of Hanford and Lemoore, Communities of Armona and Home Garden, the Naval Air Station Lemoore, the Santa Rosa Rancheria Tribal Trust Land, and other small Rural Interface pockets of urban uses. Generally characterized by extensive and intensive agricultural uses, farms within this designation have historically been smaller in size. These areas should remain reserved for commercial agricultural uses because of their high quality soil, natural and manmade waterways, scenic nature with larger concentrations of orchards, vineyards, and valley oak trees.

   C. Page LU-13, Section III.A.1. of the "Land Use Element" states that agricultural land use designations account for a vast majority of the County's land use. Included within this land use type are four agricultural type land use designations, Limited Agriculture, General Agriculture 20 Acre Minimum, General Agriculture 40 Acre Minimum, and Exclusive Agriculture. The major differences between the four Agriculture designations relate to minimum parcel size, animal keeping, and agricultural service businesses. These designations preserve land best suited for agriculture, protect land from premature conversion, prevent encroachment of incompatible uses, and establish intensity of agricultural uses in a manner that remains compatible with other uses within the County. The development of agricultural service and produce processing facilities within the Agricultural areas of the County shall develop to County standards.

   D. Page LU-27, Section IV.B of the "Land Use Element" of the *2035 Kings County General Plan* states Agriculture Open Space is the most extensive environment category that displays the rural agricultural nature of the County. This environment category covers the vast agricultural resources of the County that accounted for $1.76 billion in 2008 gross agricultural production. The Agricultural land use designations (Limited Agriculture, General Agriculture 20 Acre, General Agriculture 40 Acre, and Exclusive Agriculture) are

used to define distinct areas of agricultural intensity, and protect agricultural land from the encroachment of incompatible uses. Limited and General Agriculture designated areas provide appropriate locations for agricultural support businesses, while Exclusive Agriculture provides a safety and noise buffer around the Naval Air Station Lemoore. The physical development of agricultural properties is regulated and implemented by the *Zoning Ordinance.*

E. Page LU-38, LU Goal B7 of the "Land Use Element" of the *2035 Kings County General Plan* states that community benefiting non-agricultural uses remain compatible within the County's Agricultural Open Space area, and are supported for their continued operation and existence. Page LU-38 also states that the agricultural area of the county may accommodate other appropriate uses that are of benefit to the County or community as a whole. Such uses may include school sites, County parks, utility power facilities, waste management facilties, wastewater treatment facilities, communication towers, and open space buffers. Such uses shall be regulated by the zoning ordinance where applicable.

(1) The proposed project is consistent with LU Goal B7 since it would establish a community benefitting non-agricultural use (communications tower) in the General Agricultural designated area.

2. The use should not be detrimental to public health and safety, nor materially injurious to properties in the vicinity. A Mitigated Negative Declaration has been recommended for this Project. The proposed Project may have significant adverse impacts on the environment; however, those impacts can be mitigated to an insignificant level by implementing the Mitigation Monitoring and Reporting Plan attached to the Planning Commission Resolution for this project as Exhibit "A." On the bases of the whole record (including the initial study and all comments received), there is no substantial evidence that the project will have a significant effect on the environment. The Mitigated Negative Declaration reflects the Planning Commission's independent judgment and analysis.

3. The use complies with the applicable provisions of the ordinance, specifically: The proposed project, as recommended for approval, is consistent with the *Kings County Zoning Ordinance*.

A. Article 4, Section 402.D.11 of the General Agriculture (AG-20) District lists cellular telephone transmission towers as a conditional use subject to Planning Commission approval.

**STATEMENT OF FINDINGS OF CONSISTENCY:**

1. **LAND CONSERVATION (WILLIAMSON) ACT FINDINGS:**

*California Land Conservation Act of 1965 (Williamson Act)* consistency: The proposed project, as recommended for approval, is consistent with the *Williamson Act*.

A. The proposed wireless PCS facility is consistent with the *Uniform Rules for Agricultural Preserves in Kings County*.

(1) Section B.7. of the *Uniform Rules for Agricultural Preserves in Kings County* lists public service structures, including communication facilities, as a compatible use within an agricultural preserve.

B. Section 51238. of the *California Government Code* states that no land occupied by communication facilities shall be excluded from an agricultural preserve by reason of that use.

C. Section 51238.1 of the *California Government Code* requires that uses approved on contracted lands shall be consistent with all of the following principles of compatibility:

(1) The use will not significantly compromise the long-term productive agricultural capability of the subject-contracted parcel or parcels or on other contracted lands in agricultural preserves.

(a) Construction of the wireless communications facility would occur only on a 960 square foot portion of the 37.77-acre parcel. The 960 square foot lease area is within the existing one acre developed home site which is not under agricultural production. No land would be removed from agricultural production. Since the proposed communications facility will be a compatible use and since no land would be removed from agricultural production, the long-term productive agricultural capability of the subject-contracted parcel will not be compromised.

(2) The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves. Uses that significantly displace agricultural operations on the subject contracted parcel or parcels may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject contracted parcel or parcels or neighboring lands, including activities such as harvesting, processing, or shipping.

(a) Construction of the wireless communications facility would occur only on a 960 square foot portion of the 37.77-acre parcel. The 960 square foot lease area is within the existing one acre developed home site which is not under agricultural production. No land would be removed from agricultural production. Since the proposed communications facility will be a compatible use and since no land would be removed from agricultural production, it will not displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or on other contracted lands in agricultural preserves.

(3) The use will not result in the significant removal of adjacent contracted land from agricultural or open-space use.

(a) Construction of the wireless communications facility would occur only on a 960 square foot portion of the 37.77-acre parcel. The 960 square foot lease area is within the existing one acre developed home site which is not under agricultural production. No land would be removed from agricultural production. Since the proposed communications facility will be a compatible use and since no land would be removed from agricultural production, it will not result in the removal of adjacent contracted land from agricultural or open-space use.

2. **FLOOD PLAIN FINDINGS:**
   A. The site is within Other Areas Zone X as shown on the National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Map Number 06031C0325C, dated June 16, 2009. There are no development restrictions associated with Other Areas Zone X since these are areas determined to be outside the 0.2 percent annual chance floodplain.

3. **ENTERPRISE ZONE FINDINGS:**
   A. The project site is not located within the Kings County Enterprise Zone.

4. **AIRPORT COMPATIBILITY ZONE FINDINGS:**
   A. The project site is not located within an Airport Compatibility Zone.

5. **SEPTIC SYSTEM FINDINGS:**
   A. The project site is located within an area requiring engineering for any new septic systems that are installed.

**RECOMMENDATIONS:**

It is recommended that the Commission approve Conditional Use Permit No. 14-04 as described above and adopt Resolution No. 14-10. Approval of this Resolution will:

1. Find that the proposed project will not have significant adverse impacts on the environment, and approves a ***Mitigated Negative Declaration***.

2. Find that the project is consistent with the *2035 Kings County General Plan, Kings County Zoning Ordinance, and the California Land Conservation Act of 1965 (Williamson Act).*

3. Approve the project with specified conditions of approval.

This permit shall become effective upon the expiration of eight (8) days following the date on which the permit was granted unless the Board of Supervisors shall act to review the decision of the Planning Commission.

A Conditional Use Permit shall lapse and shall become null and void one (1) year following the date on which the Conditional Use Permit became effective, unless prior to the expiration of one (1) year a building permit is issued by the Building Official and construction is commenced and diligently pursued toward completion of the site which was subject of the Conditional Use Permit application. A Conditional Use Permit may be renewed for additional periods of time, if an application (by letter) for renewal of the Conditional Use Permit is filed with the Planning Commission prior to the permit's expiration date.

For the information of the applicant, compliance with other adopted rules and regulations of any local or state regulatory agency shall be required by the Planning Commission. This includes but is not limited to the following:

**KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY – PLANNING DIVISION** Contact Dan Kassik of the Kings County Community Development Agency – Planning Division at (559) 852-2655 regarding the following requirements:

1. All proposals of the applicant shall be conditions of approval if not mentioned herein.

2. The site plan for the project is approved in concept. However, it is understood that during the actual design of the project that either of the following minor alterations to the site plan may be necessary: 1) structural alterations; and/or 2) alterations to the location of structures. Any minor alterations shall comply with the following requirements:

   A. The site shall be developed in substantial compliance with the conceptually approved site plan. Development of the site shall be considered substantially consistent with the approved conceptual site plan if any minor structural alteration is within ten (10) percent of the square footage shown on the conceptually approved site plan or up to a 2,500 square foot increase in structural size, whichever is less, and the minor structural alteration complies with coverage standards.
   B. A minor alteration of the location of a structure shall be considered substantially consistent with the approved conceptual site plan if the new location of the structure complies with all setback requirements for the zone district that the project site is located in.
   C. Any minor alteration that would make it necessary to modify or change any condition of approval placed on the project would require resubmittal of the application to amend the approval of the Conditional Use Permit.
   D. No expansion of use, regardless of size, which would increase the projected scale of operations beyond the scope and nature described in this Conditional Use Permit application, will be allowed. Any expansion that is a substantial change from the conceptually approved site plan, will require either an amendment to the approved Conditional Use Permit or a new zoning permit.

3. Prior to any ground disturbance, the applicant shall hire a Native American Monitor to monitor the project during all ground disturbing activities during both the construction and decommissioning phases of the project.

4. The development shall comply with all regulations of *Zoning Ordinance No. 269*, with particular reference to the General Agriculture 20 (AG-20) Zone District standards contained in Article 4 and the standards contained in Article 19.

5. Pursuant to Section 1606.C.1 of the *Kings County Zoning Ordinance* unless otherwise stated, the following signs are allowed as a permitted use and do not require a sign permit, site plan review or conditional use permit. All signs shall be located outside of the public right-of-way and shall not be located within a traffic safety visibility area if over three (3) feet in height. Unless a different setback is specified for a particular zone district, the minimum setback distance for all signs over three (3) feet in height shall be ten (10) feet from property lines. Signs shall be permitted only as follows in Agricultural (A) Districts:

   A. Name plates or signs, not directly illuminated, with an aggregate area of not more than forty (40) square feet pertaining to a permitted use, permitted use with site plan review or conditional use conducted on the site.
   B. Signs exceeding forty (40) square feet in structural area and up to one-hundred-fifty (150) square feet in structural area which are incidental and pertaining to a permitted or conditional use may be permitted subject to a site plan review. Such signs may be located on the same parcel or an adjacent parcel used in conjunction with the permitted

or conditional use. Signs exceeding forty (40) square feet in structural area may be illuminated and shall be thirty (30) feet from property lines adjacent to a road.

C. One non-illuminated on-site sign real estate sign or subdivision not exceeding thirty-two (32) square feet in structural area with copy on both sides pertaining to the sale, lease, rental or display of a structure or land per Section 1606.B.2.a.

D. Directional or information (other than advertising) signs not exceeding two hundred and forty (240) square feet in area located adjacent to a state highway or a county road within an area limited by points not closer than one-fourth (¼) mile or further than three-fourths (¾) mile from a frontage road turnoff, listing commercial establishments accessible via the frontage road, and further provided that not more than four (4) such signs shall be permitted on each side of the highway or county road.

E. Signs not exceeding two hundred forty (240) square feet in area located adjacent to a state highway or county road that is classified as an arterial or collector road (including such designations as urban or rural, major or minor) giving direction to or information about Kings County cities, communities, or rural service centers which are accessible by such state highways or county roads or direct routes consisting of combinations thereof, provided that such signs shall be limited to four (4) per city, community or rural service center regardless of the sign's location in this district, and further provided that such signs shall not contain information pertaining to a subdivision of land or private development, commercial establishments or quasi-public developments.

F. Non-illuminated temporary construction signs in accordance with Section 1606.B.2.c.

G. Political and Campaign Signs in accordance with Section 1606.B.3.P

H. Placing a sign on property which is restricted by contract under the *California Land Conservation "Williamson" Act of 1965* shall be prohibited, except for temporary signs (pursuant to Section 1606.B.2.a, c, and d), political and campaign signs (pursuant to Section 1606.B.4), and signs incidental to a permitted use, permitted use with site plan review, or conditional use which are consistent with the *Uniform Rules for Agricultural Preserves in Kings County*.

6. Obstruction lighting, consisting of at least one red, constantly burning, 110-watt light bulb on the top of the tower in operation from dusk until dawn, shall be required for the proposed project.

7. Any exterior lighting (with the exception of obstruction lighting, see Planning Division Requirement No. 6) shall be hooded so as to be directed only on-site.

8. The minimum yard setback requirements for any new structures shall be as follows:

   a. Front yard minimum setback requirements:
      1. Occupied structures including residential dwellings; public and quasi-public uses of an educational type; community facilities and institutions; public uses of an administrative, public service or cultural type; and dairy milk barns shall be not less than fifty (50) feet from the public road right-of-way line or the property line if not fronting on a public road right-of-way.
      2. Non-occupied uses shall be not less than thirty-five (35) feet from the public road right-of-way line or property line if not fronting on a public road right-of-way. Any portion of a carport which is constructed within the area of the front yard that exists between the thirty-five (35) foot front yard setback and the fifty (50) foot front yard setback must have open sides within that setback area

3. The front yard setbacks noted above prevail except along those streets and highways where a greater setback is required by other ordinances or standards of the County, including, but not limited to, the Kings County Improvement Standards.
4. All minimum setback requirements shall be measured from the public road right-of-way. Public road right-of-way shall be verified with the Kings County Public Works Department to ensure that required setbacks are met.

b. Rear yard minimum setback requirement: Ten (10) feet from property lines.

c. Side yard minimum setback requirements:
   1. Interior sites: Ten (10) feet from property lines.
   2. Corner sites: Twenty (20) feet from the public road right-of-way line on the street side of the corner site.
   3. The side yard setbacks noted above prevail except along those streets and highways where a greater setback is required by other ordinances or standards of the County, including but not limited to, the *Kings County Improvement Standards*.
   4. Required yard areas may be used for the growing of agricultural crops, horticultural specialties or for aesthetic landscaping.

9. The applicant shall obtain any necessary federal, state or local regulatory licensing permits.

10. The applicant shall comply with all adopted rules and regulations of the Kings County Public Works Department, Fire Department, and Department of Environmental Heath Services, and all other local and state regulatory agencies.

11. No process, equipment or materials shall be used which are found by the Planning Commission to be substantially injurious to persons, property, crops, or livestock in the vicinity by reasons of odor, fumes, dust, smoke, cinders, dirt, refuse, water carried wastes, noise, vibration, illumination, glare or unsightliness or to involve any undue risk of fire or explosion.

12. Pursuant to Section 14-38(d) of the *Kings County Code of Ordinances*, a "Notice of Disclosure and Acknowledgment of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings" shall be signed, notarized, and recorded.

13. Pursuant to Section 66020(d)(1) of the *California Government Code*, the owner is hereby notified that the 90-day approval period in which the applicant may protest the imposition of fees, dedications, reservations, or other exactions, begins on the date that this resolution is adopted.

14. Within eight (8) days following the date of the decision of the Kings County Planning Commission, the decision may be appealed to the Kings County Board of Supervisors. The appeal shall be filed with the Clerk of the Board of Supervisors.

15. This Conditional Use Permit shall lapse and shall become null and void one (1) year following the date that the Conditional Use Permit became effective, unless prior to the expiration of one (1) year the proposed use has been established. A Conditional Use Permit involving construction shall lapse and shall become null and void one (1) year following the date that the Conditional Use Permit became effective, unless prior to the expiration of one (1) year a building permit is issued

by the Building Official and construction is commenced and diligently pursued toward completion on the site that was subject of the Conditional Use Permit application.

16. This Conditional Use Permit may be renewed for additional periods of time, if an application (by letter) for renewal of the Conditional Use Permit is filed with the Kings County Community Development Agency prior to the permit's expiration date. It is the responsibility of the applicant to file an extension of time prior to the permit's expiration date. No further notice will be provided by the Community Development Agency prior to the permit's expiration date.

17. This approved conditional use permit shall run with the land and shall continue to be valid upon change of ownership of the site which was the subject of the conditional use permit approval.

**OTHER STANDARDS AND REGULATIONS:**

In addition to the above Zoning Ordinance requirements, other standards and regulations affecting this project are listed below. These requirements are not part of this zoning approval. However, compliance is required by the departments and agencies listed below. Appeals for relief of these standards and regulations must be made through that department's or agency's procedures, not through the Zoning Ordinance procedures.

**KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY - BUILDING DIVISION** Contact Darren Verdegaal at the Kings County Community Development Agency - Building Division at (559) 852-2683, regarding the following requirements:

1. Building permits must be obtained from the Building Division of the Kings County Community Development Agency for any structures, plumbing, electrical, or mechanical work.

2. Failure to obtain a building permit for any structure, prior to commencing construction, which requires a building permit, will result in the payment of a double fee. Payment of such double fee shall not relieve any person from fully complying with the requirements of Kings County Code of Ordinances, Chapter 5 in the execution of the work or from any other penalties prescribed therein.

3. A minimum of (2) sets of plans and calculations signed by an architect or engineer licensed to practice in the Sate of California shall be required for all structures.

4. The applicant is responsible for contacting the Building Division to request a final inspection of the structures prior to occupying the structures and prior to startup of the operation. No building or structure shall be used or occupied until the Building Division has issued a Certificate of Occupancy.

5. All drive approaches and durable dustless surfaces shall be installed prior to the final inspection and maintained as per County Standards.

6. All special inspection reports shall be provided to the Building Division prior to requesting a final inspection.

7. A soils report, prepared by a qualified soils engineer, shall be provided to the Building Division prior to issuance of building permits.

8. All construction shall conform to the 2013 California Code of Regulations Title 24 which consist of the California Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, and California Energy Code, California Fire Code and California Green Building Standards Code.

**KINGS COUNTY HEALTH DEPARTMENT** Contact Lee Johnson of the Kings County Department of Environmental Health Services at (559) 852-2631 regarding the following requirements:

1. Hazardous materials at or above threshold reporting quantities (55 gallons of a liquid, 500 pounds of a solid, or 200 cubic feet of a gas) will be kept on site, and the operator must file a Hazardous Materials Business Plan for the site online at http://cers.calepa.ca.gov within 30 days of onsite storage. Hazardous materials are broadly defined, and include fuel, lubricants, antifreeze, motor vehicle batteries, welding gases, paints, solvents, glues, agricultural chemicals, etc. Please contact our office if you require assistance with the online registration process.

2. Any quantities of hazardous wastes generated by the facility operation must be managed in accordance with Federal, State, and local laws and regulations. Hazardous wastes cannot be disposed of into the municipal waste stream or onsite sewage disposal system. The owner/operator must contact our office at with any questions regarding proper management and reporting of hazardous wastes, such as waste oil/filters, associated with this operation.

3. The facility will be subject to the California Aboveground Petroleum Storage Act (APSA) if 1,320 gallons or more of petroleum products such as fuel will be stored on site. If this is the case the facility must contact our office for additional information.

4. As per the Kings County Public Health Officer, Coccidiodes immiti, the fungus that causes valley fever, a serious and potentially long-term respiratory illness, is endemic in the soils of Kings County. Construction activities that disturb soils containing the spores of the fungus can put workers and the nearby public at risk. Effective dust control must be maintained on the job site at all times in order to reduce the risk of valley fever to workers and nearby residents. More information regarding the prevention of work related valley fever is available at www.cdph.ca.gov/programs/hesis/Documents/CocciFact.pdf and http://www.cdph.ca.gov/programs/ohb/Documents/OccCocci.pdf. Contact the San Joaquin Valley Air Pollution Control District for more information on dust control techniques.

**KINGS COUNTY PUBLIC WORKS DEPARTMENT** Contact Mike Hawkins of the Kings County Public Works Department at (559) 852-2708 regarding the following requirements:

1. All requirements required hereafter conform to the Kings County Improvement Standards.

2. All other alternative to Public Works requirements must be approved by the Kings County Public Works Department.

3. Applicant shall secure an encroachment permit for any work within the County right-of-way.

4. Asphalt concrete approaches shall be provided.

**KINGS COUNTY FIRE DEPARTMENT** Contact Rick Smith of the Kings County Fire Department at (559) 852-2881 regarding the following requirements:

1. The plans comply with the California Fire Code and all regulations of the Kings County Fire Department.

2. The property must be equipped with a Knox Box for Fire Department access.

3. The propane tank must meet all applicable CFC and NFPA requirements, including NFPA 704 labeling.

**PREPARATION:**

Prepared by the Kings County Planning Agency (Dan Kassik) on August 27, 2014. Copies are available for review at the Kings County Community Development Agency, Government Center, Hanford, California, or at the Kings County Clerk's Office, Government Center, Hanford, California.

Attachments to Staff Report:

1. Existing Coverage Area
2. Proposed Coverage Area
3. Comment Letter
4. Response to Comments

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# Attachment #1

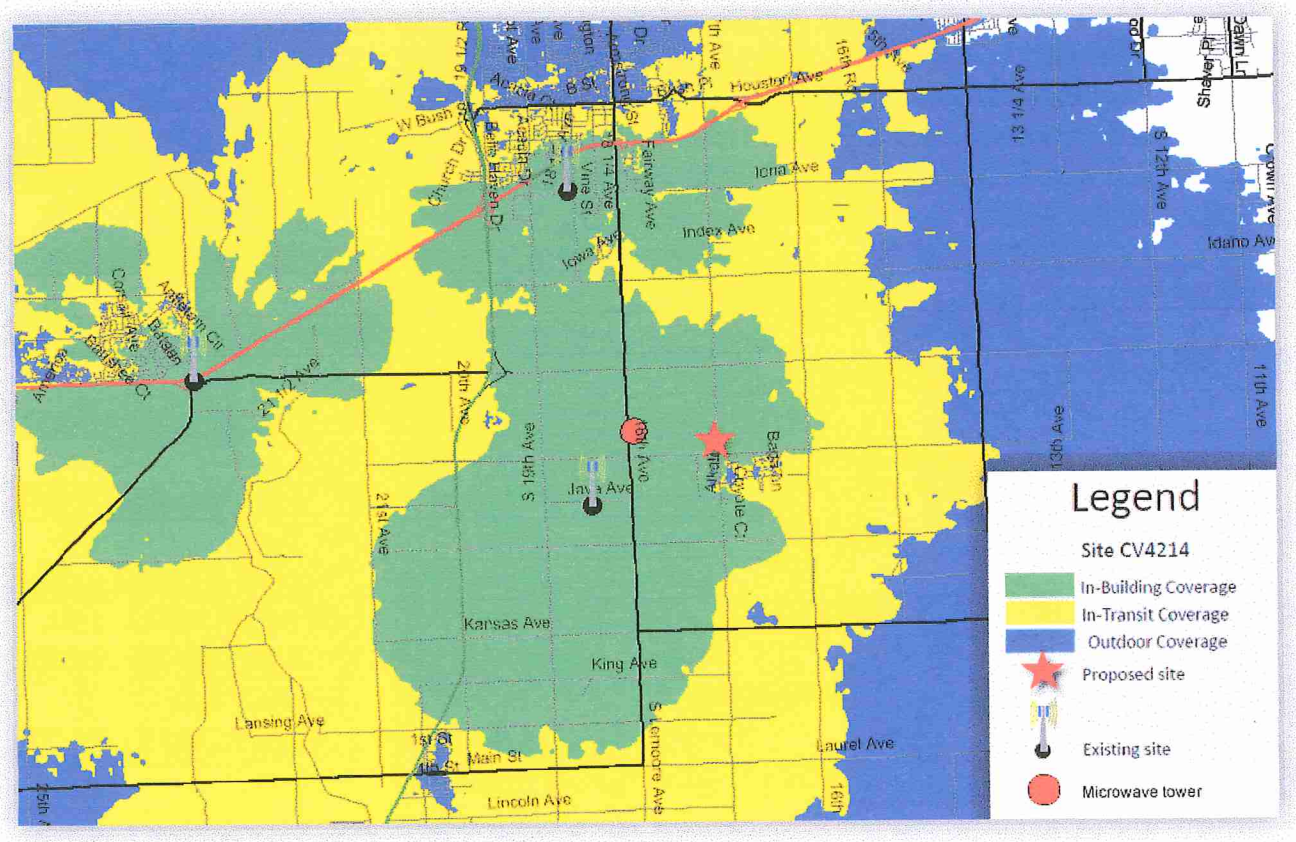
**Network Design Plan:**

AT&T has current plans to install 1 facility (this project) on a property at the intersections of Jersey & 17th Avenues to cover the surrounding community and fill the significant indoor coverage gap that currently exists. As of the 2015 fiscal year, AT&T has no further plans to install or expand service in or around this area.

**Possible Co-location:**

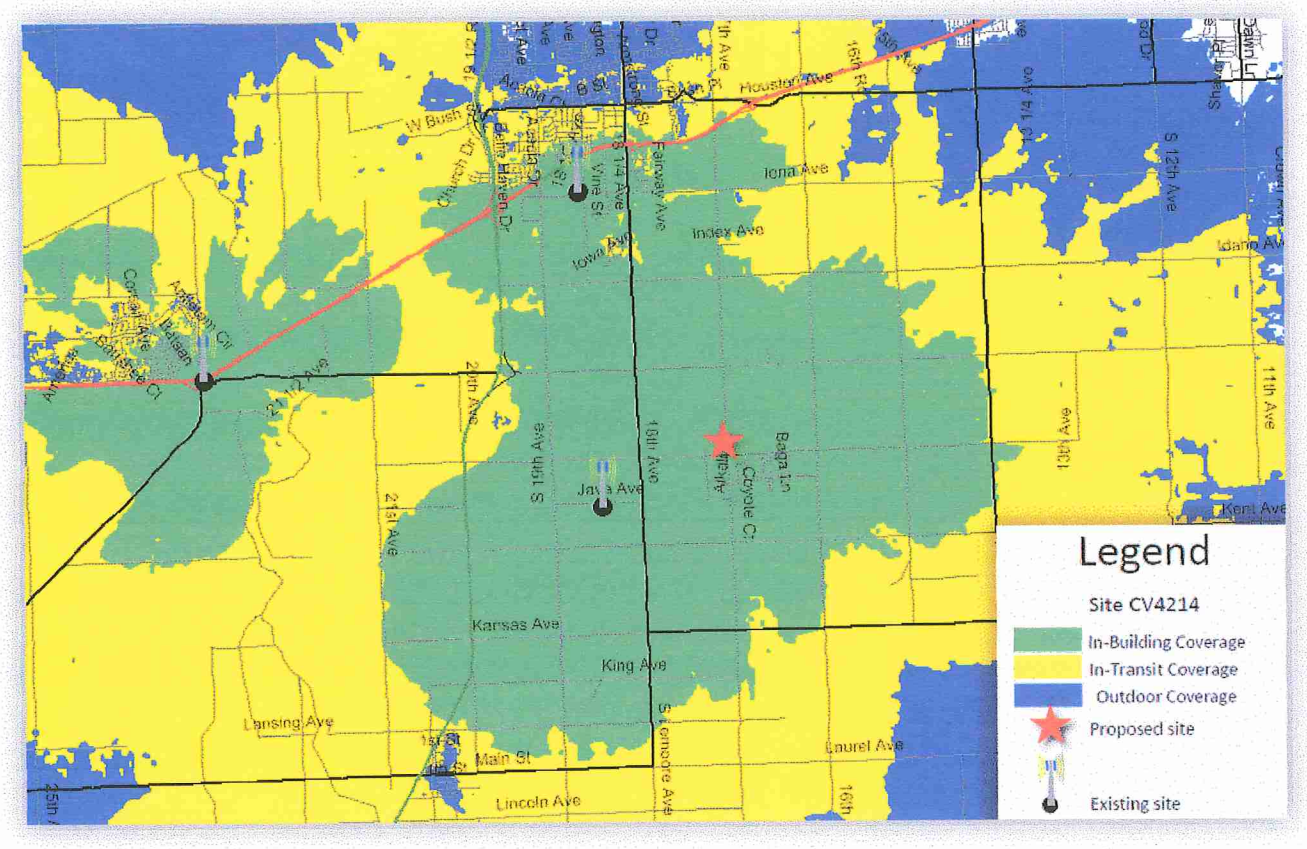
AT&T has performed coverage and infrastructure analysis of the area and has determined that the existing nearby towers either already contain AT&T wireless antennas, or will not meet the objective to provide full indoor coverage to the nearby residential neighborhood. We explored the existing 150' microwave tower at the Central Union School District Facilities at Jersey & 18th Avenues and determined that this tower is too close to the existing AT&T wireless facility which would cause significant interference with the existing operations. Secondarily, this tower would not remove the gap in indoor coverage to the South East of Jersey and 17th Avenue. Therefore there are no-available co-location facilities nearby capable of meeting the coverage objective.

**Exhibit B: Coverage from existing Microwave Tower**



# Attachment #2

**Exhibit C: Coverage with New AT&T Tower**




**New Tower Location:**

AT&T has performed coverage and infrastructure analysis for the proposed tower at Jersey & 17th Avenues and determined that installation of a 100' tower and antennas at this location removes the significant gap in indoor coverage in the area from In-Transit and Outdoor Only Coverage.

**Evaluation of RF Exposure:**

AT&T is currently preparing an EMF report for this location for filing with the FCC, this report is required for all AT&T licensed facilities and details the frequencies and power levels that will be used by AT&T and will detail per the federal standards for wireless facilities that no public access is allowed within 5' of the front, and 3' surrounding the operating antennas. As this site is 100' in elevation, there is 0% likelihood that anyone will be able to access the tower, and thus the EMF report will detail that AT&T is 100% within the federal and state regulations for operating a wireless facility. We will provide this report once generated.

Please contact myself or the staff of Shore 2 Shore Wireless for answers to any questions pertaining to this design.

**Paul Riar**
AT&T RF Design Engineer
at&t Mobility
Desk: 559.454.5702
Mobile: 559-824-4673
Email: pr3591@att.com

# Attachment #3

**From:** Roper, Sandy
**To:** Kassik, Dan
**Subject:** FW: Notice of Intent to Adopt Mitigated Negative Declaration
**Date:** Tuesday, September 16, 2014 1:18:30 PM
**Attachments:** image001.jpg

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FYI

-----Original Message-----
From: Shana Brum [mailto:SBrum@tachi-yokut-nsn.gov]
Sent: Tuesday, September 16, 2014 12:32 PM
To: Roper, Sandy
Cc: Gemma Benton; Hector Franco
Subject: Re: Notice of Intent to Adopt Mitigated Negative Declaration

Dear Sandy,
Thank you for contacting Santa Rosa Rancheria Tachi Yokut Tribe about the proposed AT&T project. This is a very sensitive area. This is the Tachi village of Wiu. There are burials and Cultural Resources all around this location. In order to mitigate the potential effects of this project, it is recommend that a Native American Monitor be hired from Santa Rosa Rancheria to monitor all ground disturbing activities associated with this project. Thank you.

Sincerely,
Shana Brum
Cultural Specialist/Arch Tech
SBrum@tachi-yokut-nsn.gov
Cell: (559)997-9919
Office: (559)924-1278 ext. 4013

> On Sep 5, 2014, at 10:52 AM, "Roper, Sandy" <Sandy.Roper@co.kings.ca.us> wrote:
>
> Environmental Document Email List Members,
>
> Please see the attached Notice of Intent to Adopt a Mitigated Negative Declaration for Conditional Use Permit No. 14-04 (AT&T Cell Tower). The public review periods begins on Friday, September 5, 2014, and ends on Wednesday, September 24, 2014. Written comments will be accepted until 5:00 P.M. on September 24, 2014.
>
> [KCCDA_logo]
> Sandy Roper, Principal Planner
> Kings County Community Development Agency
> 1400 W. Lacey Blvd., Building #6
> Hanford, CA 93230
>
> Phone: 559-852-2685
> Fax: 559-584-8989
> Email: Sandy.Roper@co.kings.ca.us<mailto:Sandy.Roper@co.kings.ca.us>
> Q Think before you print. Please consider the environment before printing this e-mail.
>
> <CUP 14-04 IS-MND Packet.pdf>
> <image001.jpg>

**RESPONSE TO COMMENTS**

The AT&T Cell Tower project California Environmental Quality Act (CEQA) Mitigated Negative Declaration (MND) adequately analyzes the potential impacts to cultural resources and mitigates potential impacts to a less than significant level. A cultural survey of the site was not completed since the project site was previously disturbed and is developed with a single-family residence and accessory buildings on the project site.

The MND analyzes and discloses the potential for ground-disturbing activities associated with future construction activities of the project to impact unknown historical resources:

> **b)** There could be a disturbance or destruction of cultural or historic resources resulting from the construction activities associated with the project. Although there is no evidence of archaeological sites on the project site, there is the potential during project-related excavation and construction for the discovery of cultural resources. This impact is potentially significant, but can be mitigated to a less than significant level. (MND Pages 7 & 8).

Implementation of Mitigation Measure V(a) would reduce potential impacts on historical resources resulting from subsurface disturbance by ensuring that If, in the course of project construction or operation, any archaeological or historical resources are uncovered, discovered, or otherwise detected or observed, activities within fifty (50) feet of the find shall cease. A qualified archaeologist shall be contacted and advise the County of the site's significance. If the findings are deemed significant by the Kings County Community Development Agency, appropriate mitigation measures shall be required prior to any resumption of work in the affected area of the project.

MM V(a) further reduces the impact of disturbing previously unrecorded sites by establishing a plan that describes and outlines procedures that the monitor must follow in the event a site is discovered.

Due to the sensitivity of the area, a condition was added to the Conditional Use Permit requiring a Native American Monitor be present for any ground disturbing activities. Implementation of these MMs and requiring a Native American Monitor on site ensures that no historical resources would be adversely impacted by project construction, particularly those that are unknown at this time and impacts under this criterion would be reduced to a less than significant level.

# KINGS COUNTY
# COMMUNITY DEVELOPMENT AGENCY

**Gregory R. Gatzka, Director**

## PLANNING DIVISION

**Web Site:** http://www.countyofkings.com/planning/index.html


# NOTICE OF INTENT TO ADOPT
# A MITIGATED NEGATIVE DECLARATION

**NOTICE IS HEREBY GIVEN** that the Kings County Community Development Agency invites public review and comment on the environmental document listed below. The public review period begins on Friday, September 5, 2014, and ends on Wednesday, September 24, 2014. Written comments concerning the adequacy of the document will be accepted until 5:00 P.M. on September 24, 2014, at the Kings County Community Development Agency, Kings County Government Center, Engineering Building No. 6, 1400 W. Lacey Blvd., Hanford, California, 93230. The document is posted in the County Clerk's office and is also available at the Kings County Community Development Agency. If you would like to request an electronic copy of the document then please contact Dan Kassik, with the Community Development Agency, at (559) 852-2655, or by email at dan.kassik@co.kings.ca.us

INITIAL STUDY PROPOSED AS MITIGATED NEGATIVE DECLARATION:

1. Conditional Use Permit No. 14-04 (AT&T Cell Tower) – The applicant proposes to establish a new 100-foot monopole wireless communication facility with a fenced lease area for ground equipment located at 15834 17th Avenue, Lemoore, Assessor's Parcel Number 024-150-008.

The Kings County Planning Commission will hold a public hearing to consider the environmental document for the proposed project that is listed above. The public hearing will be held on Monday, October 6, 2014 at 7:00 P.M., in the Kings County Board of Supervisors Chambers, in the Administrative Building No. 1, Kings County Government Center, 1400 W. Lacey Blvd., Hanford, California. Interested parties are invited to appear and present evidence or make statements of fact regarding the proposed projects. For more information regarding the proposed project please call Dan Kassik, of the Kings County Community Development Agency, at (559) 852-2655.

KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY

Gregory R. Gatzka, Director

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# INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

**PROJECT TITLE:** Conditional Use Permit No. 14-04

**LEAD AGENCY NAME AND ADDRESS:** Kings County Community Development Agency, 1400 W. Lacey Blvd., Hanford, CA 93230

**CONTACT PERSON AND PHONE NUMBER:** Dan Kassik, (559) 852-2655

**PROJECT LOCATION:** 15834 17th Avenue, Lemoore, CA 93245

**PROJECT APPLICANT'S NAME AND ADDRESS:** Carl Jones, Shore 2 Shore Wireless, P.O. Box 6043, Folsom, CA 95630

**PROJECT OWNER'S NAME AND ADDRESS:** New Cingular Wireless PCS, LLC, P.O. Box 6043, Folsom, CA 95630

**GENERAL PLAN DESIGNATION:** General Agriculture 20 (AG-20)

**ZONE DISTRICT:** General Agriculture 20 (AG-20)

**DESCRIPTION OF PROJECT:** The applicant proposes to construct a wireless telecommunications facility consisting of a 100 foot tall monopole tower. Twelve (12) antennas are proposed to be mounted at a height of 104 feet. A prefabricated 12 foot by 11.5 foot equipment shelter is proposed to be placed at the base of the tower including a standby propane generator with a 499 gallon propane tank.

**CURRENT USE OF THE SITE:** The parcel is approximately 38 acres in size with 37 acres being used as farm land and 1 acre is used as a homesite that is developed with a single family residence and accessory residential buildings.

**SURROUNDING LAND USES AND SETTING:** Agricultural lands (farm fields) surround the parcel and the Tachi Palace Resort & Casino and Santa Rosa Rancheria residential subdivision is approximately one eighth mile to the south. The subject parcel is located adjacent to 17th Avenue.

**PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED:** Kings County Planning Commission

**PROJECT SUMMARY:** The applicant proposes to construct a wireless telecommunications facility consisting of a 100 foot tall monopole tower. Twelve (12) antennas are proposed to be mounted at a height of 104 feet. A prefabricated 12 foot by 11.5 foot equipment shelter is proposed to be placed at the base of the tower including a standby propane generator with a 499 gallon propane tank. The project site contains one Assessor's Parcel Number (APN: 024-150-008) totaling 37.77 acres in size. The proposed communications facility is planned for development on only a 960 square foot portion of the one acre homesite. The lease area is located in the southwest portion of the homesite area and will be leased from the property owner. Fencing will surround the 960 square foot site and will have a six (6) foot tall chain link fence surrounding the leased portion of the property.

The equipment shelter will be a prefabricated California Department of Housing approved exposed aggregate concrete, self-contained fire protected building. The electronic equipment will operate at frequencies that will not interfere with other communication signals in the area and are licensed and regulated by the Federal Communications Commission (FCC). This proposed space is for electronic storage only and will be unmanned.

The proposed facility will not generate any environmental effects related to noise, air pollution, smoke, odors, pest control, litter, gases, waste by-products, heavy demands upon streets, sewer and water systems. This proposed facility will be unmanned and will only be visited by a technician as required to maintain the radio equipment. The site will be in operation 7 days per week, 24 hours per day.

A land division is not necessary since Section 66412.(j) of the Subdivision Map Act excludes leasing a portion of a parcel, to a telephone corporation as defined in Section 234 of the Public Utilities Code, exclusively for the placement and operation of cellular radio transmission facilities, including antenna support structures microwave dishes, structures to house cellular communications transmission equipment, power sources, and other equipment incidental to the transmission of cellular communications.

It should be noted that the proposed tower is not located within any of the Compatibility Zones for any of the Municipal Airports within Kings County as shown on Figures HS-22 and HS-23 of the Health and Safety Element of the 2035 Kings County General Plan. The proposed tower site is located approximately five (5) miles south of the City of Hanford.

The required utilities will be brought in from the nearest available source. Access and easement issues have been approved by the owner. No public utilities such as water or sewer are necessary for operation of the proposed communications facility.

It should also be noted that Section 704 of the Telecommunications Act of 1996 states that "No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions." The Federal Communications Commission adopted a Report and Order, FCC 96-326, on August 1, 1996, which revised the guidelines that the Commission will use to evaluate the environmental effects of transmitters licensed or authorized by the Commission.

Section 15064(f)(4) of the *CEQA Guidelines* states "The existence of public controversy of the environment effects of a project will not require the preparation of an EIR if there is no substantial evidence before the agency that the project may have a significant effect on the environment."

Section 15064(f)(5) of the *CEQA Guidelines* states "Argument, speculation, unsubstantiated opinion or narrative, or evidence that is clearly inaccurate or erroneous, or evidence that is not credible shall not constitute substantial evidence. Substantial shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts."

## ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

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

## DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

Signature

September 2, 2014
Date

Dan Kassik
Printed Name

Kings County Community Development Agency
For

## EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to project like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effect from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans. zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9) The explanation of each issue should identify:
   a) the significance criteria or threshold, if any, used to evaluate each question; and
   b) the mitigation measure identified, if any, to reduce the impact to less than significance

| **I. AESTHETICS - Would the project:** | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporated** | **Less Than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| **a)** Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☐ | ☒ |
| **b)** Substantially damage scenic resources, including, but not limited to, trees rock outcroppings, and historic buildings within a state scenic highway? | ☐ | ☐ | ☐ | ☒ |
| **c)** Substantially degrade the existing visual character or quality of the site and its surroundings? | ☐ | ☐ | ☒ | ☐ |
| **d)** Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | ☐ | ☐ | ☒ | ☐ |

**Substantiation for Section I. a), b), c), and d):**

**a)** There are no scenic vistas in the vicinity of the project site. The project site is bounded by agricultural fields.

**b)** There are no scenic resources in the vicinity of the project site.

**c)** The proposed project will be consistent with the existing visual character of the surrounding area. The presence of a wireless communications facility may create an aesthetically unattractive site, since to ensure public safety, the tower will be required to be illuminated at night for aviation safety. However, other towers located in Kings County have not caused any significant adverse aesthetic impacts. It is not anticipated that this project will create any greater impact than other existing towers in agricultural areas and no mitigation is necessary.

**d)** The project may produce a new light and glare source. However impacts associated with light and glare will not be significant since the only lighting will be at the top of the tower, consisting of one red constantly burning 110 watt light bulb, will be in operation from dusk until dawn. Therefore, no mitigation is necessary.

| II. AGRICULTURAL RESOURCES –Would the project: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| (Note: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the *California Agricultural Land Evaluation and Site Assessment Model* (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.) | | | | |
| **a)** Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | ☐ | ☐ | ☒ | ☐ |
| **b)** Conflict with existing zoning for agricultural use, or a Williamson Act contract? | ☐ | ☐ | ☐ | ☒ |
| **c)** Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code 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? | ☐ | ☐ | ☐ | ☒ |

**Substantiation for Section II. a), b), c), d), and e):**

**a)** The 38 acre parcel is designated Farmland of Statewide Importance. However, 37 acres is in agricultural production with a 1 acre area that is being used as a residential homesite with residential accessory structures and is not used for agricultural production. The proposed wireless communication facility will be developed on the 1 acre homesite and will only occupy 960 sq. ft. of the 1 acre homesite. The proposed project will not covert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses. The property is located within a General Agricutltural 20 zone district.

**b)** The proposed project will be consistent with the proposed zoning for the property and will be consistent with the Kings County Implementation Procdecures for Williamson Act contracted properties and State law (Section 51238.a.1).

**c)** The proposed project could not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production since no such zoning designations exist in Kings County.

**d)** The proposed project could not result in the loss of forest land or conversion of forest land to non-forest use since there is no forest land within Kings County.

**e)** The proposed project could not result in conversion of forest land to non-forest use since there is no forest land within Kings County.

| III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **a)** Conflict with or obstruct implementation of the applicable air quality plan? | ☐ | ☒ | ☐ | ☐ |
| **b)** Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | ☐ | ☐ | ☐ | ☒ |

| | | | | |
|---|---|---|---|---|
| **c)** Result in 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | ☐ | ☐ | ☐ | ☒ |
| **d)** Expose sensitive receptors to substantial pollutant concentrations? | ☐ | ☐ | ☐ | ☒ |
| **e)** Create objectionable odors affecting a substantial number of people? | ☐ | ☐ | ☐ | ☒ |

**Substantiation for Section III. a), b), c), d), and e):**

**a)** The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) has stated that the entire San Joaquin Valley is nonattainment for ozone and fine particulate matter ($PM_{10}$). Based on the information provided, this project would not result in any significant adverse air quality effects. However, the development phase of this project could temporarily increase emissions of $PM_{10}$ and will be subject to certain aspects of SJVUAPCD Regulation VIII.
Mitigation Measure: Regulation VIII is a series of rules designed to reduce emissions of $PM_{10}$ resulting from human activity and is required. Mitigation measures to insure that air emissions will not create an adverse environmental impact will include requiring that the developer comply with SJVUAPCD Regulation VIII concerning fugitive dust rules.
Effectiveness of Measure: This measure will assure that dust produced from this project will be reduced to a less than significant level.
Implementation/Monitoring: This requirement shall be included in the conditions of approval and shall be implemented by the construction contractors and the applicant. Monitoring shall be performed by the Building Department Division of the Kings County Community Development Agency and the SJVUAPCD during project construction.

**b)** The proposed project has been reviewed by the SJVUAPCD and the District has determined that the project would not result in any significant adverse air quality impacts.

**c)** The proposed project has been reviewed by the SJVUAPCD and the District has determined that the project would not result in any significant adverse air quality impacts.

**d)** The proposed project will not create pollution concentrations.

**e)** The proposed project will not create any odors.

| **IV. BIOLOGICAL RESOURCES - Would the project:** | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporated** | **Less Than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| **a)** Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations or by the California Dept. of Fish & Game or US Fish& 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 Dept. of Fish& Game or US Fish & Wildlife Service? | ☐ | ☐ | ☐ | ☒ |
| **c)** Have a substantial adverse effect on federally protected Wetlands as defined by Section 404 of the Clean Water Act (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? | ☐ | ☐ | ☐ | ☒ |

**Substantiation for Section IV. a), b), c), d), e), and f):**

**a)** The Biological Resources Survey for the Resource Conservation Element of the *2035 Kings County General Plan* identified and described plant communities existing in Kings County and provided an overview of special status species, which included federal and state endangered, threatened and candidate plant and animal species. Furthermore, this Survey also surveyed the literature and completed a preliminary field assessment to determine if special status species exist in Kings County. The location of plant species sightings and animal species sightings is shown on Figures RC-20 and RC-21 of the 2035 Kings County General Plan. The project site is identified as primary habitat for mammal species. However, the project site has been previously disturbed due to development of a single family residence and residential accessory buildings. The wireless communication facility will be located within a previously disturbed area of the property. No new habitat disturbance is anticipated and thus the proposed project will not impact any biological resources.

**b)** The Proposed Project will not 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 Dept. of Fish& Game or US Fish & Wildlife Service. See Substantiation for Section IV(a) above.

**c)** The Proposed Project will not have a substantial adverse effect on federally protected Wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. Section 4.3 on pages 39 and 40 of the Biological Report states that the approximately 0.033 impact footprint does not support any functional Valley Sink Scrub, Vallay Sacaton Grassland, Northern Claypan Vernal Pool, Marsh, Riparian, or alkali playa habitat so none of the Special Status plant or animal species associated with these habitats in this part of Kings County is expected to be impacted by the Proposed Project. See Substantiation for Section IV(a) above.

**d)** The Proposed Project will not 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. See Substantiation for Section IV(a) above.

**e)** The Proposed Project will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. See Substantiation for Section IV(a) above.

**f)** The Proposed Project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat Conservation plan. There are no applicable Habitat Conservation Plans in Kings County.

| **V. CULTURAL RESOURCES - Would the project:** | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporated** | **Less Than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| **a)** Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? | ☐ | ☐ | ☐ | ☒ |
| **b)** Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section15064.5? | ☐ | ☒ | ☐ | ☐ |
| **c)** Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☐ | ☐ | ☒ |
| **d)** Disturb any human remains, including those interred outside of formal cemeteries? | ☐ | ☐ | ☐ | ☒ |

**Substantiation for Section V. a), b), c), and d):**

**a)** Figure RC-24 Kings County Historical Sites, on Page RC-35 of the Resource Conservation Element of the *2035 Kings County General Plan*, shows that there are no known historical structures or monuments on the site.

**b)** There could be a disturbance or destruction of cultural or historic resources resulting from the construction activities associated with the project. Although there is no evidence of archaeological sites on the project site, there is the potential during project-related excavation and construction for the discovery of cultural resources. This impact is potentially significant, but can be mitigated to a less than significant level.

Mitigation Measure: If, in the course of project construction or operation, any archaeological or historical resources are uncovered, discovered, or otherwise detected or observed, activities within fifty (50) feet of the find shall cease. A qualified archaeologist shall be contacted and advise the County of the site's significance. If the findings are deemed significant by the Kings County Community Development Agency, appropriate mitigation measures shall be required prior to any resumption of work in the affected area of the project.

Effectiveness of Measure: This measure will assure that any cultural resources are properly evaluated, and reduce this impact to a less than significant level.

Implementation/Monitoring: This requirement shall be included in the conditions of approval and shall be implemented by the construction contractors and the applicant. Monitoring shall be performed by the Building Department Division of the Kings County Community Development Agency during project construction.

**c)** The project will involve limited grading or excavation and the total area of disturbace is 960 sq. ft. There are no unique geological features within the vicinity of the project area. There are no known fossil-bearing surficial sediments in the project area.

**d)** There are no known burials within the project area.

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

**Substantiation for Section VI. a), b), c), d), and e):**

**a)** The project site is located in a V1, Liquefaction Seismic Zone (Figure HS-2 on Page HS-10 of the Health and Safety Element, *2035 Kings County General Plan*). Amplification of shaking that would affect low to medium-rise structures is relatively high but the distance to either of the fault sytems that are expected sources of the shaking is sufficiently great that the effect should be minimal. The greatest potential for geologic disaster in Kings County is posed by the San Andreas Fault, which is located approximately four (4) miles west of the Kings County line (as shown in Figure HS-1 of the *2035 Kings County General Plan*). The San Andreas Fault is located approximately 42 miles southwest of the project site.

- **i)** Section II, Page HS-6 of the "Safety Element" states that the potential for extensive rupture is considered to be minimal, since no major fault systems are known to exist in Kings County.
- **ii)** Moderate to moderately high ground shaking has occurred, and will occur periodically, from earthquakes. Section II, Page HS-8 of the "Safety Element" states that damage and injury resulting from geologic hazards can be reduced acceptable levels through zoning and building permit review procedures and construction standards. New construction conforming to the standards of the Uniform Building Code will provide adequate protection.
- **iii)** Section II, Page HS-10 of the "Safety Element" states that the danger of secondary natural hazards such as liquefaction, settlement, landslides, and seiches, which result from the interaction of groundshaking with existing ground instabilities, is considered to be minimal.
- **iv)** Section II, Page HS-10 of the "Safety Element" states that the danger of secondary natural hazards such as liquefaction, settlement, landslides, and seiches, which result from the interaction of groundshaking with existing ground instabilities, is considered to be minimal.

**b)** Construction of the proposed project will not encourage erosion or the loss of topsoil.

**c)** See Substantiation for Items VI (a) and (b) above.

**d)** As identified by the USDA Soil Survey of Kings County, prepared in 1980, the site soil is Kimberlina, Saline Alkali Garces complex. Figure H-4 on Page HS-13 of the Health and Safety Element of the *2035 Kings County General Plan* does not identify the project site as having expansive soils.

**e)** The project will not utilize a septic system.

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

**Substantiation for Section VII. a) and b):**

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years. In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and proactive approach to dealing with GHG emissions and climate change at the state level. AB 1493 requires the Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions; these regulations applied to automobiles and light trucks beginning with the 2009 model year.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the year 2020, and 3) 80% below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that ARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change.

Temporary Project construction emissions would be minimal and Project operations would not exceed SJVAPCD thresholds of significance since Project operations will not generate emissions. In addition, Regulation VIII measures would be implemented, further decreasing potential emissions. The proposed project does not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The Project would not significantly contribute to the emission of GHGs. These impacts are less than significant.

| **VIII. HAZARDS AND HAZARDOUS MATERIALS - Would the project:** | **Potentially Significant Impact** | **Less Than Significant with Mitigation Incorporated** | **Less Than Significant Impact** | **No Impact** |
|---|---|---|---|---|
| **a)** Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | ☐ | ☐ | ☐ | ☒ |
| **b)** Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ☐ | ☐ | ☐ | ☒ |
| **c)** Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | ☐ | ☐ | ☐ | ☒ |
| **d)** Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | ☐ | ☐ | ☐ | ☒ |
| **e)** For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| **f)** For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | ☐ | ☐ | ☐ | ☒ |
| **g)** Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☐ | ☒ |
| **h)** Expose people or structures to a significant risk or loss injury or death involving wildland fires, including where, wildlands area adjacent to urbanized areas or where residences are intermixed with wildlands? | ☐ | ☐ | ☐ | ☒ |

**Substantiation for Section VIII. a), b), c), d), e), f), g), and h):**

**a)** The project will not involve the use of hazardous materials during construction or operation.
**b)** See Substantiation for Item VIII (a) above.
**c)** See Substantiation for Item VIII (a) above.
**d)** The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.
**e)** The project site is not located within the *Kings County Airport Land Use Compatibility Plan* and is located more than two miles from a public airport or public use airport.
**f)** The project site is not within the vicinity of a private airstrip.
**g)** The proposed project will not alter any of the existing traffic routes.
**h)** There are no wildlands adjacent to the project site.

| IX. HYDROLOGY AND WATER QUALITY - Would the project: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **a)** Violate any water quality standards or waste discharge requirements? | ☐ | ☐ | ☐ | ☒ |
| **b)** Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted.)? | ☐ | ☐ | ☐ | ☒ |
| **c)** Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? | ☐ | ☐ | ☐ | ☒ |
| **d)** Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? | ☐ | ☐ | ☐ | ☒ |
| **e)** 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? | ☐ | ☐ | ☐ | ☒ |
| **f)** Otherwise substantially degrade water quality? | ☐ | ☐ | ☐ | ☒ |
| **g)** Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | ☐ | ☐ | ☐ | ☒ |
| **h)** Place housing within a 100-year flood hazard area structures which would impede or redirect flood flows? | ☐ | ☐ | ☐ | ☒ |
| **i)** Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | ☐ | ☐ | ☐ | ☒ |
| **j)** Inundation by seiche, tsunami, or mudflow? | ☐ | ☐ | ☐ | ☒ |

**Substantiation for Section IX. a), b), c), d), e), f), g), h), i), and j):**

**a)** The proposed project will not require water or sewer service. Therefore, the project will not violate any water quality standards or waste discharge requirements. There is no impact.

**b)** The proposed project will not require water service. Therefore, the proposed project will not deplete groundwater supplies. There is no impact.

**c)** No changes to the existing storm drainage pattern will be required.

**d)** See Substantiation for Item IX (c) above.

**e)** See Substantiation for Item IX (c) above.

**f)** The use of the project site is for a wireless communication facility and will not have any adverse effect on water quality. There is no impact.

**g)** The project does not propose any housing and is therefore no impact.

**h)** See Substantiation for Item IX (g) above.

**i)** The proposed project will not place within a 100-year flood hazard area structures which would impede or redirect flood flows.

**j)** There is no potential seiche or tsunami due to the lack of a significant water body near the project site. The project site is on hilly terrain; however due to minimumal annual rainfall the possibility of mud flow is essentially eliminated.

| X. LAND USE AND PLANNING - Would the project: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **a)** Physically divide an established community? | ☐ | ☐ | ☐ | ☒ |
| **b)** Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project(including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | ☐ | ☐ | ☐ | ☒ |
| **c)** Conflict with any applicable habitat conservation plan or natural community conservation plan | ☐ | ☐ | ☐ | ☒ |

**Substantiation for Section X. a), b), and c):**

**a)** The proposed project will not physically divide an established community.

**b)** The proposed project is consistent with the *2035 Kings County General Plan* and the *Kings County Zoning Ordinance*. The applicable general plan policies are found in the *2035 Kings County General Plan*. Figure LU-11 designates this site as General Agriculture (AG-20). Article 4, Section 402.D.11 of the General Agriculture (AG-20) District lists cellular telephone transmission towers as a conditional use subject to Planning Commission approval.

**c)** There are no applicable habitat conservation plans or natural community conversation plans.

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

**Substantiation for Section XI. a) and b):**

**a)** No known mineral resources exist below the project site surface.

**b)** See Substantiation for Item XI (a) above.

| XII. NOISE - Would the project result in: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **a)** Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | ☐ | ☐ | ☐ | ☒ |
| **b)** Exposure of persons to or generations of excessive ground-borne vibration or ground-borne noise levels? | ☐ | ☐ | ☐ | ☒ |
| **c)** A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | ☐ | ☐ | ☐ | ☒ |
| **d)** A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | ☐ | ☒ | ☐ | ☐ |

| | | | | |
|---|---|---|---|---|
| **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 expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |
| **f)** For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |

**Substantiation for Section XII. a), b), c), d), e), and f):**

**a)** The proposed development is a wireless communication facility which will not have any adverse noise effects.

**b)** See Substantiation for Item XII (a) above.

**c)** See Substantiation for Item XII (a) above.

**d)** Construction activities will increase noise levels at the project site and in the event of a loss of power a standby propane generator would opperate. The type and number of equipment to be used during construction are unknown. However, it is expected that the primary sources of noise during construction will include trucks, backhoes, compressors and similar equipment. However, construction activities will be temporary in nature and will generally occur during daylight hours. Construction noise impacts could result in annoyance or sleep disruption for nearby residents if nighttime operation were to occur or if equipment is not properly muffled or maintained. In the event of the propane generator operation, it is anticipated that the noise level would be similar to that of the farm equipment operated in the area.

Mitigation Measure: Noise producing equipment used during construction shall be restricted to the hours from 7:00 A.M. to 7:00 P.M., Monday through Friday, and 9:00 A.M. to 6:00 P.M. on Saturday and Sunday. Effective mufflers shall be fitted to gas-powered and diesel-powered equipment.

Effectiveness of Measure: These measures will reduce noise impacts during construction to a less than significant level.

Implementation/Monitoring: This requirement shall be included in the conditions of approval and shall be implemented by the construction contractors and the applicant. Monitoring shall be performed by the Building Department Division of the Kings County Community Development Agency during project construction.

**e)** The project site is not located within two miles of a public or public use airport.

**f)** See Substantiation for Item XII (e) above.

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

**Substantiation for Section XIII. a), b), and c):**

**a)** The proposed project will not induce population growth in the area. The project site is bounded by agricultural field crops. The applicant proposes to construct a wireless communication facility. The proposed project does not propose any new residential uses.

**b)** The proposed project will not displace existing housing units.

**c)** See Substantiation for Item XIII (b) above.

| XIV. 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, 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: | | | | |
| **i)** Fire protection? | ☐ | ☐ | ☐ | ☒ |
| **ii)** Police protection? | ☐ | ☐ | ☐ | ☒ |
| **iii)** Schools? | ☐ | ☐ | ☐ | ☒ |
| **iv)** Parks? | ☐ | ☐ | ☐ | ☒ |
| **v)** Other public facilities? | ☐ | ☐ | ☐ | ☒ |

**Substantiation for Section XIV. a):**

**a)** The applicant proposes a conditional use permit to construct a wireless communications facility on a 960 sq. ft. area within an existing 1 acre homesite area. The proposed project will not create any housing units or require the need to develop additional infrastructure related to water and sewer services. No increase in population will occur as a result of this project.

**i)** The proposed project will not create a significant demand for public safety services as no additional housing units are being constructed, thus no increase in population will occur as a result of the project.
**ii)** See Substantiation for Item XIV (a) above.
**iii)** See Substantiation for Item XIV (a) above.
**iv)** See Substantiation for Item XIV (a) above.
**v)** See Substantiation for Item XIV (a) above.

| XV. 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 been an adverse physical effect on the environment? | ☐ | ☐ | ☐ | ☒ |

**Substantiation for Section XV. a) and b):**

**a)** The proposed project will not alter the existing use of recreation facilities.
**b)** The proposed project does not include recreational facilities and does not require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

| XVI. TRANSPORTATION/TRAFFIC - Would the project: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **a)** Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | ☐ | ☐ | ☐ | ☒ |
| **b)** Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? | ☐ | ☐ | ☐ | ☒ |
| **c)** Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | ☐ | ☐ | ☐ | ☒ |
| **d)** Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | ☐ | ☐ | ☐ | ☒ |
| **e)** Result in inadequate emergency access? | ☐ | ☐ | ☐ | ☒ |
| **f)** Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? | ☐ | ☐ | ☐ | ☒ |

**Substantiation for Section XVI. a), b), c), d), e), f), and g):**

**a)** The proposed project will not cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system as the proposed project is a stand alone wireless communication facility with no traffic demand.

**b)** See Substantiation for Item XV (a) above.

**c)** The proposed project will not result in a change in air traffic patterns.

**d)** The proposed project will not substantially increase hazards due to a design feature or incompatible uses. The use is compatible with the zone district that it is proposed and does not have any design features that would increase hazards.

**e)** The proposed project will not result in inadequate emergency access.

**f)** The proposed project will not conflict with adopted policies, plans, or programs supporting alternative transportation or result in inadequate parking capacity since the use is a wireless communication facility which does not create consumer demand thus the need for parking or use of public facilities is not necessary.

| XVII. UTILITIES AND SERVICE SYSTEMS - Would the project: | Potentially Significant Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **a)** Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | ☐ | ☐ | ☐ | ☒ |
| **b)** Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | ☐ | ☐ | ☐ | ☒ |

| | | | | |
|---|---|---|---|---|
| **c)** Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | ☐ | ☐ | ☐ | ☒ |
| **d)** Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | ☐ | ☐ | ☐ | ☒ |
| **e)** 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? | ☐ | ☐ | ☐ | ☒ |
| **f)** Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | ☐ | ☐ | ☐ | ☒ |
| **g)** Comply with federal, state, and local statutes and regulations related to solid waste? | ☐ | ☐ | ☐ | ☒ |

**Substantiation for Section XVII. a), b), c), d), e), f), and g):**

**a)** The proposed project will not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
**b)** The proposed project will not require the construction of new water or wastewater treatment facilities or expansion of existing facilities.
**c)** The proposed project will not require the construction of new storm water drainage facilities or expansion of existing facilities.
**d)** The proposed project is to construct a wireless communication facility which will have no water needs.
**e)** The proposed project is to construct a wireless communication facility which will have no wastewater needs.
**f)** The proposed project will be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
**g)** The proposed project complies with federal, state, and local statutes and regulations related to solid waste.

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

**Substantiation for Sections XVIII. a), b), and c):**

**a)** There will be no impact to biological resources as the subject parcel is already disturbed with residential development and uses.

**b)** All project impacts listed will be reduced to less than significant by implementing the mitigation measures identified above. See Substantiation for Sections III.a), V.b), and XII.d) above.

**c)** See substantiation for Section XVIII.b) above.

**SITE INFORMATION:**

| | |
|---|---|
| CURRENT USE OF SITE: | The parcel is approximately 38 acres in size with 37 acres being used as farm land and 1 acre is used as a homesite that is developed with a single family residence and accessory residential buildings. |
| SURROUNDING LAND USES: | Agricultural fields |
| HYDROLOGY:<br>(Source: Department of Water Resources, Groundwater Query Results for "19S21E35D001M" http://wdl.water.ca.gov) | Depth to Groundwater has ranged from 207 feet to 211 feet, averaging 209 feet from 1/27/2006 to 10/4/11 (See Attachment). |
| SOILS: | Kimberlina Fine Sandy Loam. Low Alluvial Fans and Basin Rims with Lethent, Lethent-Garces-Panoche, and Lethent-Excelsior soil associations. |
| SEISMICITY:<br>(Page HS-10 of the Safety Element, Kings County General Plan) | The site is located in a V1, Liquefaction Seismic Zone |
| FLOOD HAZARD: | The site is not located in a Special Flood Hazard Area (FIRM Map 06031C0325C, dated June 16, 2009). |
| LAND CLASSIFICATION:<br>(Kings County Assessor) | The project site is classified as Farmland of Statewide Importance. |
| WILLIAMSON ACT: | The project site is within an established Agricultural Preserve. |

**RIGHT TO FARM NOTICE:**

Pursuant to Section 14-38(d)(1) of the *Kings County Code of Ordinances,* a "Notice of Disclosure and Acknowledgment of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings" shall be signed, notarized, and recorded for all approvals of applications for rezonings, land divisions, zoning permits, and residential building permits, on property in the unincorporated territory of Kings County. The applicant, or the owner if different from the applicant, shall also acknowledge the contents of the notice and disclosure themselves, by signing and recording the written notice and disclosure, which includes a description of the property the notice and the disclosure pertains.

**POSSIBLE IMPACTS:**

There is no evidence in the record that indicates that the project has potential for adverse effects on wildlife, resources or habitat for wildlife. The project does not involve any riparian land, rivers, streams, watercourses, or wetlands under State and Federal jurisdiction. The project does not disturb any plant life required to sustain habitat for fish or wildlife. The project does not disturb any rare or unique plant life or ecological communities dependent on plant life. The project does not threaten any listed or endangered plant or animals or the habitat in which they are believed to reside. The project does not disturb any plants or animals that are subject to special management in the Fish and Game Code, Public Resources

Code, the Water Code or any regulations thereto. The project does not disturb any marine or terrestrial species which are subject to the jurisdiction of the Department of Fish and Game and ecological communities in which they reside. The project will not degrade any air or water resources which will individually or cumulatively result in a loss of biological diversity among plants and animals residing in the air or water.

A review of this project in compliance with the *California Environmental Quality Act* (*CEQA*) indicates that there may be significant adverse impacts to the environment. However, those impacts can be mitigated to an insignificant level by implementing the mitigation measures identified in this Initial Study/Mitigated Negative Declaration. Therefore, a Mitigated Negative Declaration is appropriate. A mitigation monitoring program will be attached to the Planning Commission Resolution for this project as Exhibit "A." The Mitigated Negative Declaration reflects the Planning Commission's independent judgment and analysis, acting in their capacity as Division Two of the Kings County Advisory Agency.

**PLANNING COMMISSION DETERMINATION:**

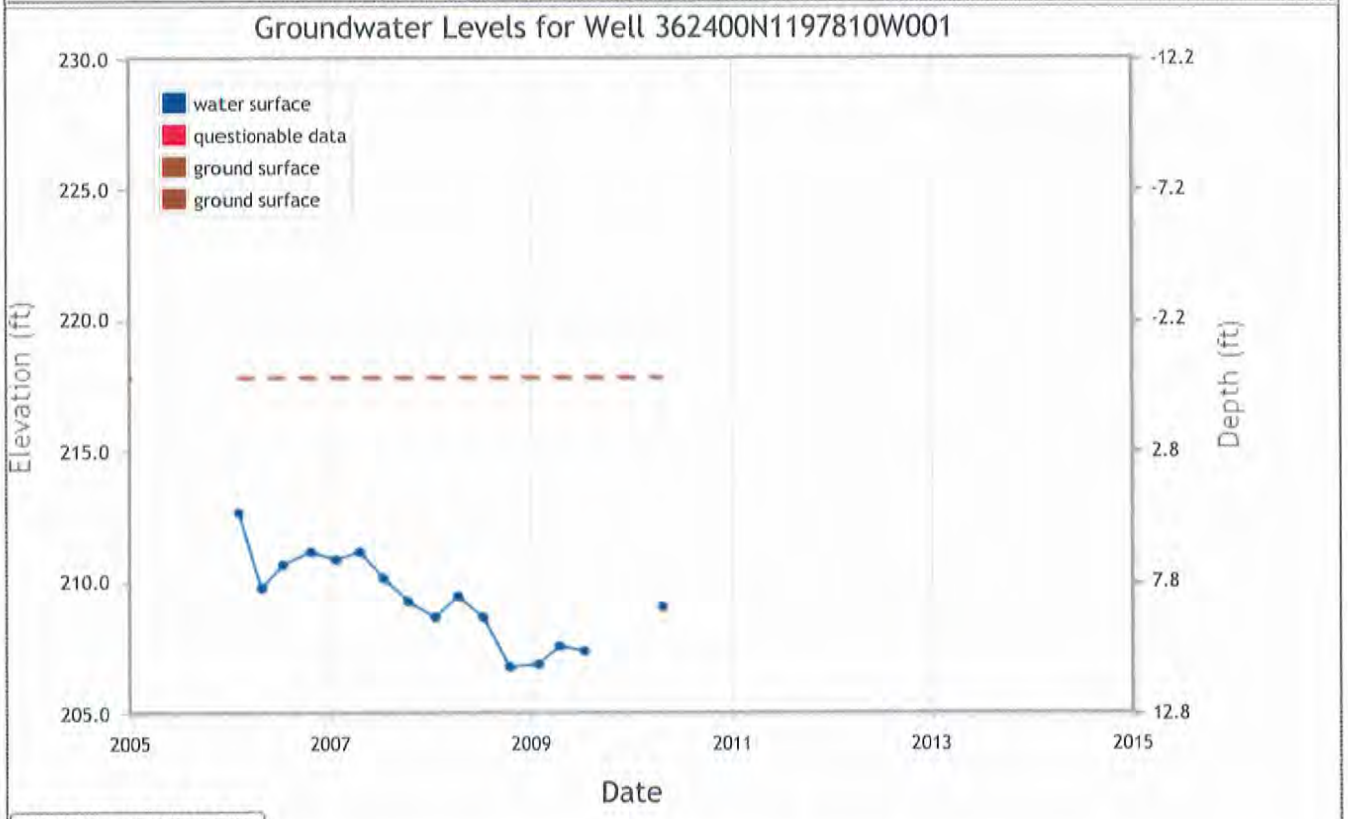
On _____, the Kings County Planning Commission found that on the basis of the Initial Study and comments received that there is no substantial evidence that Conditional Use Permit No. 14-04 will have a significant effect on the environment and approved the Mitigated Negative Declaration.

PREPARED BY : Kings County Community Development Agency (Dan Kassik and Sandy Roper) on August 11, 2014. Copies are available for review at the Kings County Community Development Agency or at the Kings County Clerk's Office, Government Center, Hanford, California.

# Groundwater Levels for Station 362400N1197810W001

Data for your selected well is shown in the tabbed interface below. To view data managed in the updated WDL tables, including data collected under the CASGEM program, click the "Recent Groundwater Level Data" tab. To view data stored in the former WDL tables, click the "Historical Groundwater Level Data" tab. To download the data in CSV format, click the "Download CSV File" button on the respective tab. Please note that the vertical datum for "recent" measurements is NAVD88, while the vertical datum for "historical" measurements is NGVD29. To change your well selection criteria, click the "Perform a New Well Search" button.

Station Data **Recent Groundwater Level Data** Historical Groundwater Level Data




Download CSV File

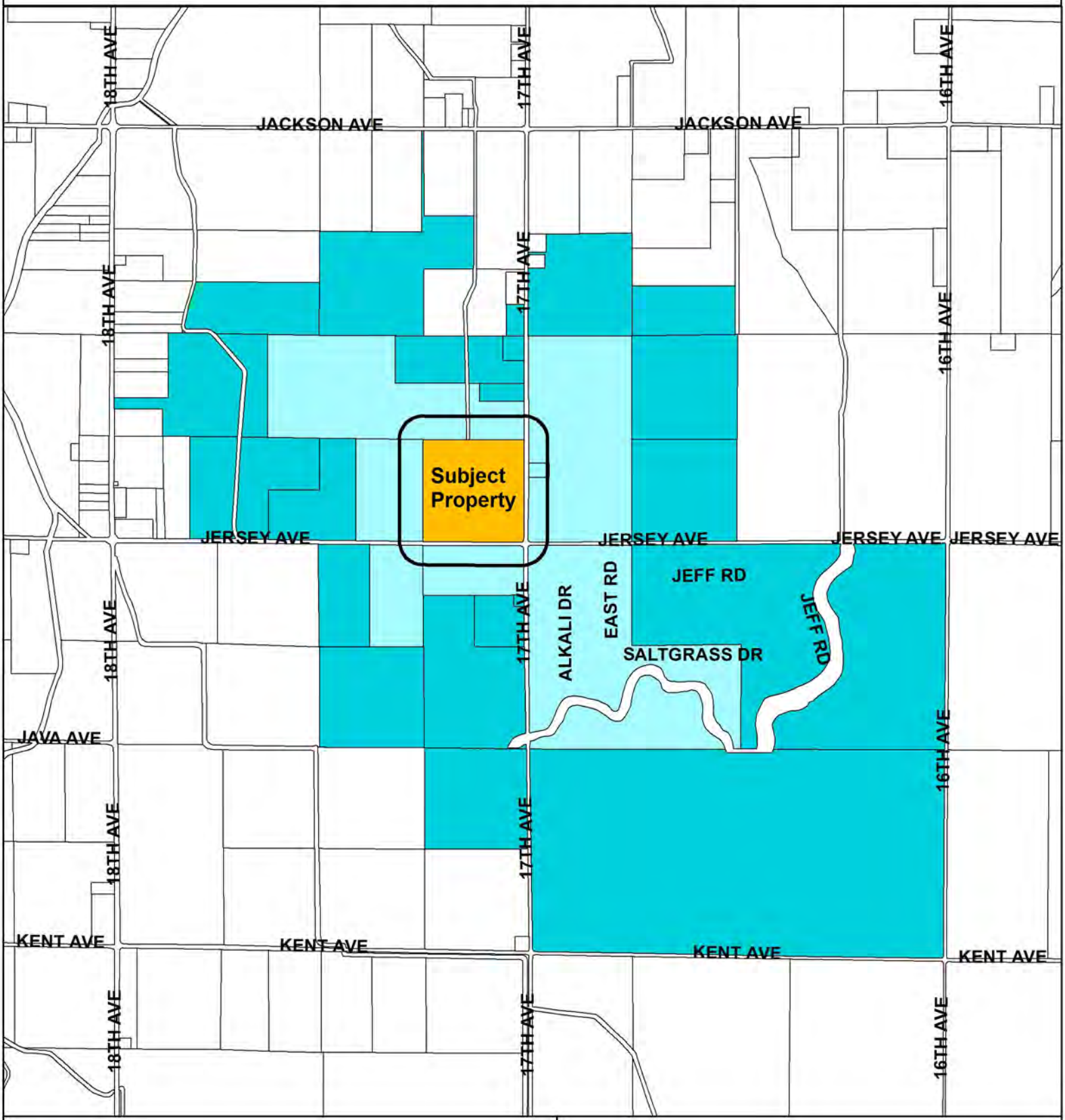
| Date | RPE | GSE | RPWS | WSE | GS to... | Msmt Code | Agency | Comments |
|---|---|---|---|---|---|---|---|---|
| 01/27/2006 | 218.840 | 217.840 | 6.2 | 212.64 | 5.2 | | 1 | |
| 04/24/2006 | 218.840 | 217.840 | 9.1 | 209.74 | 8.1 | | 1 | |
| 07/11/2006 | 218.840 | 217.840 | 8.2 | 210.64 | 7.2 | | 1 | |
| 10/23/2006 | 218.840 | 217.840 | 7.7 | 211.14 | 6.7 | | 1 | |
| 01/22/2007 | 218.840 | 217.840 | 8 | 210.84 | 7 | | 1 | |
| 04/16/2007 | 218.840 | 217.840 | 7.7 | 211.14 | 6.7 | | 1 | |
| 07/10/2007 | 218.840 | 217.840 | 8.7 | 210.14 | 7.7 | | 1 | |
| 10/09/2007 | 218.840 | 217.840 | 9.6 | 209.24 | 8.6 | | 1 | |
| 01/16/2008 | 218.840 | 217.840 | 10.2 | 208.64 | 9.2 | | 1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 04/07/2008 | 218.840 | 217.840 | 9.4 | 209.44 | 8.4 | | 1 |
| 07/07/2008 | 218.840 | 217.840 | 10.2 | 208.64 | 9.2 | | 1 |
| 10/14/2008 | 218.840 | 217.840 | 12.1 | 206.74 | 11.1 | | 1 |
| 01/28/2009 | 218.840 | 217.840 | 12 | 206.84 | 11 | | 1 |
| 04/13/2009 | 218.840 | 217.840 | 11.3 | 207.54 | 10.3 | | 1 |
| 07/13/2009 | 218.840 | 217.840 | 11.5 | 207.34 | 10.5 | | 1 |
| 10/19/2009 | 218.840 | 217.840 | | | | N-9 | 1 |
| 02/01/2010 | 218.840 | 217.840 | | | | N-0 | 1 |
| 04/19/2010 | 218.840 | 217.840 | 9.8 | 209.04 | 8.8 | | 1 |
| 07/07/2010 | 218.840 | 217.840 | | | | N-6 | 1 |
| 10/04/2011 | 218.840 | 217.840 | | | | N-0 | 1 |

All elevation and depth measurements are in feet. The vertical datum for recent measurements is NAVD88.

Perform a New Well Search

# CUP 14-04
# Site and Notification Map





Map prepared by
**Dan Kassik**
**Kings County Community Development Agency**
**August 7, 2014**
1400 W. Lacey Blvd., Hanford, CA 93230


## Legend

- Subject Property
- 300 Foot Radius
- Next Adjacent

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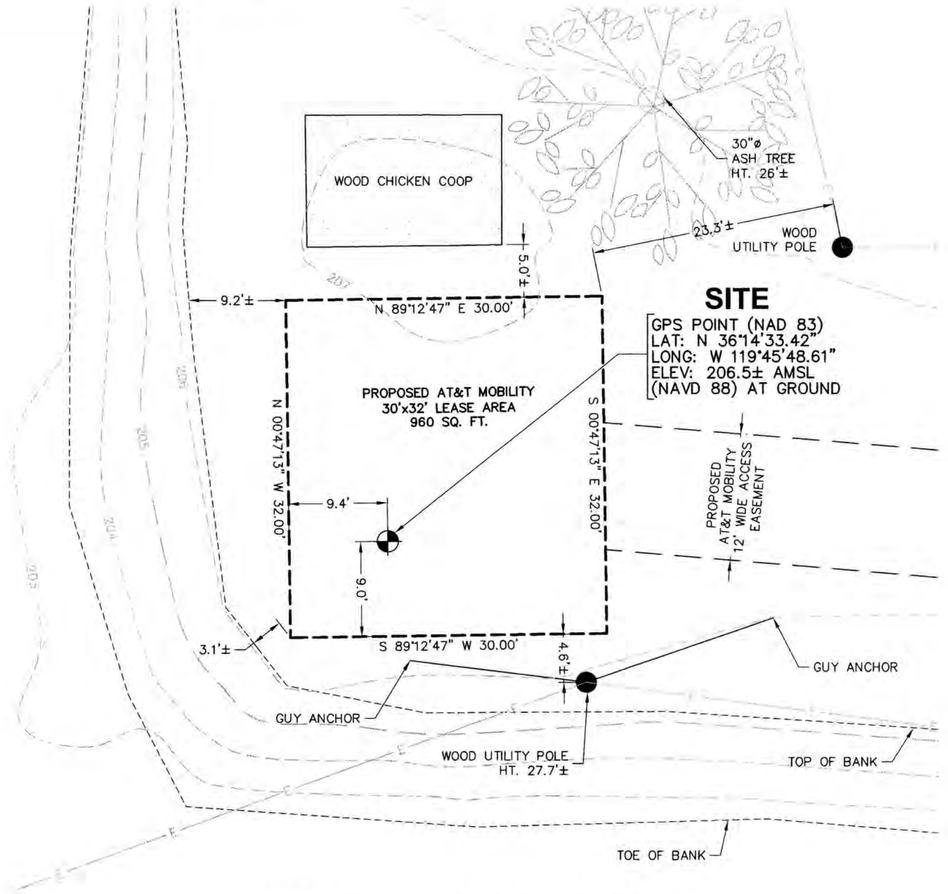
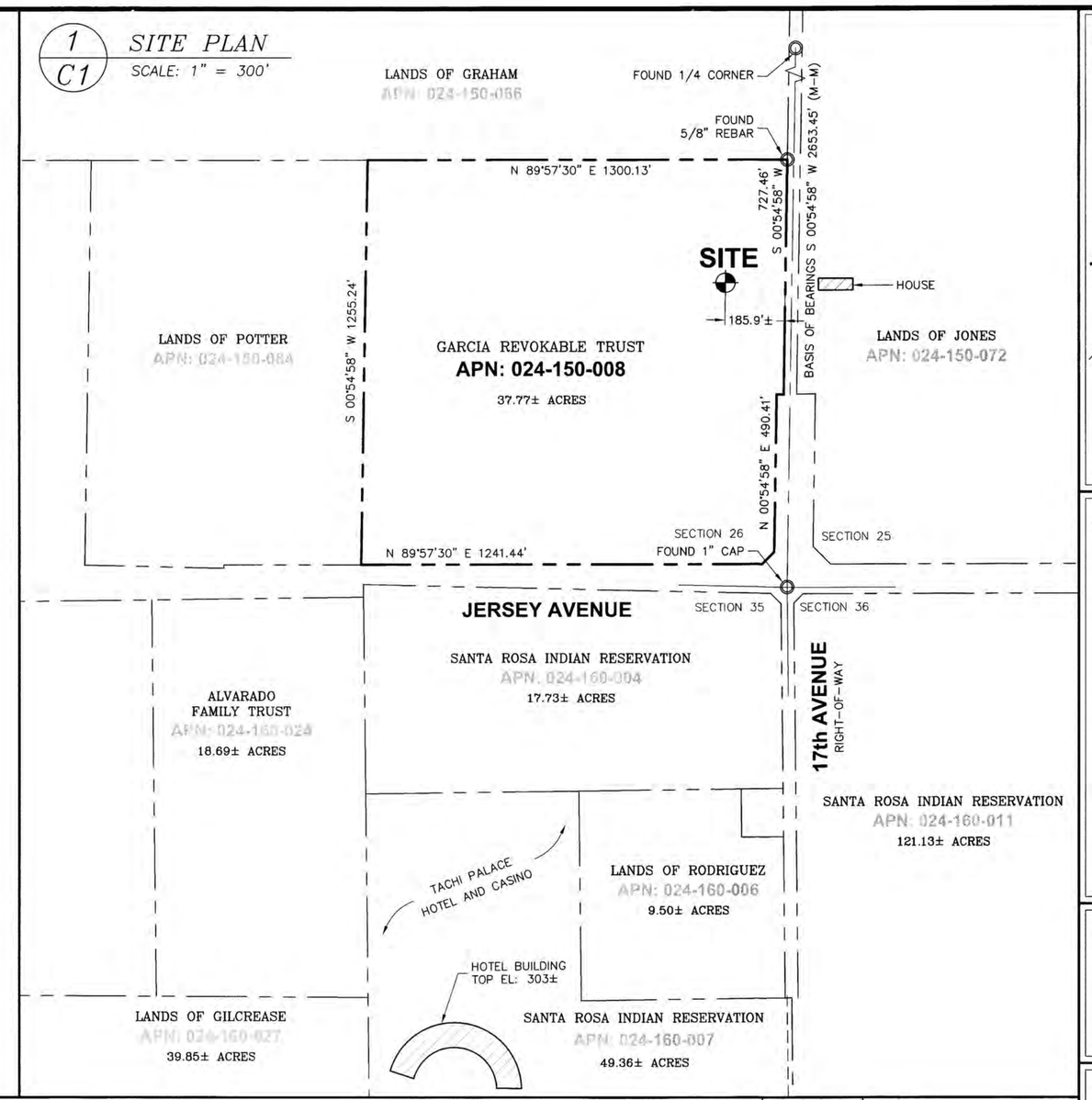
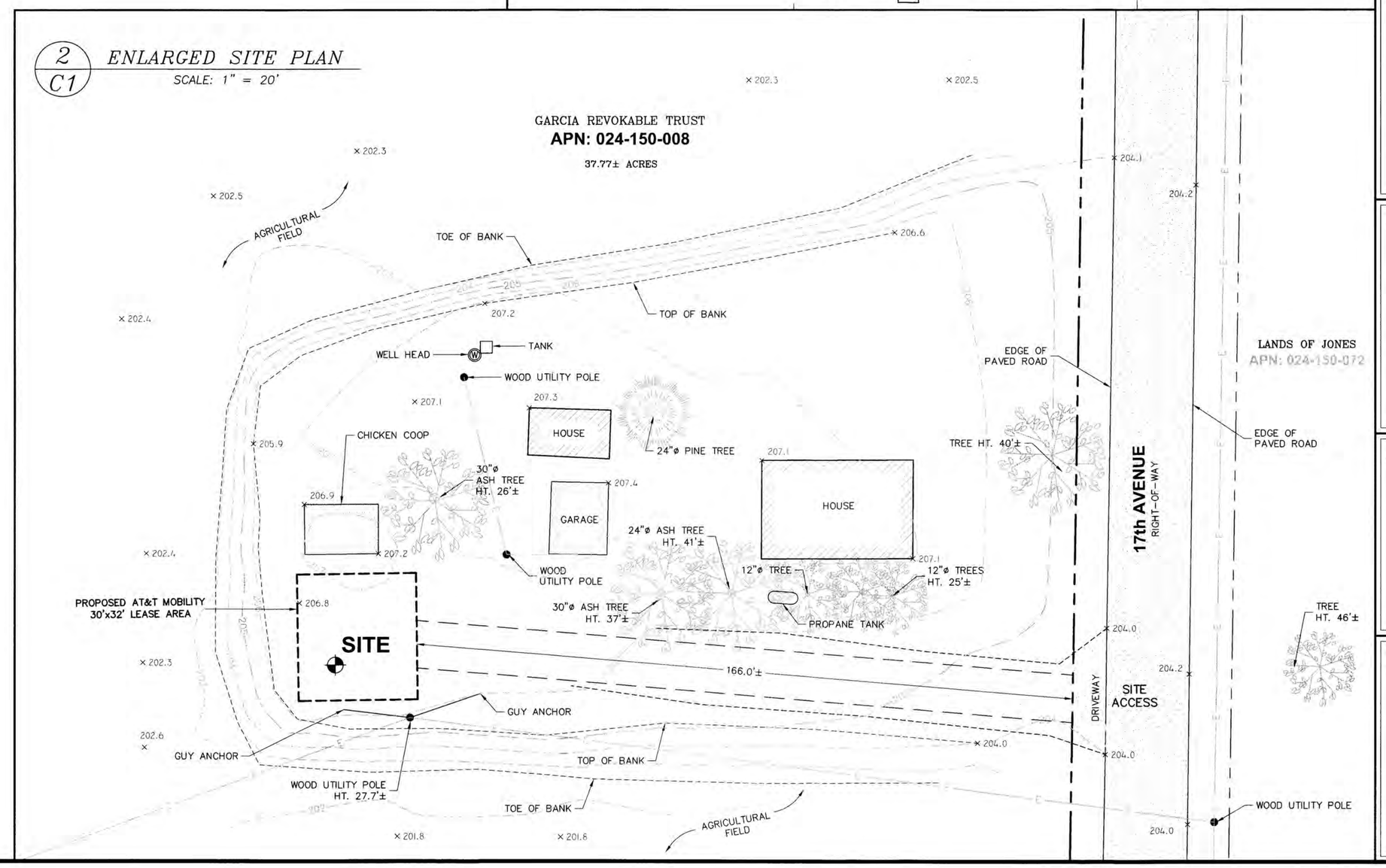


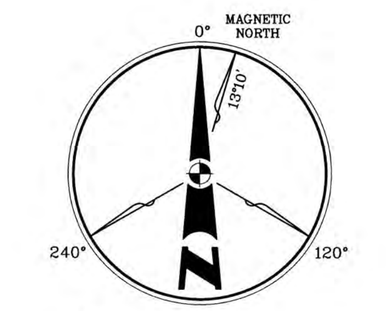

3/C1 *LEASE AREA PLAN*
SCALE: 1" = 10'




1/C1 *SITE PLAN*
SCALE: 1" = 300'




2/C1 *ENLARGED SITE PLAN*
SCALE: 1" = 20'




QUIET RIVER
Land Services Inc.

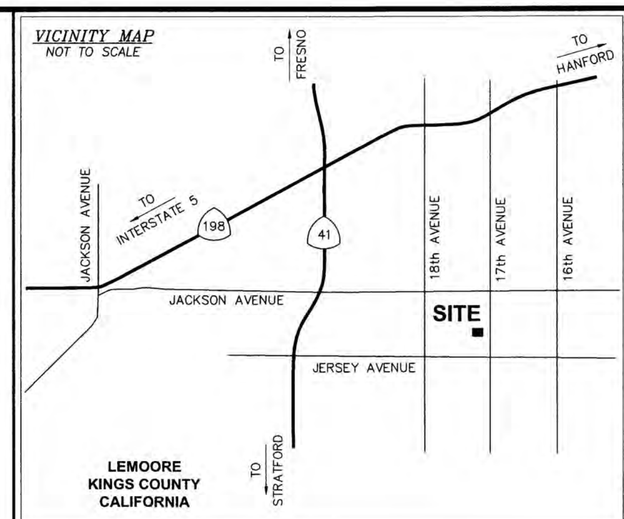
1 1/2 0 1
SCALE IN INCHES

MAGNETIC DECLINATION = 13°10'
PER NOAA-NGDC

SUFFICIENT SURVEY EVIDENCE WAS NOT RECOVERED TO ESTABLISH THE POSITION OF THE BOUNDARY LINES SHOWN HEREON. THE BOUNDARY REPRESENTED ON THIS MAP IS BASED ON COMPILED RECORD DATA AND BEST FIT ONTO EXISTING IMPROVEMENTS. IT IS POSSIBLE FOR THE LOCATION OF THE SUBJECT PROPERTY TO SHIFT FROM THE PLACEMENT SHOWN HEREON WITH ADDITIONAL FIELD WORK AND RESEARCH. THEREFORE, ANY SPATIAL REFERENCE MADE OR SHOWN BETWEEN THE RELATIONSHIP OF THE BOUNDARY LINES AND EXISTING GROUND FEATURES, EASEMENTS OR LEASE AREA SHOWN HEREON IS INTENDED TO BE APPROXIMATE AND IS SUBJECT TO VERIFICATION BY RESOLVING THE POSITION OF THE BOUNDARY LINES.

C:\Land Projects 2008\ATTM1357\dwg\ATTM1357SV1.dwg Jul. 25, 2014 - 9:31am user

*VICINITY MAP*
NOT TO SCALE




*PROPERTY INFORMATION*

Owner: MANUEL & GINA GARCIA REVOKABLE TRUST
Address: 15315 17th AVENUE, LEMOORE, CA 93245
Site: TACHI PALACE – CVU4214
Address: 15834 17th AVENUE, LEMOORE, CA 93245
Assessor's Parcel Number: 024-150-008
Height of Building/Tower: N/A

*Title Report:*
NO TITLE REPORT FURNISHED. EXCEPTIONS TO THE TITLE AND RESERVATIONS THEREFROM COULD NOT BE DETERMINED. BOUNDARY INFORMATION SHOWN IS COMPILED FROM AVAILABLE RECORD DATA.

*Legal Description:*
PROPERTY SITUATED IN THE CITY OF LEMOORE, COUNTY OF KINGS, STATE OF CALIFORNIA.

*FEMA FLOOD ZONE DESIGNATION* — *National Flood Insurance Program*

County: KINGS — Effective Date: JUNE 16, 2009
Community–Panel Number: 06031C–0325–C
*The Flood Zone Designation for this site as plotted by scale is:*

ZONE A SPECIAL FLOOD HAZARD AREAS (SPFHA'S) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD.

NO BASE FLOOD ELEVATIONS DETERMINED.

*SURVEY DATA*

NAD 83 Datum:
Lat: N 36°14'33.42" Long: W 119°45'48.61"
Datum Base: NAD 83 Equipment Used: Topcon Hiperlite Receiver (See Note 2)
Site Ground Elevation: 206.5± AMSL (NAVD88) AT GPS LOCATION
Basis of Elevations:
GLOBAL POSITIONING SYSTEM (GPS)
(SEE NOTE 2)
Basis of Bearings:
ASSESSOR'S PARCEL MAP AND BEST FIT WITH EXISITNG IMPROVEMENTS.
Date of Field Survey: MAY 13, 2014

*NOTES*

1.) This is not a boundary survey. This is a specialized topographic map with property lines and easements being a graphic depiction of various information gathered from preliminary title reports, back-up documents of record, maps and available monuments found during the field survey. No property monuments were set. No title research was performed by Quiet River Land Services, Inc.

2.) The latitude, longitude and elevation shown hereon were derived from post-processed L-1/L-2 data collected using Navstar Global Positioning System (GPS) and a Topcon Hiperlite Receiver. Topcon specifications report decimeter level accuracy (horizontally) when data is properly collected and processed. (Elevation = ±3.0 feet.)

3.) Unless otherwise noted, no underground utility locating service company was contacted prior to this map being prepared; therefore, there may be non-visible or obscure utilities existing on the property not shown on this map – so CALL BEFORE YOU DIG.

4.) Any electronic digital media provided by Quiet River Land Services, Inc. to our client is a courtesy and is not to be reproduced, distributed, sold, altered, revised, edited or amended without the express written consent of an Officer of Quiet River Land Services, Inc. Further, only the final stamped, signed and dated original "hard copy" version of our survey or map is considered to be our legally recognized product.

*SURVEYOR'S STATEMENT*

I, the undersigned, a Registered Professional Land Surveyor licensed under the laws of the State of California do hereby state that the information, measurements, easements, record boundary lines, bearings and distances as shown hereon are based upon a field survey as dated above and upon items of public record and data contained in a title report, as referenced. Furthermore, the Latitude and Longitude coordinates are reported in NAD 83 Datum and are accurate to within ±15 feet horizontally, and the ground elevation, reported in NAVD 1988 Datum, is within ±3 feet vertically. The coordinate values and elevations are within the 1-A Accuracy Code designation as listed in the A.S.A.C. Information Sheet 91:003 and are accurate to the best of my knowledge and belief.

SIGNATURE DATE

*LEGEND*

| | | | |
|---|---|---|---|
| APN: | ASSESSOR'S PARCEL NUMBER | | ASPHALT |
| CP | CONTROL POINT | | CONCRETE |
| EL. | ELEVATION | △ | CONTROL POINT |
| FH | FIRE HYDRANT | ○ | FOUND MONUMENT |
| FND. | FOUND | ⊕ | GPS POINT |
| HT. | HEIGHT | P 15.3 / R 12.3 | PARAPET/ROOF ELEVATIONS |
| MON. | MONUMENT | × 12.3 | SPOT ELEVATION |
| (M-M) | MONUMENT TO MONUMENT | ◪ | TEMPORARY BENCHMARK |
| P.O.B. | POINT OF BEGINNING | | |
| P.O.C. | POINT OF COMMENCEMENT | | |
| PP | POWER POLE | | |
| (TYP.) | TYPICAL | | |

DATE: JULY 25, 2014
DRAWN BY: MAS
FILE NO.: ATTM1357

REVISIONS

| DATE | DESCRIPTION | INITIAL |
|---|---|---|
| 7/23/13 | 90% ISSUE | MAS |
| 8/19/13 | 100% CPMPLETE | MAS |
| 5/14/14 | NEW LOCATION – 90% ISSUE | MAS |
| 07/25/14 | 100% COMPLETE | MAS |
| | | |
| | | |
| | | |
| | | |


at&t
AT&T MOBILITY
2600 Camino Ramon, 4th Floor
San Ramon, CA 94583

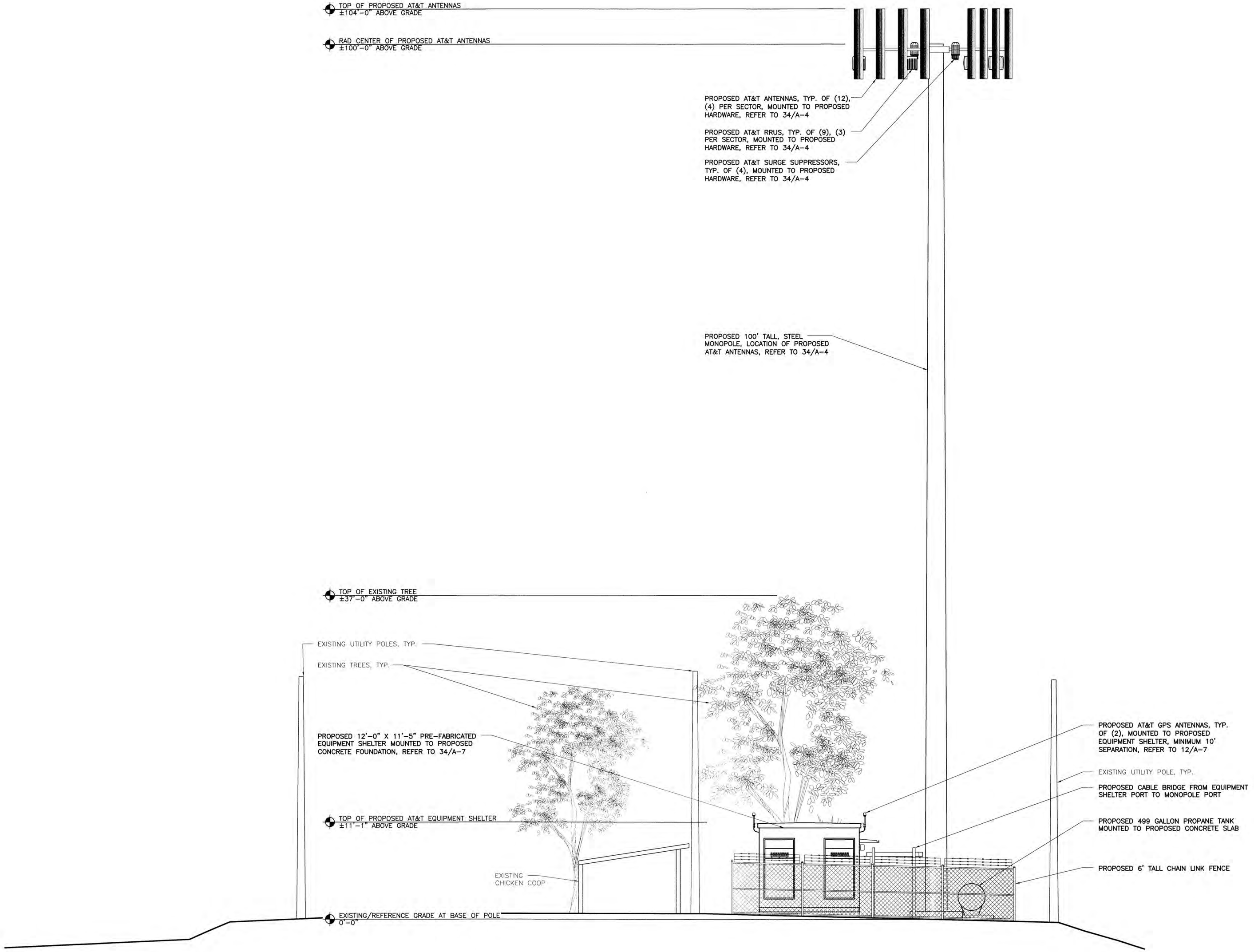
QUIET RIVER
Land Services Inc.
11501 Dublin Boulevard, Suite 200
Dublin, CA 94568
(925) 734-6788 Phone


EXISTING SITE CONDITIONS

**CVU4214**
TACHI PALACE

15834 17th AVENUE
LEMOORE, CA 93245

**C1**
OF 1 SHEET




54 WEST ELEVATION
SCALE: 3/16"=1'-0"

at&t
2600 CAMINO RAMON
4TH FLOOR, WEST WING
SAN RAMON, CA 94583

Shore 2 Shore Wireless
124 AMAYA DRIVE
FOLSOM, CA 95630

omni DESIGN GROUP
*Architecture*
*Civil Engineering*
*Surveying*
*Telecommunications*
711 Tank Farm Road, Suite 100
San Luis Obispo, California 93401
Phone: (805) 544-9700
www.omnidesigngroup.com
email: omni@odgslo.com

| | |
|---|---|
| PROJECT NO: | 1095-07B |
| DRAWN BY: | J. MINKEL |
| CHECKED BY: | S. McIVER |

| REV | DATE | DESCRIPTION |
|---|---|---|
| 1 | 05/30/14 | 80% ZDS, ISSUED FOR REVIEW |
| 2 | 06/30/14 | 90% ZDS, ISSUED FOR REVIEW |
| 0 | 07/14/14 | 100% ZDS, ISSUED FOR ZONING |



CVU4214
TACHI PALACE
15834 17TH AVENUE
LEMOORE, CA 93245

SHEET TITLE
**ELEVATION**

SHEET NUMBER
**A-6**

# BEFORE THE KINGS COUNTY PLANNING COMMISSION
# COUNTY OF KINGS, STATE OF CALIFORNIA

| | | |
|---|---|---|
| **IN THE MATTER OF CONDITIONAL USE PERMIT NO. 14-04 (AT&T Cell Tower)** | **)** | **RESOLUTION NO. 14-10** |
| | **)** | **RE: 15315 17th Ave., Lemoore** |

**WHEREAS,** on July 31, 2014, New Cingular Wireless (AT&T) filed Conditional Use Permit No. 14-04; to establish a new 100-foot monopole wireless communication tower with a fenced lease area for ground equipment; and

**WHEREAS,** the application was determined to be complete on August 1, 2014; and

**WHEREAS,** a Notice of Intent to Adopt a Mitigated Negative Declaration was published on September 5, 2014, providing notice that the Initial Study/Mitigated Negative Declaration (IS/MND) had been completed for the proposed Project and was available for public review and comment; and

**WHEREAS**, the IS/MND was circulated for public review and comment on September 5, 2014; and

**WHEREAS**, the Kings County Community Development Agency distributed copies of the IS/MND to those public agencies that have jurisdiction by law with respect to the Project, as well as to other interested persons and agencies, and sought the comments of such persons and agencies; and

**WHEREAS,** on September 24, 2014, the public review period for the proposed IS/MND for this project closed; and

**WHEREAS,** during the public review period for the proposed IS/MND five sets of comments were received before the end of the public review period from the Building Division of the Kings County Community Development Agency, the Kings County Fire Department, the Kings County Environmental Health Department, the Kings County Public Works Department, and the Cultural Department of the Santa Rosa Rancheria Tachi Yokut Tribe; and

**WHEREAS,** these comments did not result in changes to the IS/MND, none of the comments identified a new, unavoidable significant effect, nor did they result in a finding that the proposed mitigation measures in the IS/MND will not reduce potential effects to less than significant; and

**WHEREAS,** pursuant to CEQA Guidelines § 15073.5, recirculation of the IS/MND is not required; and

**WHEREAS,** on September 26, 2014, the Kings County Community Development Agency recommended that the Mitigated Negative Declaration be approved for the proposal; and

**WHEREAS,** on September 29, 2014, the Kings County Planning Department staff notified the applicant of the proposed recommendation on this project; and

**WHEREAS,** on October 6, 2014, this Commission held a duly noticed public hearing to receive testimony from any interested person; and

**WHEREAS**, in order to approve CUP Number 14-04 the Planning Commission is required to make the following findings and certifications with regards to the California Environmental Quality Act: (1) The Planning Commission has reviewed and considered the IS/MND, together with the comments received during the public review and comment period, before approving the project; (2) Based on the whole record before it, including the IS/MND and the comments received during the public review period, there is no substantial evidence in the record that the proposed Project will have a significant effect on the environment; (3) The IS/MND for this Project has been completed in compliance with CEQA and is adequate; and (4) The IS/MND reflects the Planning Commission's independent judgment and analysis; and

**WHEREAS**, the Planning Commission has reviewed the IS/MND in its entirety, and has determined that the document reflects the independent judgment of the County; and

**WHEREAS**, the IS/MND identified certain significant effects on the environment that, absent the adoption of mitigation measures, would be caused by the construction and operation of the Project; and

**WHEREAS**, the Planning Commission is required, pursuant to CEQA, to adopt all feasible mitigation measures or feasible project alternatives that can substantially lessen or avoid any significant project-related environmental effects; and

**WHEREAS**, the Planning Commission is required by Public Resources Code Section 21081.6, subdivision (a), to adopt a Mitigation Monitoring and Reporting Plan to ensure that the mitigation measures adopted by the County are actually carried out; and

**WHEREAS**, as demonstrated by the Mitigation Monitoring and Reporting Plan, attached as Exhibit "A" to this Resolution, all of the Project's significant environmental effects can be either substantially lessened or avoided through the adoption of feasible mitigation measures; and

**WHEREAS**, the Planning Commission determines it appropriate to certify and adopt the Mitigated Negative Declaration, to adopt the Mitigation Monitoring and Reporting Plan, and to approve CUP No. 14-04.

**NOW, THEREFORE, BE IT RESOLVED AND CERTIFIED** that this Commission finds that:

## I. SECTION 1: Recitals

1. The above recitals are true and correct, and the Planning Commission hereby so finds.

## II. SECTION 2: Findings Related to Proceedings

1. The Notice of Intent to Adopt a Mitigated Negative Declaration for the Project was duly prepared, noticed and properly circulated in accordance with the provisions of CEQA.

2. An Initial Study/Mitigated Negative Declaration has been conducted for the proposed Project by the Lead Agency to evaluate the potential for any adverse environmental impact

in compliance with the California Environmental Quality Act of 1970 (California Public Resources Code Section 21000 et seq.), as amended, and the State Guidelines thereto (California Code of Regulations Section 15000 et seq.).

3. The Initial Study/Mitigated Negative Declaration was duly prepared, properly circulated and completed in accordance with CEQA.

4. After providing adequate public notice, the Initial Study/Mitigated Negative Declaration was duly circulated in accordance with the provisions of CEQA, and a public hearing was properly noticed and was conducted by the Planning Commission in compliance with CEQA.

5. All comments received during and after the period of public review have been duly considered and incorporated into the Initial Study/Mitigated Negative Declaration, and when necessary, replied to in accordance with the provisions of CEQA.

6. The comments resulted in minor changes to the Initial Study/Mitigated Negative Declaration, none of the comments identified a new, unavoidable significant effect, nor did they result in a finding that the proposed mitigation measures in the Initial Study/Mitigated Negative Declaration will not reduce potential effects to less than significant.

7. The minor changes serve merely to clarify, amplify and make insignificant modifications to the Initial Study/Mitigated Negative Declaration.

8. Pursuant to CEQA Guidelines § 15073.5, recirculation of the Initial Study/Mitigated Negative Declaration is not required.

9. The Initial Study/Mitigated Negative Declaration was presented to this Commission, and it was independently reviewed and considered, together with the comments received during the public review period, by this Commission prior to acting on the proposed Project.

10. The Kings County Community Development Agency provided written responses to all comments received on the Initial Study/Mitigated Negative Declaration before certification of the Initial Study/Mitigated Negative Declaration pursuant to the provisions of CEQA.

11. The Mitigated Negative Declaration for the Project has been properly completed and has identified all significant environmental effects of the Project, and there are no known potential environmental effects that are not addressed in the Mitigated Negative Declaration.

12. The Project has been modified with mitigation measures to eliminate significant impacts or to reduce such impacts to a level of insignificance in all instances.

13. The proposed Project may have significant adverse impacts on the environment; however, those impacts can be mitigated to an insignificant level by implementing the Mitigation Monitoring and Reporting Program attached to this resolution as Exhibit “A.” Based on the whole record, including the Initial Study/Mitigated Negative Declaration and the comments received during the public review period, there is no substantial evidence that

the proposed Project will have a significant effect on the environment. The Initial Study/Mitigated Negative Declaration reflects the Planning Commission's independent judgment and analysis.

14. The Planning Commission has used its own independent judgment in adopting this Resolution, in approving the Project, in adopting and certifying the Initial Study/Mitigated Negative Declaration, and in adopting the Mitigation Monitoring and Reporting Plan.

## III. SECTION 3: Certification of the Initial Study/Mitigated Negative Declaration and Adoption of the Mitigation Monitoring and Reporting Plan

1. It is hereby certified that the Initial Study/Mitigated Negative Declaration has been completed in compliance with CEQA and is adequate.

2. It is hereby certified that the Initial Study/Mitigated Negative Declaration has been presented to the Planning Commission, which has reviewed and considered the information and analysis contained therein.

3. It is hereby certified that the Initial Study/Mitigated Negative Declaration reflects the independent judgment of the Planning Commission of the County of Kings.

4. The Planning Commission herby adopts the Mitigation Monitoring and Reporting Plan for this Project.

5. The Planning Commission authorizes and directs County staff to prepare and file a Notice of Determination within five working days following the date of adoption of this Resolution with the County Clerk of the County of Kings and with the State of California and directs that copies of the Initial Study/Mitigated Negative Declaration be retained at the office of the Kings County Community Development Agency.

## IV. Section 4: Consistency with the *Kings County General Plan*

1. The proposed project, as recommended for approval, <u>is consistent</u> with the policies of the Kings County General Plan, specifically:

   A. Figure LU-13, of the 2035 Kings County General Plan Land Use Element, designates this site as General Agricultural (AG-20).

   B. Page LU-13, Section III.A.1. of the "Land Use Element" states that the AG-20 designation is applied to rural areas of the county north of Kansas Avenue, excluding the Urban Fringe areas of Hanford and Lemoore, Communities of Armona and Home Garden, the Naval Air Station Lemoore, the Santa Rosa Rancheria Tribal Trust Land, and other small Rural Interface pockets of urban uses. Generally characterized by extensive and intensive agricultural uses, farms within this designation have historically been smaller in size. These areas should remain reserved for commercial agricultural uses because of their high quality soil, natural and manmade waterways, scenic nature with larger concentrations of orchards, vineyards, and valley oak trees.

C. Page LU-13, Section III.A.1. of the "Land Use Element" states that agricultural land use designations account for a vast majority of the County's land use. Included within this land use type are four agricultural type land use designations, Limited Agriculture, General Agriculture 20 Acre Minimum, General Agriculture 40 Acre Minimum, and Exclusive Agriculture. The major differences between the four Agriculture designations relate to minimum parcel size, animal keeping, and agricultural service businesses. These designations preserve land best suited for agriculture, protect land from premature conversion, prevent encroachment of incompatible uses, and establish intensity of agricultural uses in a manner that remains compatible with other uses within the County. The development of agricultural service and produce processing facilities within the Agricultural areas of the County shall develop to County standards.

D. Page LU-27, Section IV.B of the "Land Use Element" of the *2035 Kings County General Plan* states Agriculture Open Space is the most extensive environment category that displays the rural agricultural nature of the County. This environment category covers the vast agricultural resources of the County that accounted for $1.76 billion in 2008 gross agricultural production. The Agricultural land use designations (Limited Agriculture, General Agriculture 20 Acre, General Agriculture 40 Acre, and Exclusive Agriculture) are used to define distinct areas of agricultural intensity, and protect agricultural land from the encroachment of incompatible uses. Limited and General Agriculture designated areas provide appropriate locations for agricultural support businesses, while Exclusive Agriculture provides a safety and noise buffer around the Naval Air Station Lemoore. The physical development of agricultural properties is regulated and implemented by the *Zoning Ordinance.*

E. Page LU-38, LU Goal B7 of the "Land Use Element" of the *2035 Kings County General Plan* states that community benefiting non-agricultural uses remain compatible within the County's Agricultural Open Space area, and are supported for their continued operation and existence. Page LU-38 also states that the agricultural area of the county may accommodate other appropriate uses that are of benefit to the County or community as a whole. Such uses may include school sites, County parks, utility power facilities, waste management facilties, wastewater treatment facilities, communication towers, and open space buffers. Such uses shall be regulated by the zoning ordinance where applicable.

(1) The proposed project is consistent with LU Goal B7 since it would establish a community benefitting non-agricultural use (communications tower) in the General Agricultural designated area.

## V. SECTION 5: Consistency with the *Kings County Zoning Ordinance*

1. The proposed project, as recommended for approval, is consistent with the *Kings County Zoning Ordinance*.

A. Article 4, Section 402.D.11 of the General Agriculture (AG-20) District lists cellular telephone transmission towers as a conditional use subject to Planning Commission approval.

## VI. SECTION 6: Consistency with the Kings County Septic Tank Absorption Field Minimum Requirements

The project site is located in an area that requires engineered septic systems.

## VII. SECTION 7: Consistency with the *California Land Conservation (Williamson) Act*

The project site is located within an established Agricultural Preserve and is consistent with the *Williamson Act*.

A. The proposed wireless PCS facility is consistent with the *Uniform Rules for Agricultural Preserves in Kings County*.

(1) Section B.7. of the *Uniform Rules for Agricultural Preserves in Kings County* lists public service structures, including communication facilities, as a compatible use within an agricultural preserve.

B. Section 51238. of the *California Government Code* states that no land occupied by communication facilities shall be excluded from an agricultural preserve by reason of that use.

C. Section 51238.1 of the *California Government Code* requires that uses approved on contracted lands shall be consistent with all of the following principles of compatibility:

(1) The use will not significantly compromise the long-term productive agricultural capability of the subject-contracted parcel or parcels or on other contracted lands in agricultural preserves.

(a) Construction of the wireless communications facility would occur only on a 960 square foot portion of the 37.77-acre parcel. The 960 square foot lease area is within the existing one acre developed home site which is not under agricultural production. No land would be removed from agricultural production. Since the proposed communications facility will be a compatible use and since no land would be removed from agricultural production, the long-term productive agricultural capability of the subject-contracted parcel will not be compromised.

(2) The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves. Uses that significantly displace agricultural operations on the subject contracted parcel or parcels may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject contracted parcel or parcels or neighboring lands, including activities such as harvesting, processing, or shipping.

(a) Construction of the wireless communications facility would occur only on a 960 square foot portion of the 37.77-acre parcel. The 960 square foot lease area is within the existing one acre developed home site which is not under

agricultural production. No land would be removed from agricultural production. Since the proposed communications facility will be a compatible use and since no land would be removed from agricultural production, it will not displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or on other contracted lands in agricultural preserves.

(3) The use will not result in the significant removal of adjacent contracted land from agricultural or open-space use.

(a) Construction of the wireless communications facility would occur only on a 960 square foot portion of the 37.77-acre parcel. The 960 square foot lease area is within the existing one acre developed home site which is not under agricultural production. No land would be removed from agricultural production. Since the proposed communications facility will be a compatible use and since no land would be removed from agricultural production, it will not result in the removal of adjacent contracted land from agricultural or open-space use.

## VIII. SECTION 8: Consistency with the *Flood Damage Prevention Ordinance* (Chapter 5A of the *Kings County Code of Ordinances*)

The site is within Other Areas Zone X as shown on the National Flood Insurance Program, Flood Insurance Rate Map (FIRM), Map Number 06031C0325C, dated June 16, 2009. There are no development restrictions associated with Other Areas Zone X since these are areas determined to be outside the 0.2 percent annual chance floodplain.

## IX. SECTION 9: Kings County Enterprise Zone

The project site is not located within the Kings County Enterprise Zone.

## X. SECTION 10: Consistency with the *Kings County Airport Land Use Compatibility Plan*

The project site is not located within an Airport Compatibility Zone.

## XI. SECTION 11: Conditions of Approval

The Commission adopts the following conditions of approval for CUP Number 14-04:

**KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY - PLANNING DIVISION** Contact Dan Kassik of the Kings County Community Development Agency at (559) 852-2655 regarding the following requirements:

1. All proposals of the applicant shall be conditions of approval if not mentioned herein.

2. The site plan for the project is approved in concept. However, it is understood that during the actual design of the project that either of the following minor alterations to the site plan may be

necessary: 1) structural alterations; and/or 2) alterations to the location of structures. Any minor alterations shall comply with the following requirements:

A. The site shall be developed in substantial compliance with the conceptually approved site plan. Development of the site shall be considered substantially consistent with the approved conceptual site plan if any minor structural alteration is within ten (10) percent of the square footage shown on the conceptually approved site plan or up to a 2,500 square foot increase in structural size, whichever is less, and the minor structural alteration complies with coverage standards.
B. A minor alteration of the location of a structure shall be considered substantially consistent with the approved conceptual site plan if the new location of the structure complies with all setback requirements for the zone district that the project site is located in.
C. Any minor alteration that would make it necessary to modify or change any condition of approval placed on the project would require resubmittal of the application to amend the approval of the Conditional Use Permit.
D. No expansion of use, regardless of size, which would increase the projected scale of operations beyond the scope and nature described in this Conditional Use Permit application, will be allowed. Any expansion that is a substantial change from the conceptually approved site plan, will require either an amendment to the approved Conditional Use Permit or a new zoning permit.

3. Prior to any ground disturbance, the applicant shall hire a Native American Monitor to monitor the project during all ground disturbing activities during both the construction and decommissioning phases of the project

4. The development shall comply with all regulations of *Zoning Ordinance No. 269*, with particular reference to the General Agriculture 20 (AG-20) Zone District standards contained in Article 4 and the standards contained in Article 19.

5. All conditions of approval or requirements contained in Site Plan Review No. 13-16 shall apply to this permit where appropriate.

6. Pursuant to Section 1606.C.1 of the *Kings County Zoning Ordinance* unless otherwise stated, the following signs are allowed as a permitted use and do not require a sign permit, site plan review or conditional use permit. All signs shall be located outside of the public right-of-way and shall not be located within a traffic safety visibility area if over three (3) feet in height. Unless a different setback is specified for a particular zone district, the minimum setback distance for all signs over three (3) feet in height shall be ten (10) feet from property lines. Signs shall be permitted only as follows in Agricultural (A) Districts:

A. Name plates or signs, not directly illuminated, with an aggregate area of not more than forty (40) square feet pertaining to a permitted use, permitted use with site plan review or conditional use conducted on the site.
B. Signs exceeding forty (40) square feet in structural area and up to one-hundred-fifty (150) square feet in structural area which are incidental and pertaining to a permitted or conditional use may be permitted subject to a site plan review. Such signs may be located on the same parcel or an adjacent parcel used in conjunction with the permitted

or conditional use. Signs exceeding forty (40) square feet in structural area may be illuminated and shall be thirty (30) feet from property lines adjacent to a road.

C. One non-illuminated on-site sign real estate sign or subdivision not exceeding thirty-two (32) square feet in structural area with copy on both sides pertaining to the sale, lease, rental or display of a structure or land per Section 1606.B.2.a.

D. Directional or information (other than advertising) signs not exceeding two hundred and forty (240) square feet in area located adjacent to a state highway or a county road within an area limited by points not closer than one-fourth (¼) mile or further than three-fourths (¾) mile from a frontage road turnoff, listing commercial establishments accessible via the frontage road, and further provided that not more than four (4) such signs shall be permitted on each side of the highway or county road.

E. Signs not exceeding two hundred forty (240) square feet in area located adjacent to a state highway or county road that is classified as an arterial or collector road (including such designations as urban or rural, major or minor) giving direction to or information about Kings County cities, communities, or rural service centers which are accessible by such state highways or county roads or direct routes consisting of combinations thereof, provided that such signs shall be limited to four (4) per city, community or rural service center regardless of the sign's location in this district, and further provided that such signs shall not contain information pertaining to a subdivision of land or private development, commercial establishments or quasi-public developments.

F. Non-illuminated temporary construction signs in accordance with Section 1606.B.2.c.

G. Political and Campaign Signs in accordance with Section 1606.B.3.P

H. Placing a sign on property which is restricted by contract under the *California Land Conservation "Williamson" Act of 1965* shall be prohibited, except for temporary signs (pursuant to Section 1606.B.2.a, c, and d), political and campaign signs (pursuant to Section 1606.B.4), and signs incidental to a permitted use, permitted use with site plan review, or conditional use which are consistent with the *Uniform Rules for Agricultural Preserves in Kings County.*

7. Obstruction lighting, consisting of at least one red, constantly burning, 110-watt light bulb on the top of the tower in operation from dusk until dawn, shall be required for the proposed project.

8. Any exterior lighting (with the exception of obstruction lighting, see Planning Division Requirement No. 3) shall be hooded so as to be directed only on-site.

9. The minimum yard setback requirements for any new structures shall be as follows:

   a. Front yard minimum setback requirements:
      1. Occupied structures including residential dwellings; public and quasi-public uses of an educational type; community facilities and institutions; public uses of an administrative, public service or cultural type; and dairy milk barns shall be not less than fifty (50) feet from the public road right-of-way line or the property line if not fronting on a public road right-of-way.
      2. Non-occupied uses shall be not less than thirty-five (35) feet from the public road right-of-way line or property line if not fronting on a public road right-of-way. Any portion of a carport which is constructed within the area of the front yard that exists between the thirty-five (35) foot front yard setback and the fifty (50) foot front yard setback must have open sides within that setback area

3. The front yard setbacks noted above prevail except along those streets and highways where a greater setback is required by other ordinances or standards of the County, including, but not limited to, the Kings County Improvement Standards.
4. All minimum setback requirements shall be measured from the public road right-of-way. Public road right-of-way shall be verified with the Kings County Public Works Department to ensure that required setbacks are met.

b. Rear yard minimum setback requirement: Ten (10) feet from property lines.

c. Side yard minimum setback requirements:
1. Interior sites: Ten (10) feet from property lines.
2. Corner sites: Twenty (20) feet from the public road right-of-way line on the street side of the corner site.
3. The side yard setbacks noted above prevail except along those streets and highways where a greater setback is required by other ordinances or standards of the County, including but not limited to, the *Kings County Improvement Standards*.
4. Required yard areas may be used for the growing of agricultural crops, horticultural specialties or for aesthetic landscaping.

10. The applicant shall obtain any necessary federal, state or local regulatory licensing permits.

11. The applicant shall comply with all adopted rules and regulations of the Kings County Public Works Department, Fire Department, and Department of Environmental Heath Services, and all other local and state regulatory agencies.

12. No process, equipment or materials shall be used which are found by the Planning Commission to be substantially injurious to persons, property, crops, or livestock in the vicinity by reasons of odor, fumes, dust, smoke, cinders, dirt, refuse, water carried wastes, noise, vibration, illumination, glare or unsightliness or to involve any undue risk of fire or explosion.

13. Pursuant to Section 14-38(d) of the *Kings County Code of Ordinances*, a "Notice of Disclosure and Acknowledgment of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings" shall be signed, notarized, and recorded.

14. Pursuant to Section 66020(d)(1) of the *California Government Code*, the owner is hereby notified that the 90-day approval period in which the applicant may protest the imposition of fees, dedications, reservations, or other exactions, begins on the date that this resolution is adopted.

15. Within eight (8) days following the date of the decision of the Kings County Planning Commission, the decision may be appealed to the Kings County Board of Supervisors. The appeal shall be filed with the Clerk of the Board of Supervisors.

16. This Conditional Use Permit shall lapse and shall become null and void one (1) year following the date that the Conditional Use Permit became effective, unless prior to the expiration of one (1) year the proposed use has been established. A Conditional Use Permit involving construction shall lapse and shall become null and void one (1) year following the date that the Conditional Use Permit became effective, unless prior to the expiration of one (1) year a building permit is issued by the Building Official and construction is commenced and diligently pursued toward completion on the site that was subject of the Conditional Use Permit application.

17. This Conditional Use Permit may be renewed for additional periods of time, if an application (by letter) for renewal of the Conditional Use Permit is filed with the Kings County Community Development Agency prior to the permit's expiration date. It is the responsibility of the applicant to file an extension of time prior to the permit's expiration date. No further notice will be provided by the Community Development Agency prior to the permit's expiration date.

18. This approved conditional use permit shall run with the land and shall continue to be valid upon change of ownership of the site which was the subject of the conditional use permit approval.

## XII. SECTION 12: Other Agency's Comments, Standards and Regulations

The following departments' and agencies' have listed requirements, standards, and regulations that must be met under those departments' and agencies' jurisdiction. The Planning Commission has no authority to modify, amend, or delete any of these requirements, standards, and regulations, but lists them here as information to the applicant. Appeals for relief of these standards and regulations must be made through that department's or agency's procedures, not through the Zoning Ordinance procedures. However, failure of the applicant to comply with these other departments' and agencies' requirements, standards, and regulations is a violation of this conditional use permit and could result in revocation of this conditional use permit.

**KINGS COUNTY COMMUNITY DEVELOPMENT AGENCY - BUILDING DIVISION** (Contact Darren Verdegaal at the Kings County Community Development Agency - Building Division at (559) 852-2683, regarding the following requirements.)

1. Building permits must be obtained from the Building Division of the Kings County Community Development Agency for any structures, plumbing, electrical, or mechanical work.

2. Failure to obtain a building permit for any structure, prior to commencing construction, which requires a building permit, will result in the payment of a double fee. Payment of such double fee shall not relieve any person from fully complying with the requirements of Kings County Code of Ordinances, Chapter 5 in the execution of the work or from any other penalties prescribed therein.

3. A minimum of (2) sets of plans and calculations signed by an architect or engineer licensed to practice in the Sate of California shall be required for all structures.

4. The applicant is responsible for contacting the Building Division to request a final inspection of the structures prior to occupying the structures and prior to startup of the operation. No building or structure shall be used or occupied until the Building Division has issued a Certificate of Occupancy.

5. All drive approaches and durable dustless surfaces shall be installed prior to the final inspection and maintained as per County Standards.

6. All special inspection reports shall be provided to the Building Division prior to requesting a final inspection.

7. A soils report, prepared by a qualified soils engineer, shall be provided to the Building Division prior to issuance of building permits.

8. All construction shall conform to the 2013 California Code of Regulations Title 24 which consist of the California Building Code, California Electrical Code, California Mechanical Code, California Plumbing Code, and California Energy Code, California Fire Code and California Green Building Standards Code.

**KINGS COUNTY HEALTH DEPARTMENT:** Contact Lee Johnson of the Kings County Department of Environmental Health Services at (559) 852-2631 regarding the following requirements:

1. Hazardous materials at or above threshold reporting quantities (55 gallons of a liquid, 500 pounds of a solid, or 200 cubic feet of a gas) will be kept on site, and the operator must file a Hazardous Materials Business Plan for the site online at http://cers.calepa.ca.gov within 30 days of onsite storage. Hazardous materials are broadly defined, and include fuel, lubricants, antifreeze, motor vehicle batteries, welding gases, paints, solvents, glues, agricultural chemicals, etc. Please contact our office if you require assistance with the online registration process.

2. Any quantities of hazardous wastes generated by the facility operation must be managed in accordance with Federal, State, and local laws and regulations. Hazardous wastes cannot be disposed of into the municipal waste stream or onsite sewage disposal system. The owner/operator must contact our office at with any questions regarding proper management and reporting of hazardous wastes, such as waste oil/filters, associated with this operation.

3. The facility will be subject to the California Aboveground Petroleum Storage Act (APSA) if 1,320 gallons or more of petroleum products such as fuel will be stored on site. If this is the case the facility must contact our office for additional information.

4. As per the Kings County Public Health Officer, Coccidiodes immiti, the fungus that causes valley fever, a serious and potentially long-term respiratory illness, is endemic in the soils of Kings County. Construction activities that disturb soils containing the spores of the fungus can put workers and the nearby public at risk. Effective dust control must be maintained on the job site at all times in order to reduce the risk of valley fever to workers and nearby residents. More information regarding the prevention of work related valley fever is available at www.cdph.ca.gov/programs/hesis/Documents/CocciFact.pdf and http://www.cdph.ca.gov/programs/ohb/Documents/OccCocci.pdf. Contact the San Joaquin Valley Air Pollution Control District for more information on dust control techniques.

**KINGS COUNTY PUBLIC WORKS DEPARTMENT** Contact Mike Hawkins of the Kings County Public Works Department at (559) 852-2708 regarding the following requirements:

1. All requirements required hereafter conform to the Kings County Improvement Standards.

2. All other alternative to Public Works requirements must be approved by the Kings County Public Works Department.

3. Applicant shall secure an encroachment permit for any work within the County right-of-way.

4. Asphalt concrete approaches shall be provided.

**KINGS COUNTY FIRE DEPARTMENT** Contact Rick Smith of the Kings County Fire Department at (559) 852-2884 regarding the following requirements:

1. The plans comply with the California Fire Code and all regulations of the Kings County Fire Department.

2. The property must be equipped with a Knox Box for Fire Department access.

3. The propane tank must meet all applicable CFC and NFPA requirements, including NFPA 704 labeling.

The foregoing Resolution was adopted on a motion by Commissioner _____ and seconded by Commissioner _____, at a regular meeting held on October 6, 2014, by the following vote:

AYES: COMMISSIONERS
NOES: COMMISSIONERS
ABSTAIN: COMMISSIONERS
ABSENT: COMMISSIONERS

KINGS COUNTY PLANNING COMMISSION

_____
Jim Gregory, Chairperson

WITNESS, my hand this ____ day of _____, 2014.

_____
Gregory R. Gatzka
Secretary to the Commission

cc: Kings County Board of Supervisors
Kings County Counsel
Kings County Community Development Agency – Building Division
Kings County Fire Department
Kings County Health Department – Division of Environmental Health Services
Kings County Public Works Department
Santa Rosa Rancheria Tachi Yokut Tribe
Carl Jones, Shore 2 Shore Wireless, P.O. Box 6043, Folsom, CA 95630

| Conditional Use Permit No. 14-04<br>MITIGATION MONITORING AND REPORTING PLAN | | | | | | |
|---|---|---|---|---|---|---|
| **Environmental Impact** | **Mitigation Measures** | **Timing of Monitoring Requirement** | **Responsibility for Compliance** | **Method for Compliance** | **Enforcement** | **Checkoff Date/ Initials** |
| **III. Air Quality** | | | | | | |
| a) Would the project conflict with or obstruct implementation of the applicable air quality plan? | • Compliance with Regulation VIII – Fugitive Dust PM10 Prohibitions. Applicable rules include Rule 8041, 8051, and 8071. The applicant keeps records of watering and road cleaning activities at the construction site. | Prior to and during construction. | Developer, Kings County Community Development Agency, and SJVUAPCD. | Compliance with SJVUAPCD permits. Include in bid specifications. | Require as condition of approval and County inspection. | |
| **V. Cultural Resources** | | | | | | |
| a) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? | • If, in the course of project construction or operation, any archaeological or historical resources are uncovered, discovered, or otherwise detected or observed, activities within fifty (50) feet of the find shall cease. A qualified archaeologist shall be contacted and advise the County of the site's significance. If the findings are deemed significant by the Kings County Community Development Agency, appropriate mitigation measures shall be required prior to any resumption of work in the affected area of the project.<br>• A condition of approval requires that a Native American Monitor be on-site during ground disturbing activities. | During construction. | Developer and Kings County Community Development Agency. | Include in bid specifications. | Require as condition of approval. | |
| **XII. Noise** | | | | | | |
| a) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | • Noise producing equipment used during construction shall be restricted to the hours from 7:00 a.m. to 7:00 p.m., Monday through Friday, and 9:00 a.m. to 6:00 p.m. on Saturday and Sunday. Effective mufflers shall be fitted to gas-powered and diesel-powered equipment. | Prior to and during construction. | Developer and Kings County Community Development Agency. | Include in bid specifications. | Require as condition of approval. | |

# COUNTY OF KINGS - 2015

## Kings County Planning Commission - Regularly Scheduled Meetings

**PC** **Planning Commission** - 1st Monday 7:00 p.m. Board Chambers
(Note: If the first Monday is a Holiday, the PC meeting will be on the second Monday)

● Kings County Holiday ● Kings County Half Day Holiday (Closed from 1-5 pm)

### JANUARY

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| | | | | 1 ● | 2 | 3 |
| 4 | 5 PC | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 ● | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |

### FEBRUARY

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| 1 | 2 PC | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 ● | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| | | | | | | |

### MARCH

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| 1 | 2 PC | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

### APRIL

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 |
| 5 | 6 PC | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | | |

### MAY

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| | | | | | 1 | 2 |
| 3 | 4 PC | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 / 31 | 25 ● | 26 | 27 | 28 | 29 | 30 |

### JUNE

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| | 1 PC | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | | | | |

### JULY

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 ● | 4 |
| 5 | 6 PC | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | 31 | |

### AUGUST

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| | | | | | | 1 |
| 2 | 3 PC | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 / 30 | 24 / 31 | 25 | 26 | 27 | 28 | 29 |

### SEPTEMBER

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 ● | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 PC | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | | | |

### OCTOBER

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| | | | | 1 | 2 | 3 |
| 4 | 5 PC | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |

### NOVEMBER

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| 1 | 2 PC | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 ● | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 ● | 27 ● | 28 |
| 29 | 30 | | | | | |

### DECEMBER

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| | PC | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 ● | 25 ● | 26 |
| 27 | 28 ● | 29 ● | 30 ● | 31 ● | | |

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