

RPA 8/1/11  
TG 8/1/11  
EL 8/1/11

DOE/EA-1826

**FINDING OF NO SIGNIFICANT IMPACT  
DEPARTMENT OF ENERGY LOAN GUARANTEE TO AV SOLAR RANCH 1, LLC  
FOR THE AV SOLAR RANCH PHOTOVOLTAIC SOLAR POWER PROJECT IN LOS  
ANGELES AND KERN COUNTIES, CALIFORNIA**

**AGENCY:** U.S. Department of Energy, Loan Programs Office

**ACTION:** Finding of No Significant Impact

**SUMMARY:** The U.S. Department of Energy (DOE) has conducted an environmental assessment (EA) that analyzed the reasonably foreseeable environmental impacts associated with the 230 Megawatt (MW) photovoltaic solar power project and associated interconnection transmission line proposed by AV Solar Ranch 1, LLC (AVSR1) in Los Angeles and Kern Counties, California. DOE, through its Loan Programs Office, proposes to provide a Federal loan guarantee pursuant to Title XVII of the Energy Policy Act of 2005 (EPAct 2005) to AVSR1 to support the construction and startup of the proposed project.<sup>1</sup> The purpose and need for agency action is to comply with DOE's mandate under EPAct 2005 by selecting eligible projects that meet the goals of the Act. DOE is using the NEPA process to assist in determining whether to issue a loan guarantee to AVSR1 to support the proposed project.

The proposed project would utilize a photovoltaic (PV) technology using cadmium telluride solar panels that converts sunlight into direct current (DC) electricity at a predicted conversion efficiency up to 11 percent. The DC output of multiple rows of PV modules is collected and inverters convert the DC power to alternating current (AC) power, and the AC power then flows to transformers where it is stepped up and the power is delivered to the grid. The project would occupy approximately 2,100 acres of private property that has previously been used for agriculture. In addition, the project would utilize an estimated 12 acre-feet of water annually on the 2,100-acre site during operations for panel washes and domestic uses.

The power generated at the proposed facility would connect to a planned Southern California Edison substation approximately 3 1/2 miles north of the facility. The 230 MW project is expected to generate 628,000 gross MW hours of electricity per year or 18,800 gigawatt hours of electricity over the 30 year life of the project. The solar energy generated by the project would have potential beneficial impacts on global climate change and air quality because it could offset the need for energy produced by burning fossil fuels.

All discussion and analysis related to the potential impacts of construction and operation of the proposed AVSR1 project are contained in the Final EA (DOE/EA-1826), which is incorporated here by reference. DOE examined potential impacts on the following resources and found none to be significant: land use; visual resources; noise; air quality; geology and seismicity; water

---

<sup>1</sup> The amount requested for the loan guarantee is not being disclosed at this time because it is business sensitive. Moreover, should DOE approve a loan guarantee, the amount may differ from the original request.

resources, including floodplains; biological resources; cultural resources; socioeconomics and environmental justice; public health and safety, including impacts related to intentionally destructive acts; transportation; and cumulative effects, including global climate change.

In compliance with Executive Order 11988, Floodplain Management and DOE's implementing regulations found in the Code of Federal Regulations, Title 10, Part 1022, a notice of floodplain action was published in the *Antelope Valley Press* on May 15, 2011, and a floodplain assessment was conducted for the proposed project and incorporated into the EA. The floodplain statement of findings is attached, and its availability will be announced in the *Antelope Valley Press*.

In accordance with applicable regulations and policies, DOE sent a notification letter regarding the Department's determination to prepare an EA to the California State Clearinghouse on August 19, 2010. The letter described the proposed action and stated that a draft EA would be sent to the state for review. On May 10, 2011, DOE sent the draft EA and solicited comments from the California State Clearinghouse. The California State Clearinghouse transmitted the draft EA to various Departments, including Conservation, Transportation, Fish & Game, and Historic Preservation, and Commissions, including Energy, Native American Heritage, Public Utilities, and State Lands. The draft EA was also posted on the Loan Programs Office website with instructions on how to provide comments and a notice of availability was published in the *Antelope Valley Press*.

DOE received two comment letters on the draft EA. The first letter, dated May 24, 2011, was received from the California Department of Transportation (Caltrans). Caltrans stated that California State Route 138 (SR-138), which bisects the proposed project, would need to be widened in the future to accommodate future residential growth in the area. Caltrans made a similar comment to Los Angeles County during the County's conditional use permit process. AVSR1, as stated in the EA, has configured the proposed project with 100-foot setbacks from the centerline of SR-138 in order to accommodate Caltrans' future plans for SR-138. Caltrans stated that various encroachment, transportation, and storm water permits would be needed by AVSR1. AVSR1 is aware of the need for these permits and they are listed with other permits also needed for the proposed project in Table 2.1-1 of the EA. Caltrans also stated that there is a regional transportation expressway/freeway project being planned in the project area. The North County Combined Highway Corridors Study is a part of the larger regional plan and was evaluated in the cumulative impact section of the EA.

The second letter, dated June 10, 2011, was received from the California Department of Conservation (DOC). DOC stated that the following sentence in the Land Use and Agriculture, Regulatory Framework section, was incorrect: "While the Williamson Act requires cancellation for any proposed development that is not agricultural based, the Williamson Act allows electric power generation as a compatible use (Section 51238)." DOC states that Section 51238 is assumed by DOC to describe overhead power lines and electrical substations, but not solar facilities. In response to this comment, DOE has changed "generation" to "transmission" in the referenced sentence in the EA. As described in the EA, the only Williamson Act land impacted by the proposed project is affected by the proposed transmission line tie-in in Kern County, which appears to be a compatible use described by DOC. As described in the EA, approximately five poles would be located on a parcel of land under a Williamson Act contract and DOE

determined this would have a minimal disturbance on current agricultural operations on the parcel. DOC noted that DOE coordinated with the Natural Resources Conservation Service and completed a land assessment in accordance with the Farmland Protection Policy Act guidelines. Although DOC would have preferred that DOE use a different model to determine the level of impact, DOC agreed that no additional consideration for farmland protection was necessary. DOC also recommended that the City or County require a reclamation plan suited for solar facilities. Los Angeles County has required a decommissioning plan which is currently being reviewed and approved by the County.

**DETERMINATION:** On the basis of the final EA, DOE has determined that providing a Federal loan guarantee to AVSR1 for construction and startup of the 230MW photovoltaic solar power project and its associated interconnection transmission line in Los Angeles and Kern Counties, California will not have a significant effect on the human environment. The preparation of an environmental impact statement is therefore not required, and DOE is issuing this Finding of No Significant Impact.

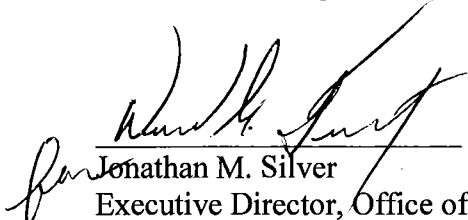
Copies of the Final EA are available at the DOE Loan Programs Office website at [http://www.lgprogram.energy.gov/NEPA\\_EA.html](http://www.lgprogram.energy.gov/NEPA_EA.html) or from

Doug Boren  
NEPA Document Manager  
U.S. Department of Energy  
1000 Independence Ave, SW  
Suite 4B-196 LP-10  
Washington, DC 20585  
[douglas.boren@hq.doe.gov](mailto:douglas.boren@hq.doe.gov)

Additional information on the DOE NEPA process is available from:

Carol M. Borgstrom, Director  
Office of NEPA Policy and Compliance (GC-54)  
U.S. Department of Energy  
1000 Independence Avenue, SW  
Washington, DC 20585  
202-586-4600 or 1-800-472-2756

Issued in Washington, DC on the 20<sup>th</sup> day of August in the year 2011.

  
Jonathan M. Silver  
Executive Director, Office of Loan Programs

**ATTACHMENT**  
**FLOODPLAIN STATEMENT OF FINDINGS**  
**FOR DEPARTMENT OF ENERGY LOAN GUARANTEE TO AV SOLAR RANCH 1,**  
**LLC FOR THE AV SOLAR RANCH PHOTOVOLTAIC SOLAR POWER PROJECT IN**  
**LOS ANGELES AND KERN COUNTIES, CALIFORNIA**

The U.S. Department of Energy (DOE) proposed action is to issue a loan guarantee to AV Solar Ranch 1, LLC (AVSR1) to support the design and construction of the 230 Megawatt (MW) photovoltaic solar power project. The proposed project would utilize a photovoltaic (PV) technology using cadmium telluride solar panels that converts sunlight into direct current electricity. The project would occupy approximately 2,100 acres of private property that has previously been used for agriculture. The power generated at the proposed facility would connect to a planned Southern California Edison substation approximately 3 1/2 miles north of the facility. Figure 1 is a map showing the location of the AVSR1 solar power project.

AVSR1 considered a number of criteria in selecting the most suitable site for the proposed project. Key factors considered for siting and selection were:

- Adequate solar radiation
- Transmission access to customers with minimal transmission upgrades required for interconnection
- Lack of threatened and/or endangered biological species on the site
- Relatively flat site that has been previously disturbed
- Landowner that controls and is willing to sell a large enough parcel of land at market price
- Transmission line interconnection to the electrical grid less than 5 miles to minimize transmission line losses and costs

Application of the above selection criteria led to the identification of the proposed site. AVSR1 did not identify any other available sites in the Antelope Valley within a 5-mile radius of the proposed electrical interconnection point at the planned SCE Whirlwind Substation that adequately met the selection criteria.

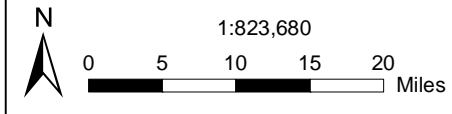
A very small portion of the proposed project is located within a designated 100-year floodplain according to the Federal Emergency Management Agency Flood Insurance Rate Map (Figures 2A and 2B). The 100-year floodplain in the southeast corner of the solar generation site as shown in Figure 2A would not be developed. Approximately 0.15 miles of the proposed transmission line route is within the 100-year floodplain. The proposed tubular steel structures of the aboveground portions of the transmission line would not be placed within any drainages or flow paths, and would occupy a small permanent footprint of approximately 50 square feet each, (for a total of approximately 1,250 square feet, or 0.03 acre) within the 100-year floodplain. It would be unlikely that the tubular steel structures would impede or redirect flood flows or result in measurably different flows compared to existing conditions because the structures have a small footprint. It is also unlikely that waters within the floodplain in this area would have a significant velocity due to the flat gradient.

DOE has determined that the proposed action would not adversely affect the 100-year floodplain and that the proposed action conforms to applicable floodplain protection standards. DOE/EA-1826 Section 3.7 contains the floodplain assessment which is incorporated here by reference.



**Legend**

- Project Site Boundary
- Proposed 230 KV Transmission Line



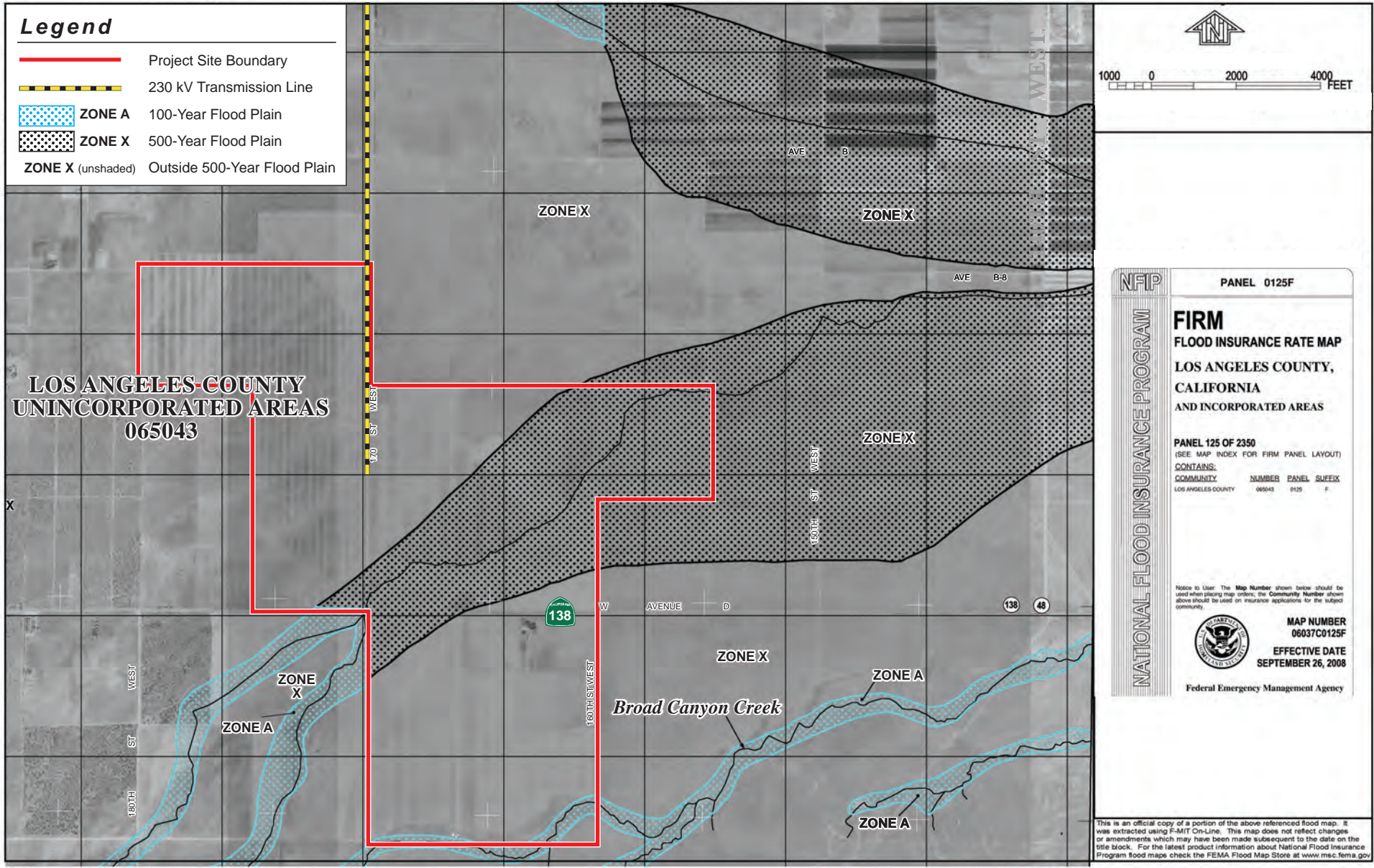
**Source:**  
 [1] ESRI StreetMap USA (2006). [2] Hillshade, 30 Meter Resolution (based on the National Elevation Dataset (NED) - U.S. Geological Survey, Teale Data Center GIS Solutions Group, USFS Region 5.

**AV Solar Ranch One  
 Environmental Assessment**

**Figure 1. REGIONAL VICINITY MAP**

2011

T:\FirstSolar\AVSR1\_DOE\_EA\deliverables\Fig2-2\_Site\_Location\_Topo\_Map.mxd








**Source:**  
 FEMA  
 Map Number 06037C0125F  
 Dated 9/26/08

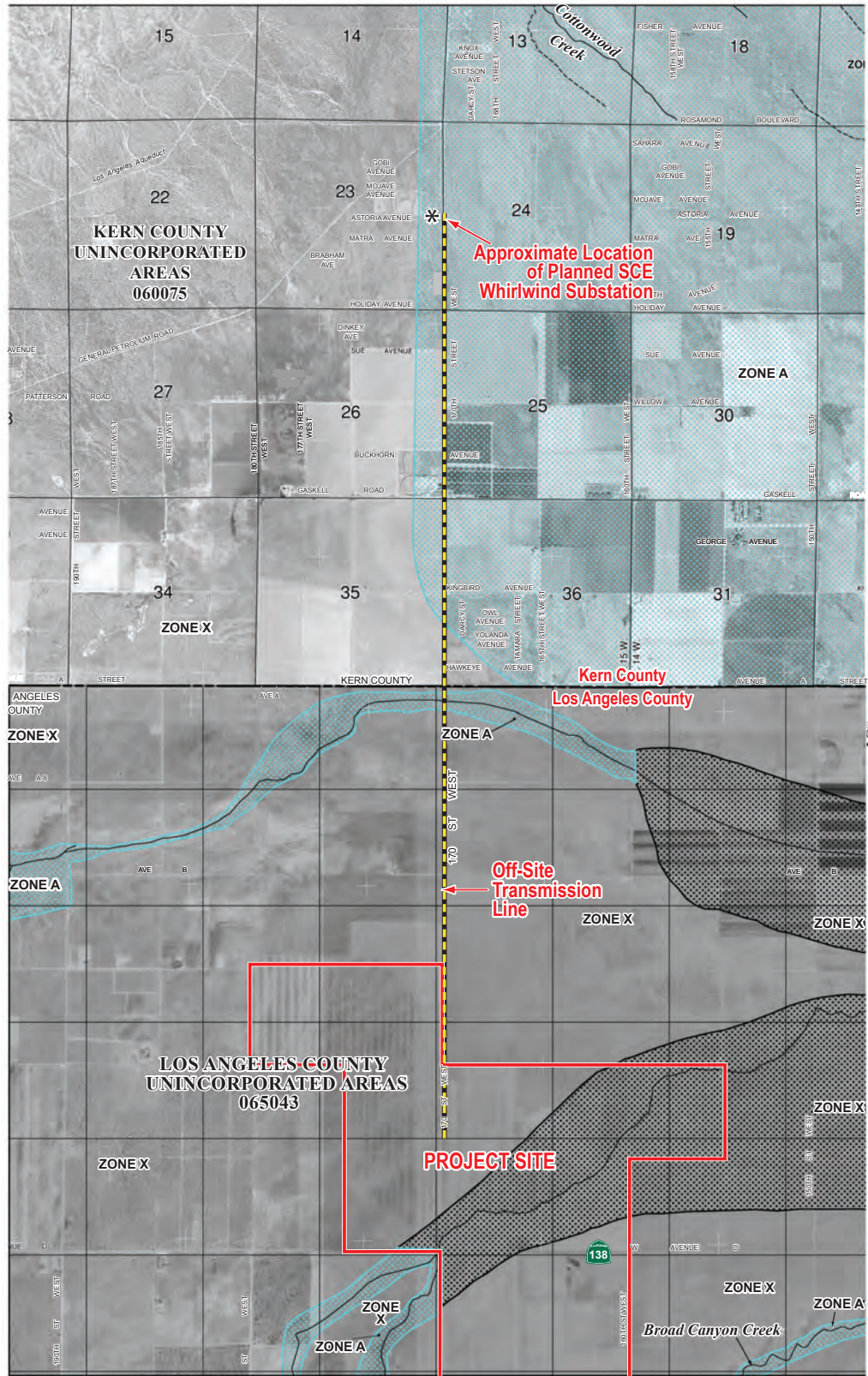
**AV Solar Ranch One  
 Environmental Assessment**

**Figure 2A. FEMA FLOOD INSURANCE RATE MAP  
 FOR PROJECT SITE AREA**

2011

**Legend**

-  Project Site Boundary
-  230 kV Transmission Line
-  **ZONE A** 100-Year Flood Plain
-  **ZONE X** 500-Year Flood Plain
-  **ZONE X** (unshaded) Outside 500-Year Flood Plain



**NFIP** PANEL 3975E

**FIRM**  
FLOOD INSURANCE RATE MAP  
KERN COUNTY,  
CALIFORNIA  
AND INCORPORATED AREAS

PANEL 3975 OF 4125  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS: COMMUNITY NUMBER PANEL STATUS  
KERN COUNTY 3975 3975 E

MAP NUMBER 06029C3975E  
EFFECTIVE DATE SEPTEMBER 26, 2008

Federal Emergency Management Agency



**NFIP** PANEL 0125F

**FIRM**  
FLOOD INSURANCE RATE MAP  
LOS ANGELES COUNTY,  
CALIFORNIA  
AND INCORPORATED AREAS

PANEL 125 OF 2350  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS: COMMUNITY NUMBER PANEL STATUS  
LOS ANGELES COUNTY 0125 0125 F

MAP NUMBER 06037C0125F  
EFFECTIVE DATE SEPTEMBER 26, 2008

Federal Emergency Management Agency



Source:  
FEMA  
Map NumberS 06037C0125F  
and 06029C3975E  
Dated 9/26/08

AV Solar Ranch One  
Environmental Assessment

**Figure 2B. FEMA FLOOD INSURANCE RATE MAP FOR OFF-SITE TRANSMISSION LINE ROUTE**