

Section 3.11 Traffic and Transportation

This section describes regulations related to transportation and circulation and the existing transportation systems in the project area, identifies significance criteria for impacts on transportation and circulation, and evaluates potential impacts associated with the proposed project. The discussion in this section is based on transportation and circulation information obtained from available public resources such as the County of San Bernardino 2007 General Plan (2007), including the Circulation and Infrastructure Element. In addition, a project-specific trip generation analysis was prepared for the project (Dudek 2017; see **Appendix J**) and peer reviewed by Michael Baker International.

As required by the County of San Bernardino, the trip generation analysis followed methodology and assumptions that have been established in conjunction with the County Traffic Impact Study Guidelines (San Bernardino County 2014) and the California Department of Transportation's (2002) Guide for the Preparation of Traffic Impact Studies. The trip generation analysis evaluates construction and operation of the proposed solar and energy storage facilities and the Calcite Substation.

ENVIRONMENTAL SETTING

The major roadway existing in the project vicinity is State Route 247 (SR 47, also known as Barstow Road) in the north–south direction, which provides the main regional access. SR 247 is a two-lane major highway that originates as an interchange with Interstate 15 (I-15) in Barstow and extends south to its junction with SR 18 in the community of Lucerne Valley. From this point, SR 247 continues southeast through the communities of Landers and Homestead Valley before terminating at its junction with SR 62 in the town of Yucca Valley. See Exhibit 3.11-1, *Site Overview and Access*, for the project vicinity roadways.

Other roadways in the vicinity of the proposed project site include Fern Road, Haynes Road, and Meridian Road. Meridian Road is a two-lane secondary highway that extends southward from SR 18 approximately 2 miles to Emerald Road.

REGULATORY FRAMEWORK

FEDERAL

Federal rules and regulations govern many facets of the county's traffic and circulation system including transportation planning and programming; funding; and design, construction, and operation of facilities. The County complies with all applicable rules and regulations of the Federal

Highway Administration (FHWA), the Federal Transit Administration (FTA), the Federal Railroad Administration (FRA), the Federal Aviation Administration (FAA), and other federal agencies. In addition, the County coordinates with federal resource agencies where appropriate in the environmental clearance process for transportation facilities.

STATE

As it complies with federal rules and regulations, the County also complies with applicable state rules and regulations, including those of Caltrans, and coordinates with state resource agencies.

CALIFORNIA TRAFFIC OPERATIONS STANDARDS

The Caltrans (2002) Guide for the Preparation of Traffic Impact Studies includes criteria for evaluating the effects of land use development and changes to the circulation system on state highways. Caltrans maintains a target level of service (LOS) at the transition between LOS C and LOS D for freeway facilities.

SENATE BILL 375

Enacted in 2010, Senate Bill 375 is a mandate for local agencies to take actions to reduce greenhouse gas emissions. SB 375 has implications for the county's transportation system because mobile emission sources may contribute to greenhouse gases. For a discussion of SB 375 implications and an analysis of GHG emission impacts, please refer to Section 3.6, Greenhouse Gas Emissions.

REGIONAL

SAN BERNARDINO COUNTY CONGESTION MANAGEMENT PROGRAM

The passage of Proposition 111 in June 1990 established a process for each metropolitan county in California to prepare a Congestion Management Plan (CMP). The San Bernardino Associated Governments (SANBAG) prepared the San Bernardino County CMP, in consultation with San Bernardino County and cities in San Bernardino County, in an effort to align land use, transportation, and air quality management efforts and promote reasonable growth management programs that effectively use statewide transportation funds, while ensuring that new development pays its fair share of needed transportation improvements. In San Bernardino County, SANBAG is responsible for planning and managing vehicular congestion and coordinating regional transportation policies.

Through the use of traffic impact analysis reports and Comprehensive Transportation Plan model forecasts, the CMP evaluates proposed land use decisions to ensure adequate transportation network improvements that are developed to accommodate future growth in population. If a CMP

facility is found to fall below the level of service standard, under either existing conditions or future conditions, a deficiency plan must be prepared, adopted, and implemented by local jurisdictions that contribute to such situations. Annual monitoring activities are a method of accountability for those local jurisdictions required to mitigate a network facility with substandard level of service. While this interjurisdictional approach provides political and technical consistency for future development in the county, the CMP is only a mechanism to be used to guide efforts in a more efficient manner. It is not to be considered a replacement to the Regional Transportation Plan.

LOCAL

COUNTY OF SAN BERNARDINO GENERAL PLAN

The project is located within the boundaries of the Desert Region, as identified by the County's General Plan. The Circulation and Infrastructure Element of the General Plan includes concepts and guidelines to maintain and plan for transportation facilities that adequately serve traffic. The following goals, policies, and programs are applicable to the proposed project:

DESERT REGION GOALS AND POLICIES OF THE CIRCULATION AND INFRASTRUCTURE ELEMENT

- | | |
|------------------------|---|
| Goal D/CI 1 | Ensure a safe and effective transportation system that provides adequate traffic movement while preserving the rural desert character of the region. |
| <i>Policy D/CI 1.1</i> | The County shall ensure that all new development proposals do not degrade Levels of Service (LOS) on Major Arterials below LOS C in the Desert Region. |
| <i>Policy D/CI 1.2</i> | Design roads to follow natural contours, avoid grid pattern streets, minimize cuts and fills and disturbance of natural resources and trees wherever possible. |
| <i>Policy D/CI 1.3</i> | Design road locations and alignments in such a manner to help preserve and protect sensitive habitats. |
| <i>Policy D/CI 1.4</i> | Preserve the rural character by discouraging required urban-scale improvements such as curbs, gutters and street lighting where the public health, safety and welfare are not endangered. |
| <i>Policy D/CI 1.8</i> | Design road standards and maintain major thoroughfares to complement the surrounding environment within the Desert Region. |

IMPACT ANALYSIS AND MITIGATION MEASURES

TRIP GENERATION METHODOLOGY

The analysis is broken into trip generation from short-term construction and long-term operation of the proposed project. Construction-related trip generation for the proposed project is primarily based on the number of construction employees, the extent of construction, the estimate of delivery-related trucks, and reviews of similar solar energy projects in the county.

PERFORMANCE CRITERIA

COUNTY OF SAN BERNARDINO

The definition of an intersection deficiency was obtained from the County of San Bernardino General Plan guidelines. The guidelines state that peak-hour intersection operations of LOS C or better are generally acceptable during the peak hours in the Desert Region. Therefore, any intersection operating at LOS D, E, or F will be considered deficient.

CALTRANS

The definition of intersection deficiency was obtained from the Caltrans (2002) Guide for the Preparation of Traffic Impact Studies. As stated in these guidelines, Caltrans endeavors to maintain a target level of service at the transition between LOS C and LOS D on state highway facilities. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing facility is operating at less than the appropriate target LOS, the existing level of service should be maintained.

THRESHOLDS OF SIGNIFICANCE

In accordance with the State CEQA Guidelines, the effects of a project are evaluated to determine whether they would result in a significant adverse impact on the environment. An environmental impact report is required to focus on these effects and offer mitigation measures to reduce or avoid any significant impacts that are identified. The criteria used to determine the significance of impacts may vary depending on the nature of the project. According to Appendix G of the State CEQA Guidelines, the proposed project would have a significant impact related to air quality if it would:

- 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.

- 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.
- 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.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

PROJECT IMPACTS AND MITIGATION

CONFLICT WITH AN APPLICABLE PLAN, ORDINANCE, OR POLICY

Impact 3.11-1 **The project would not 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. Impacts would be less than significant.**

According to the trip generation analysis prepared for the proposed project, project access would require the construction of approximately 1,200 feet of new roadway. Project access would be located approximately 1,200 feet north of Haynes Road and approximately 2,500 feet north of the intersection of Fern Road and SR 247. The access road would be 24 feet wide and would connect to SR 247 (Barstow Road).

CONSTRUCTION ROUTE

All construction-related traffic would access the project via the access road that connects to SR 247. It is assumed that 50 percent of the construction traffic would travel north on SR 247 from the Lucerne Valley area and turn right into the project site via the access road. The remaining 50 percent of the traffic would be expected to travel south along SR 247 from Barstow and turn left into the project site via the access road. SR 247 is a two-lane highway and does not have a separate

left turn lane for construction traffic. Even though this segment of SR 247 does not have a high volume of daily traffic, appropriate traffic controls such as signage and flaggers would be required to facilitate left turns into the project site, especially for trucks. **Exhibit 3.11-1, Site Overview and Access**, illustrates the site plan, the proposed access road for the project, and the proposed project construction route for construction employees and trucks.

CONSTRUCTION-RELATED IMPACTS

ORD MOUNTAIN SOLAR ENERGY AND STORAGE PROJECT

According to the Initial Study, the maximum number of daily construction employees would be approximately 250, with an average of 150 daily workers.

Based on the trip generation analysis prepared for the project (Dudek 2017; see **Appendix J**), and the traffic generation analysis for Joshua Tree Solar Farm, and other similar solar energy projects in San Bernardino County, a rate of 2 average daily trips (ADT) is assumed per construction employee. For trucks delivering construction materials, 2 ADT are assigned per truck (one inbound trip and one outbound trip) to estimate the project's trip generation during the construction phase. It is likely that carpooling among employees would occur; therefore, an occupancy factor of 1.25 was used in calculating the trip generation of construction employees. In addition to the 250 maximum daily workers traveling to the site, there would be up to an estimated 19 delivery trucks per day during peak construction activity, with an average of 13 delivery trucks per day.

One of the concerns associated with construction traffic is the additional congestion that can be caused by introducing large oversized trucks onto the roadway network. To address this effect, a passenger car equivalent (PCE) was developed, which represents the number of passenger cars displaced by each truck in the traffic stream under mixed-flow conditions. The PCE factor ranges from 2 to 3 based on the number of axles on the truck. A PCE factor of 2.5 was used to convert truck trips into equivalent car trips for the project's construction trip generation analysis.

To present a worst-case scenario, the trip generation was analyzed for the maximum number of workers and trucks that would travel to and from the project site during the construction phase. It is anticipated that the work would be completed in 8- to 10-hour shifts, with a total of five shifts per week (Monday through Friday). The AM and PM peak hours generally occur from 7:00 to 9:00 AM and from 4:00 to 6:00 PM, respectively, while the shift hours of the employees may vary between 8 and 10 hours. To estimate the maximum peak-hour traffic, the peak-hour trip generation rate assumes that all the construction employees (a total of 250 employees, estimated to be 200 using an occupancy factor of 1.25) would arrive at the project site during the AM peak hour and would leave during the PM peak hour.

As shown in Table 3.11-1, *Trip Generation Summary for Solar and Energy Storage Site*, and based on the above assumptions,¹ the construction employees would generate 400 average daily trips, with 200 trips during the AM peak hour, and 200 trips during the PM peak hour.

Construction- and delivery-related truck trips would be evenly distributed throughout the day; therefore, about 10 percent of the total daily truck trips were assumed to be generated during the AM peak hour and 10 percent during the PM peak hour. As shown in Table 3.11-1, construction and delivery trucks would generate 95 ADT, with 10 trips during the AM peak hour and 10 trips during the PM peak hour.

The proposed project would generate a maximum of 495 ADT, with 210 AM peak-hour trips and 210 PM peak-hour trips, during its 10-month construction period. The segment of SR 247 in the vicinity of the project site would continue to operate at LOS A under existing and existing with project construction traffic conditions. Impacts would be less than significant.

**Table 3.11-1:
Trip Generation Summary for Solar and Energy Storage Site**

Trip Generation Rates										
Land Use	Daily Rate Trip	Factors	AM Peak Hour			PM Peak Hour				
			% of Daily	% In	% Out	% of Daily	% In	% Out		
Construction Employees	2	1.25 (Occ.) ¹	50	100	0	50	0	100		
Trucks	2	2.5 (PCE) ²	10	50	50	10	50	50		
Trip Generation										
Land Use	Total No. of Units	Using Factors	Unit	Daily Trips	AM Peak Hour			PM Peak Hour		
					Total	In	Out	Total	In	Out
Construction Employees	250	200	Persons	400	200	200	0	200	0	200
Trucks	19	47.5	Trucks	95	10	5	5	10	5	5
Total				495	210	205	5	210	5	205

Source: Dudek 2017, Table 1, p. 6; see Appendix J.

1. An occupancy factor of 1.25 is used to estimate the number of construction employees who would carpool to the site.

2. Passenger car equivalency factor of 2.5 is utilized to convert truck trips to passenger car trips.

The level of service for operating state highway facilities is based on measures of effectiveness (Caltrans 2002). These describe the measures best suited for analyzing state highway facilities (i.e., freeway segments, signalized intersections, on- or off-ramps, etc.). Caltrans endeavors to maintain

¹ Two daily trips per construction employee for 200 construction employees.

a target level of service at the transition between LOS C and LOS D on state highway facilities. However, Caltrans acknowledges that this may not always be feasible, and if an existing state highway facility is operating at less than the appropriate target LOS, the existing measure should be maintained.

SR 247 is a two-lane undivided conventional highway that begins at its junction with SR 62 in the town of Yucca Valley and serving as a connector between SR 62 and I-15 in Barstow. According to the Caltrans Transportation Concept Report for SR 247, no capacity-increasing or major operational improvements are needed to maintain the target LOS D on SR 247 through the year 2035.

Caltrans Division of Traffic Operations' 2015 Traffic Volumes on California State Highways data was used to obtain the two-way peak-hour traffic on SR 247 near the project. A comparison of the year 2015 over 2014 annual traffic volumes showed that there was a growth of 2.64 percent in the vehicle miles of travel on California highways. Therefore, a growth factor of 2.64 percent per year for a period of two years was used to estimate the 2017 two-way peak-hour traffic on SR 247 in the immediate vicinity of the project. The segment of SR 247 just north and south of Haynes Road shows existing two-way peak-hour traffic of 190 vehicles for the year 2015. Using the growth factor described above, two-way peak-hour traffic of 200 vehicles was estimated for the year 2017 along this segment of SR 247.

Based on the 2010 Highway Capacity Manual, the capacity of a two-lane highway under base conditions is 1,700 vehicles per hour in one direction, with a maximum of 3,200 vehicles per hour in two directions.

As shown in Table 3.11-2, *Level of Service (Peak Hour) during Project Construction*, the volume-to-capacity ratio analysis indicates that this segment of SR 247 operates at LOS A during existing peak-hour traffic conditions. It is assumed that 50 percent of the project's construction traffic would travel north on SR 247 and turn right into the project site via the access road and 50 percent of the traffic would travel south along SR 247 and turn left into the project site via the access road. With the addition of the project's construction traffic, the volume-to-capacity ratio would increase by 0.04; however, the roadway segment of SR 247 would continue to operate at LOS A under existing 2017 with project conditions. Therefore, impacts would be less than significant.

**Table 3.11-2:
Level of Service (Peak Hour) during Project Construction**

Roadway Segment	2017 Traffic	2017 v/c	2017 LOS	Project Construction Traffic	2017 Traffic with Project Construction Traffic	2017 with Project v/c	2017 with Project LOS
SR 247 north of Haynes Road	200	0.06	A	105	305	0.10	A
SR 247 south of Haynes Road	200	0.06	A	105	305	0.10	A

*Source: Dudek 2017, Table 2, p. 12; see Appendix J.
v/c = volume-to-capacity ratio; LOS = level of service*

CALCITE SUBSTATION

Southern California Edison proposes to construct and operate the Calcite Substation on approximately 11 acres to facilitate the connections of renewable energy generation to the SCE electrical grid. The proposed substation would occupy a portion of a 75 -acre parcel of land that extends on the west and east sides of SR 247, directly north of Haynes Road and across from the proposed solar and energy storage site; refer to **Exhibit 3.11-1, Site Overview and Access**. The Calcite Substation access road would be 24 feet wide. This road would connect to SR 247 (Barstow Road) and would require the improvement of approximately 1,100 feet of the existing Haynes Road and the establishment of approximately 800 feet of new roadway.

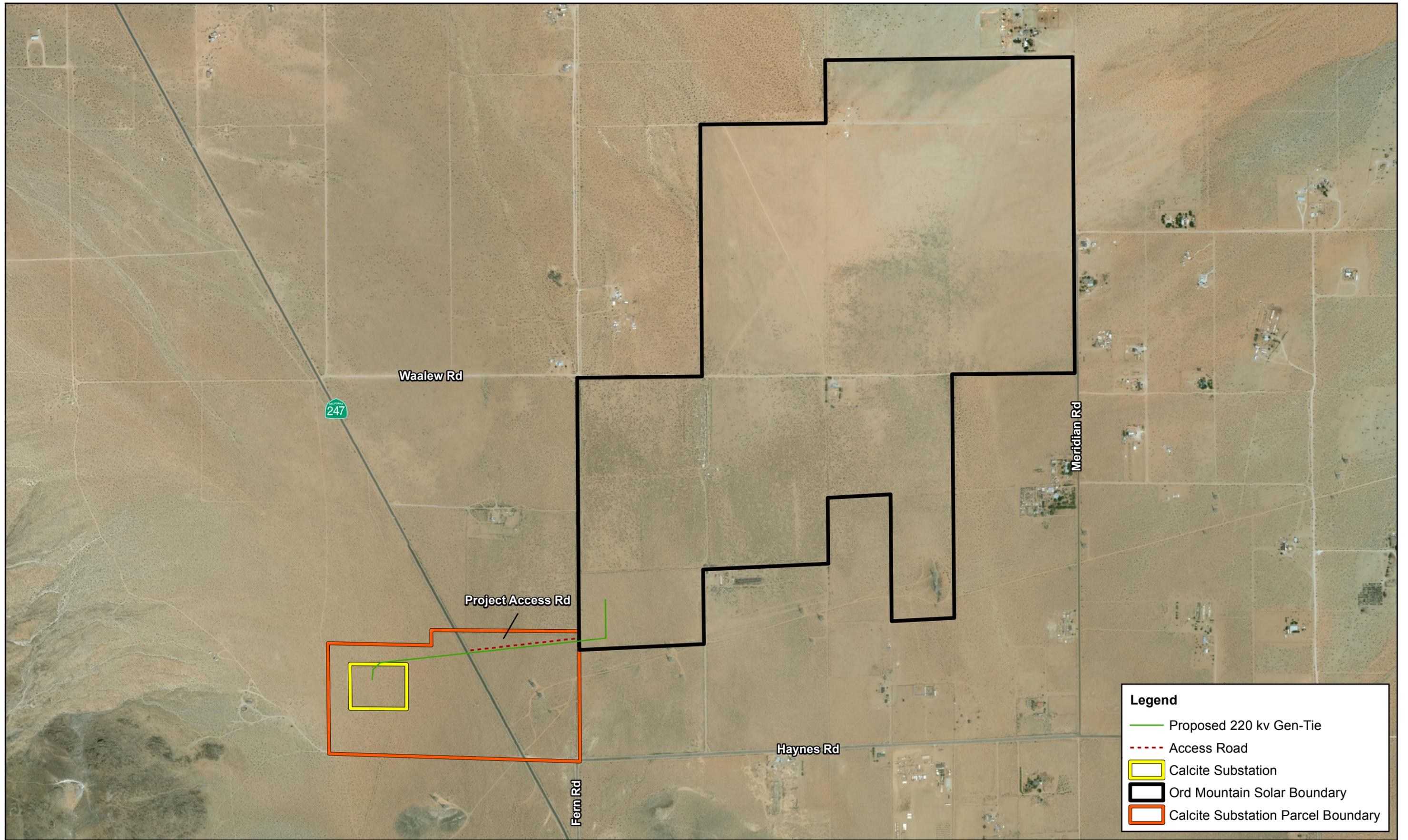
The Calcite Substation and associated transmission and telecommunications connections are anticipated to be constructed over a period of approximately 10 months. SCE estimates that approximately 257 construction employees would be required to construct the proposed substation, with up to 90 employees on-site during peak days where activities overlap. In addition to the 90 maximum daily construction employees (a total of 90 employees, estimated to be 72 using an occupancy factor of 1.25) traveling to the site, there would be up to 19 truck trips per day during peak construction activity. Using similar assumptions for trip rates as for the proposed solar field, trip generation for the Calcite Substation is summarized in Table 3.11-3, *Trip Generation Summary for Calcite Substation*. The substation is estimated to generate a total of 239 ADT, with 82 AM peak-hour trips and 82 PM peak-hour trips, during its 10-month construction period.

**Table 3.11-3:
Trip Generation Summary for Calcite Substation**

Trip Generation Rates										
Land Use	Daily Rate Trip	Factors	AM Peak Hour			PM Peak Hour				
			% of Daily	% In	% Out	% of Daily	% In	% Out		
Construction Employees	2	1.25 (Occ.) ¹	50	100	0	50	0	100		
Trucks	2	2.5 (PCE) ²	10	50	50	10	50	50		
Trip Generation										
Land Use	Total No. of Units	Using Factors	Unit	Daily Trips	AM Peak Hour			PM Peak Hour		
					Total	In	Out	Total	In	Out
Construction Employees	90	72	Persons	144	72	72	0	72	0	72
Trucks	19	47.5	Trucks	95	10	5	5	10	5	5
Total				239	82	77	5	82	5	77

Source: Dudek 2017, Table 3, p. 13; see Appendix J.

1. An occupancy factor of 1.25 is used to estimate the number of construction employees that would carpool to the site.
2. Passenger car equivalency factor of 2.5 is utilized to convert truck trips to passenger car trips.



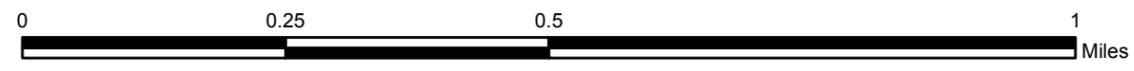
Legend

- Proposed 220 kv Gen-Tie
- - - Access Road
- Calcite Substation
- Ord Mountain Solar Boundary
- Calcite Substation Parcel Boundary

ORD MOUNTAIN SOLAR PROJECT
ENVIRONMENTAL IMPACT REPORT

Site Overview and Access

Exhibit 3.11-1



Source: Dudek, Bing Imagery, 2015; SWCA

This page intentionally left blank.

The proposed Calcite Substation would be unstaffed, and electrical equipment within the substation would be remotely monitored and controlled by an automated system. SCE personnel would typically visit for electrical switching and routine maintenance purposes (including equipment testing, monitoring, and repair). Inspection and maintenance activities would occur at least once per year and on an as-needed basis. Therefore, it is anticipated that the daily and peak-hour trip generation for these activities would be less than significant.

As shown in Table 3.11-4, *2017 Level of Service (Peak Hour) during Project Construction*, the segment of SR 247 operates at LOS A during existing peak-hour traffic conditions. With the addition of Calcite Substation construction traffic, the volume-to-capacity ratio increases by 0.02. With the addition of both the solar and energy storage site and Calcite Substation site construction traffic, the volume-to-capacity ratio increases by 0.05; however, the roadway segment of SR 247 would continue to operate at LOS A under existing 2017 with the Calcite Substation, as well as under existing 2017 with project plus Calcite Substation conditions.

**Table 3.11-4:
2017 Level of Service (Peak Hour) during Project Construction**

Roadway Segment	2017 Conditions: v/c LOS	2017 plus Project: v/c LOS
SR 247 north of Haynes Rd	0.06 A	0.11 A
SR 247 south of Haynes Rd	0.06 A	0.11 A

*Source: Dudek 2017, Table 4, p. 14; see Appendix J.
v/c = volume-to-capacity ratio; LOS = level of service*

OPERATIONAL IMPACTS

The proposed project would be unmanned, and no operation and maintenance building would be constructed. The operations would be monitored remotely, and periodic inspections and maintenance activities would occur. Therefore, it is assumed that the project would have one to two employees on-site for system inspections, approximately one to two times per month. In addition, two to six employees would be required on-site for troubleshooting and maintenance requirements, approximately one to two times per month. Also, one employee may be on-site during the nighttime hours for security. During operations, solar panel washing is expected to occur one to four times per year, and approximately 10 workers may assist in panel cleaning. Panel washing for a project of this size would require 15 days to complete per wash cycle. Off-site delivery of water for cleaning would not be required because a water source is located on-site.

The project is not anticipated to generate a significant number of daily and peak-hour trips once construction is complete. Except for security employees, operations workers are expected to access the project site during the AM and PM peak hours, generating a maximum of 36 ADT (a total of 18 workers, assuming two trips per worker per day), if panel washing were performed during routine maintenance and inspections. As mentioned, the trip generation related to periodic inspections and maintenance activities would occur occasionally throughout the year; however, it would be nominal and would result in a less than significant traffic impact on the roadway segment of SR 247 near the project site.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CONFLICT WITH A CONGESTION MANAGEMENT PROGRAM

Impact 3.11-2 **The project would not 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. Impacts would be less than significant.**

The San Bernardino County Congestion Management Plan requires preparation of a traffic impact analysis when operational period traffic project is anticipated to generate over 250 two-way peak-hour trips or 50 two-way peak-hour trips on a segment of CMP arterial highway or state highway. The proposed project would produce less than 1 trip per day during operations. Therefore, none of the applicable thresholds would be exceeded and the preparation of a traffic impact analysis is not required. A less than significant impact would occur.

Mitigation Measures: None required.

Level of Significance: Less than significant.

AIR TRAFFIC PATTERNS

Impact 3.11-3 **The project would not 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. Impacts would be less than significant.**

The proposed project is not located in the vicinity of any airports (San Bernardino County 2018). The nearest airport is the privately owned Holiday Ranch Airport, approximately 7.5 miles to the west of the project area.

The tallest components of the proposed project would be the seven transmission support structures, which would be up to 180 feet tall. The on-site substation would consist of a 55-foot-tall A-frame, a 16-foot-tall 220-kV disconnect switch, 16-foot-tall metering units, a 16-foot-tall

230-kV circuit breaker, a 28-foot-tall step-up transformer, and a 15-foot-tall power distribution center (25 feet by 60 feet), all of which will have at least a 15-foot clearance from the fence. The 34.5-kV feeders connecting to the substation would consist of 45-foot and 60-foot-tall poles, for single and double circuits, respectively.

Because the proposed transmission line would be constructed in close proximity to existing larger transmission support structures associated with the existing SCE transmission corridor, over 7 miles from the nearest airport, and constructed consistent with FAA requirements to ensure avoidance of potential air traffic collisions or hazards, the height of the proposed project's vertical components would not affect air traffic patterns. In addition, the project's photovoltaic panels would have low solar reflectivity and include an anti-glare coating, because the material used to manufacture solar panels is designed to absorb rather than reflect sunlight. Therefore, the proposed project's contribution to the reflectivity in the area and the resultant potential negative effect on air traffic patterns would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

DESIGN FEATURES

Impact 3.11-4	The project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). Impacts would be less than significant.
----------------------	--

The proposed project would include the use of existing exits (Fern Road and Desert Lane) off SR 247 during construction activities, as well as construction of a new exit and paved access road directly off SR 247. The angles of the existing exits in relation to SR 247 are not ideal from a turn angle and sight distance perspective. Therefore, the proposed project includes construction of a new exit and access road from SR 247. The new exit intersection would be constructed to achieve County standards intended to avoid design features that would affect traffic safety and would allow use by construction and maintenance vehicles. The proposed Calcite Substation would use Haynes Road as ingress and egress routes that would be improved to County standards. Therefore, neither the proposed solar and energy storage project nor the Calcite Substation operation would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant.

EMERGENCY ACCESS

Impact 3.11-5 The project would not result in inadequate emergency access. Impacts would be less than significant.

The proposed project includes paved access off SR 247 suitable for emergency vehicle access, and perimeter roads within the facility would be suitable for emergency vehicle use. In addition, overrides of access gates for emergency access to the facility would be installed. The proposed project would not result in any closures of SR 247 that might effect emergency access in the vicinity of the project site.

During construction, all vehicles would be parked off public roads and would not block emergency access routes. The short-term closure of two unpaved roadways (Fern Road and Desert Lane) across from the solar and energy storage site could limit emergency access to areas east of the site. However, these roadways typically experience minimal use since there are a limited number of homes and businesses to the immediate east of the site.

As discussed above, traffic control would be required during construction of the transmission line crossing of SR 247. Should an emergency arise requiring access during closures of these roads, project personnel would be required to open the roads. Therefore, neither the proposed solar and energy storage project nor the Calcite Substation operation would result in inadequate emergency access to the proposed project area. Impacts would be less than significant.

Mitigation Measures: None required.

Level of Significance: Less than significant

ALTERNATIVE TRANSPORTATION

Impact 3.11-6 The project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. No impacts would occur.

Due to the rural nature of the proposed project area, no alternative transportation policies, plans, or programs have been designated for the area. The nearest public transit provider is the Victor Valley Transit Authority, which provides bus service to Victorville, Hesperia, Apple Valley, Adelanto, Lucerne Valley, and Helendale. Therefore, neither the proposed solar and energy storage project nor the Calcite Substation operation would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. No impacts would occur.

Mitigation Measures: None required.

Level of Significance: No impact.

CUMULATIVE IMPACTS

Impact 3.3-7 The project would not result in cumulative impacts related to traffic and transportation. Impacts would be less than significant.

Cumulative projects that would have the potential to be considered in a cumulative context with the projects' incremental contribution, and that are included in the analysis of cumulative impacts relative to noise, are identified in Table 3.0-1 and Exhibit 3-1 in Section 3.0 of this EIR.

As discussed in the project-specific trip generation analysis that was prepared for the project (Dudek 2017; see **Appendix J**), vehicle trips generated during construction-related (approximately 250 employees) would be substantially higher as those compared to project operations (one to two employees on-site for system inspections, approximately one to two times per month, and two to six employees on-site for troubleshooting and maintenance requirements, approximately one to two times per month). Based on these trip generation rates, construction-related traffic was used in the assessment of the projects' cumulative impacts to local roadway operations.

To account for potential cumulative project traffic increases that may occur between existing conditions (2015) and the time of construction (2017), a 2.64 percent growth factor was applied to all existing 2010 traffic volumes throughout the project study areas. This 2.64 percent growth was assumed to conservatively represent the amount of traffic that may utilize the street system in the projects' vicinity proposed from future unapproved development and other solar energy projects planned in San Bernardino County, including those projects identified in Table 3-1. While it is most likely that these projects would be constructed sequentially over the course of the next few years, to be conservative, the cumulative analysis assumes that half of all construction traffic for all identified projects in the vicinity of the project study areas were assigned to the street system in addition to the 2.64 percent cumulative growth rate applied for the development projects.

As discussed above, the analysis revealed that the segment of SR 247 in the project vicinity would continue to operate at LOS A with the addition of project-related construction traffic. Although an increase in volume-to-capacity ratio would occur, the delay would be minimal. With the addition of both the solar and energy storage site and Calcite Substation site construction traffic, the volume-to-capacity ratio increases by 0.05. This increase in delay is considered less than significant and, therefore, is not cumulatively considerable. See **Appendix J** for additional details. Based on these findings, the projects would not result in cumulatively considerable traffic impacts.

Mitigation Measures: None required.

Level of Significance: Less than significant.

This page is intentionally blank.