

## Section 3.12 Transportation and Traffic

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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 largely based on the *Traffic Assessment and Trip Generation Report* prepared by Tetra Tech (2018a; see **Appendix K**) as well as the *Airport Safety and Compatibility Technical Memorandum* prepared by Tetra Tech (2018b; see **Appendix H-3**). Both reports were peer reviewed by Michael Baker International.

### **ENVIRONMENTAL SETTING**

The project site is located in San Bernardino County and bounded by the town of Daggett to the west; Interstate 15 (I-15) to the north; Barstow-Daggett Airport and Interstate 40 (I-40) to the south; and Newberry Springs to the east. Two freeways provide access to the project vicinity: I-15 and I-40. Other major roadways in the vicinity include National Trails Highway, Hidden Springs Road, Valley Center Road, and Minneola Road.

### **AREA ROADWAYS**

The following roadway segments were selected for review because of their proximity to the project site:

1. Hidden Springs Road
2. Silver Valley Road
3. Powerline Road
4. Minneola Road
5. Wildhorse Road
6. Valley Center Road
7. Sunray Lane
8. Santa Fe Street
9. National Trails Highway

**Exhibit 3.12-1, Traffic Study Area**, identifies the location of each roadway segments in relation to the project site.

### EXISTING TRAFFIC VOLUMES

**Table 3.12-1, Existing Roadway Conditions in the Project Area**, summarizes the information collected by the County's Department of Public Works, Traffic Division, using its database of average daily traffic (ADT) counts. A range is shown if multiple locations along a designated roadway (but close to the project) were measured for ADT counts. As shown, all area roadways operate at level of service (LOS) A.

**Table 3.12-1:  
Existing Roadway Conditions in the Project Area**

Roadway	Volume (ADT)	Level of Service (LOS)
Hidden Springs Road	485-892	A
Silver Valley Road	179	A
Powerline Road	No data	A (assumed)
Minneola Road	387-909	A
Wildhorse Road	21	A
Valley Center Road	64-708	A
Sunray Lane	No data	A (assumed)
Santa Fe Street	182	A
National Trails Highway	472	A

Source: Tetra Tech 2018a

## 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, 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 the California Department of Transportation (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 LOS at the transition between LOS C and LOS D for freeway facilities.

## **REGIONAL**

### ***San Bernardino County Congestion Management Program***

The passage of Proposition 111 in 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 the 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 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 (RTP).

## LOCAL

### ***County of San Bernardino General Plan***

The project site is located within the boundaries of the Desert Region, as identified in 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:

<b>GOAL D/CI 1</b>	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

### THRESHOLDS FOR DETERMINATION OF SIGNIFICANCE

A project would result in a significant impact 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*

<b>Impact 3.12-1</b>	<b>The project could 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 with mitigation.</b>
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## PROJECT-GENERATED TRAFFIC

### *Construction*

Construction vehicles would access the project site from I-40 and I-15. Primary access points to the project site are shown on **Exhibit 3.12-2, Preliminary Access Plan**, and include Santa Fe Street, Hidden Springs Road, Minneola Road, Valley Center Road and Silver Valley Road. Construction traffic generated by the project would occur primarily as a result of construction workers traveling to and from the project's access points. Traffic would also be generated by heavy equipment. However, once the vehicles are delivered to the site, they will generally stay on the site and will not generate daily trips. Vehicle traffic would also be generated by construction material deliveries.

During construction, the project would generate a maximum of 500 additional round trips per day from construction workers traveling to and from the project's access points. The modeled construction phasing and operation phasing and ADT counts are included in **Appendix K**. Construction vehicles would access the project site from I-40 and I-15. During construction, materials would be placed within the project boundaries adjacent to the then-current phase of construction. To prevent theft and vandalism, materials would be secured within fenced areas. Storage containers may be used to house tools and other construction equipment. In addition, security guards would regularly monitor the site.

Construction traffic generated by the project has the potential to cause temporary impacts to transportation and traffic in the area. Implementation of mitigation measure **TRA-1** would reduce construction-related traffic impacts because it requires the project applicant to receive a County approved Construction Traffic Control Plan prior to commencement of construction activities. Therefore, impacts would be less than significant with mitigation.

### ***Operation***

During operation, the project would generate a maximum of 8 additional round trips per day as facility operators travel to and from the site. Periodic module cleaning and quarterly maintenance activities would utilize 6 to 8 full-time workers for one to two weeks per quarter, or up to 40 cumulative days per year. Operational impacts would be less than significant.

### **Mitigation Measures**

**TRA-1** Prior to commencement of construction activities, the applicant shall prepare and submit a Construction Traffic Control Plan to the County in accordance with both the Caltrans (2014) California Manual on Uniform Traffic Control Devices (CA MUTCD) and the Work Area Traffic Control Handbook for review and approval by the County, which will include:

- Timing the delivery of heavy equipment and building materials under the contractors' control during non-peak commute hours, to the extent feasible.
- Directing construction traffic with a flag person.
- Placing temporary signing, lighting, and traffic control devices if required, including but not limited to appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic.
- Ensuring access for emergency vehicles to the project site.

- Temporarily closing travel lanes or delaying traffic during materials delivery, transmission line stringing activities, or any other utility connections.
- Designating bicycle and pedestrian detour plans if/where applicable.
- Maintaining access to adjacent property.
- Specifying both construction-related vehicle travel and oversize load haul routes, minimizing construction traffic during the a.m. and p.m. peak hours, distributing construction traffic flow across alternative routes to access the project site in a way that maintains level of service conditions at the time of construction, and avoiding residential neighborhoods to the maximum extent feasible.
- Coordinating the traffic control plan with the County, as well as potential traffic control plan adjustments, in the event of concurrent projects generating potentially overlapping traffic effects.
- Conducting additional traffic control plan coordination with Caltrans regarding the SR-58 Hinkley Expressway Project if construction of the proposed project occurs concurrently with construction of the expressway project.

**Level of Significance:** Less than significant with mitigation.

#### ***CONFLICT WITH A CONGESTION MANAGEMENT PROGRAM***

**Impact 3.12-2      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 Congestion Management Program prepared by SANBAG was reviewed with respect to the proposed project. The CMP defines a network of state highways and arterials, level of service standards, and related procedures, and provides technical justification for the approach. The roadway network in the project area is characterized by free-flowing traffic conditions, and vehicles on the roadway generally travel unimpeded by others. Most project traffic would occur during construction and therefore would be temporary in nature and thus would not conflict with the CMP standards. During operation, the project would generate a maximum of 8 additional

round trips per day as facility operators travel to and from the site. This minimal additional traffic would similarly result in no noticeable effect on traffic volumes or circulation patterns, and thus would not conflict with the CMP. This impact would be less than significant.

**Mitigation Measures:** None required.

**Level of Significance:** Less than significant.

#### **AIR TRAFFIC PATTERNS**

**Impact 3.12-3**      **The project could 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 with mitigation.**

Barstow-Daggett Airport, a County-owned, public-use, general aviation airport, is directly south of the project site. The project site is not within 2 miles of a private airstrip. The nearest heliport is the SCE Solar Heliport approximately 2.7 miles east of the site. The nearest military airport is the Twentynine Palms Strategic Expeditionary Landing Field, about 65 miles to the southeast.

The Airport Comprehensive Land Use Plan (ACLUP) for Barstow-Daggett Airport was prepared to comply with state planning law and is the primary land use document for the airport (County of San Bernardino 1992 and FAA 2012). The project is being designed in conformance with ACLUP policies and with input received from Airport and Fort Irwin Training Center staff. Additionally, an Obstruction Evaluation and Airspace Analysis was prepared by Capital Airspace Group for the project to identify aviation safety data necessary to be incorporated into the final project design (Tetra Tech 2018b; see **Appendix H-3**).

The ACLUP establishes land uses for the area in the vicinity of the airport. The plan area is divided into three Safety Areas, each of which reflects a particular level and type of hazard or risk within its borders. Portions of the project site are located within Safety Area 1 and Safety Area 3, although Safety Area 1 represents a relatively small portion of the overall project site. In general, land uses in Safety Review Area 3 are typically compatible with the airport's activities, while development in Safety Area 1 is more restrictive and prohibitive.

Safety Area 1 is designated as both a runway object-free area (OFA) and a runway protection zone (RPZ). The project portion within Safety Area 1 is located within the RPZ, while no project features are located in the OFA. The intention of the RPZ is to identify and preserve an area off each runway end that has significant potential for aircraft crashes during takeoffs and landings. Therefore, development in the RPZ is either prohibited or restricted based on FAA requirements.

Development, and associated design features, that might create glare, produce misleading lights, or lead to the construction of residences, fuel handling and storage facilities, smoke generating activities, and places of public assembly are prohibited in the RPZ. Furthermore, according to current FAA guidance, solar panels are prohibited within runway protection zones (RPZs). Therefore, impacts are potentially significant.

The applicant will be required to obtain a Determination of No Hazard from the Federal Aviation Administration (FAA) prior to issuance of building and grading permits from the County. Development of the project in the RPZ would be in accordance with guidance for Safety Review Areas, and in consultation with the FAA and Airport Land Use Commission (ALUC). FAA review and issuance of a Determination of No Hazard will require the project applicant would incorporate final design modifications and safety features (e.g., maximum height, clearance requirements) in accordance with the Obstruction Evaluation. In addition, project facilities including solar panels, fences and transmission line poles within the RPZ or Safety Area 1 would be reviewed by the FAA for compatibility with airport operations. If the FAA finds that development within the Safety Areas does not pose a hazard to airport activities based on height, glare, proximity to runways, and other air navigation safety factors, the FAA may issue a Determination of No Hazard, which gives the applicant approval to proceed with the project as designed. If the FAA finds that the structures within the RPZ do not comply with FAA requirements, the FAA may require project alterations, such as removing solar panels from the RPZ or undergrounding utilities, before a Determination of No Hazard is granted to the applicant. Potential impacts to airport operations and public safety would be reduced to a less than significant level with implementation of mitigation measure **HM-2** because the mitigation measure ensures that the applicant provides the County with a Determination of No Hazard prior to issuance of building and grading permits.

**Mitigation Measures:** The mitigation measure for Impact 3.12.3 is the same as mitigation measure **HM-2** which was previously described under Impact 3.8-5. Mitigation measure **HM-2** is repeated in this section for the reader's convenience.

**HM-2** Prior to issuance of building and grading permits, the Applicant shall provide to the County a Determination of No Hazard issued by the Federal Aviation Administration (FAA).

**Level of Significance:** Less than significant with mitigation.

**DESIGN FEATURES**

**Impact 3.12-4            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.**

Project impacts would be to roads near the site as workers travel to and from the site. The heaviest use would be during construction activities, during which up to 500 workers will travel to and from the site, in addition to daily material deliveries. Up to 8 workers will continue to access the project's O&M building on a daily basis during operations.

Off-site improvements would consist of the following (see **Exhibit 3.12-2**):

- Hidden Springs Road, from where the paved road ends to the north of Santa Fe Street through the project area to the access points
- Power Line Road, from Santa Fe Street to the access points

Additional widening of existing offsite paved roads may also be necessary to support emergency vehicles and would be identified in consultation with the County. Primary access points would be used by construction activities. Those access points would remain in place during operation of the project, but access would be limited to maintenance, washing, repairs to project equipment, and other activities that will occur infrequently. Lines of sight are not currently obstructed for existing traffic and would not be altered by the project and therefore conflicts with farm equipment are not anticipated. Therefore, 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.

**Mitigation Measures:** None required.

**Level of Significance:** Less than significant.

**INADEQUATE EMERGENCY ACCESS**

**Impact 3.12-5            The project could result in inadequate emergency access. Impacts would be less than significant with mitigation.**

The project includes paved access off National Trails Highway suitable for emergency vehicle access, and roads within the facility would be suitable for emergency vehicle use. As discussed above, mitigation measure **TRA-1** would require a flag person to direct construction traffic, ensure emergency vehicles have access to project site, and maintain access to adjacent properties. These actions would ensure that adequate emergency access is maintained. Therefore, impacts would be less than significant with mitigation.

**Mitigation Measures:** Implementation of mitigation measure **TRA-1**.

**Level of Significance:** Less than significant with mitigation.

#### ***ALTERNATIVE TRANSPORTATION***

**Impact 3.12-6**      **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. Impacts would be less than significant.**

The project area and surrounding roads were evaluated to see if any impacts would take place to alternative transportation modes, including off-highway vehicles (OHV), walking, bicycling, and mass transit.

#### ***OHV***

There are no identified OHV areas on the project site or in the immediate area. Therefore, the project is not anticipated to impact OHV transportation.

#### ***Bike Trails and Pedestrian Paths***

All roads near the project site are either two-lane paved roads or existing dirt roads, with no bike trails or paths nearby. The project is not anticipated to impact cycling or walking activities.

#### ***Public Transportation***

Mass transit opportunities are limited in the project area. The Victor Valley Transit Authority has a Route 5 dial-a-ride service that operates seven days a week between Barstow and the unincorporated communities of Daggett, Newberry Springs, and Yermo. The route travels I-40, I-15, and the National Trails Highway/Route 66. Impacts to this bus service are unlikely but possible due to construction work at the project site, especially if service occurs during peak traffic times when construction workers are driving to and from the project. However, impacts should be temporary and limited to the immediate project vicinity. No impacts are predicted during operations of the project.

Therefore, the project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, nor would it otherwise decrease the performance or safety of such facilities. Impacts would be less than significant.

**Mitigation Measures:** None required.

**Level of Significance:** Less than significant.

**CUMULATIVE IMPACTS**

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**Impact 3.12-7            The project would not result in a cumulative impact related to transportation and traffic. Impacts would be less than significant.**

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

As seen in **Table 3.12-1**, all the existing surrounding roadways operate at a level of service (LOS) of A. LOS is determined by the volume of vehicles that access the roadway on a daily basis, known as Average Daily Traffic (ADT). A roadway would be downgraded from LOS A to LOS B when the ADT reaches 1,200 vehicles. Traffic generated by the proposed project would occur primarily as a result of construction workers traveling to and from the project site while operation traffic impacts would be considered minimal given the disproportionate level of employees, approximately 500 construction employees compared to 6-8 operation employees. Construction vehicles would travel to the project site from Interstate 40 and National Trails Highway (Historic Route 66) then access the project on Hidden Spring Rd and Minneola Rd. Currently, the ADT for Hidden Springs Rd is 485-892 vehicles while Minneola Rd is 387-909.

As discussed in the project-specific trip generation analysis prepared for the project (Tetra Tech 2018a; see **Appendix K**), the proposed project would generate a maximum of 500 additional round trips per day for construction workers traveling to and from the project's access points. The ADT counts are for site activities that repeat daily, such as construction workers traveling to and from the site, and repeating material deliveries. Irregular or one-time deliveries to and from the project site, such as heavy equipment, will not have ADT counts. Construction traffic generated by this project has the potential to cause temporary impacts to transportation and traffic in the area. Due to the temporary nature of construction, these impacts will be short-lived. These impacts will be mitigated to a less-than-significant level with the development and implementation of a Traffic Control Plan as outlined in mitigation measure **TRA-1**.

Of the projects identified in **Table 3.0-1**, three of the projects would access their sites from I-40 and National Trails Highway; Sunpower Solar, Solar 33, and Solar 66. Construction of these projects would have an indirect cumulative impact on traffic if they were constructed at the same time as the proposed project because they would each generate additional traffic volumes temporarily as construction workers commuted to the project locations. Interstate 40 would accommodate most of the construction ADT because I-40 would be utilized for regional access while National Trails Highway would be used to access local sites, such as the City of Daggett. National Trails Highway operates at LOS A with an ADT of 472 vehicles, which should

accommodate cumulative impacts from the mentioned solar projects. Interstate 40 is a major east-west route that connects the project site to Barstow to the west and Needles to the east. Interstate 40 operates at LOS A which would accommodate foreseeable cumulative traffic impacts.

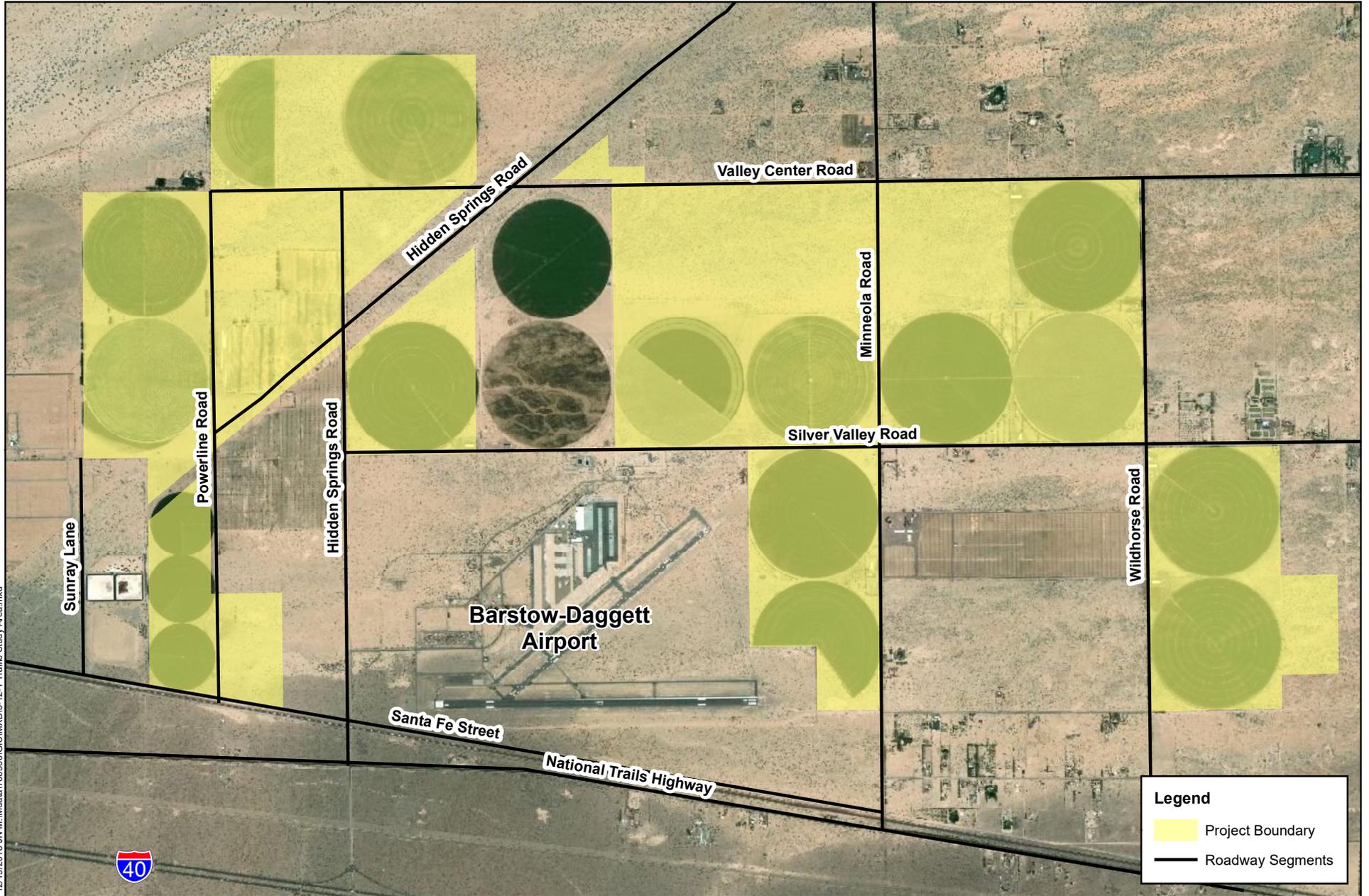
As discussed above, the analysis revealed that the roadways within the project vicinity would continue to operate at LOS A with the addition of project-related construction traffic. Although an increase in volume-to-capacity ratio would occur, the delay would be minimal. This temporary increase in traffic is considered less than significant and therefore would not result in a cumulatively significant impact. Accordingly, the proposed project would not result in a considerable contribution to a cumulative impact.

**Mitigation Measures:** None required.

**Level of Significance:** Less than significant.

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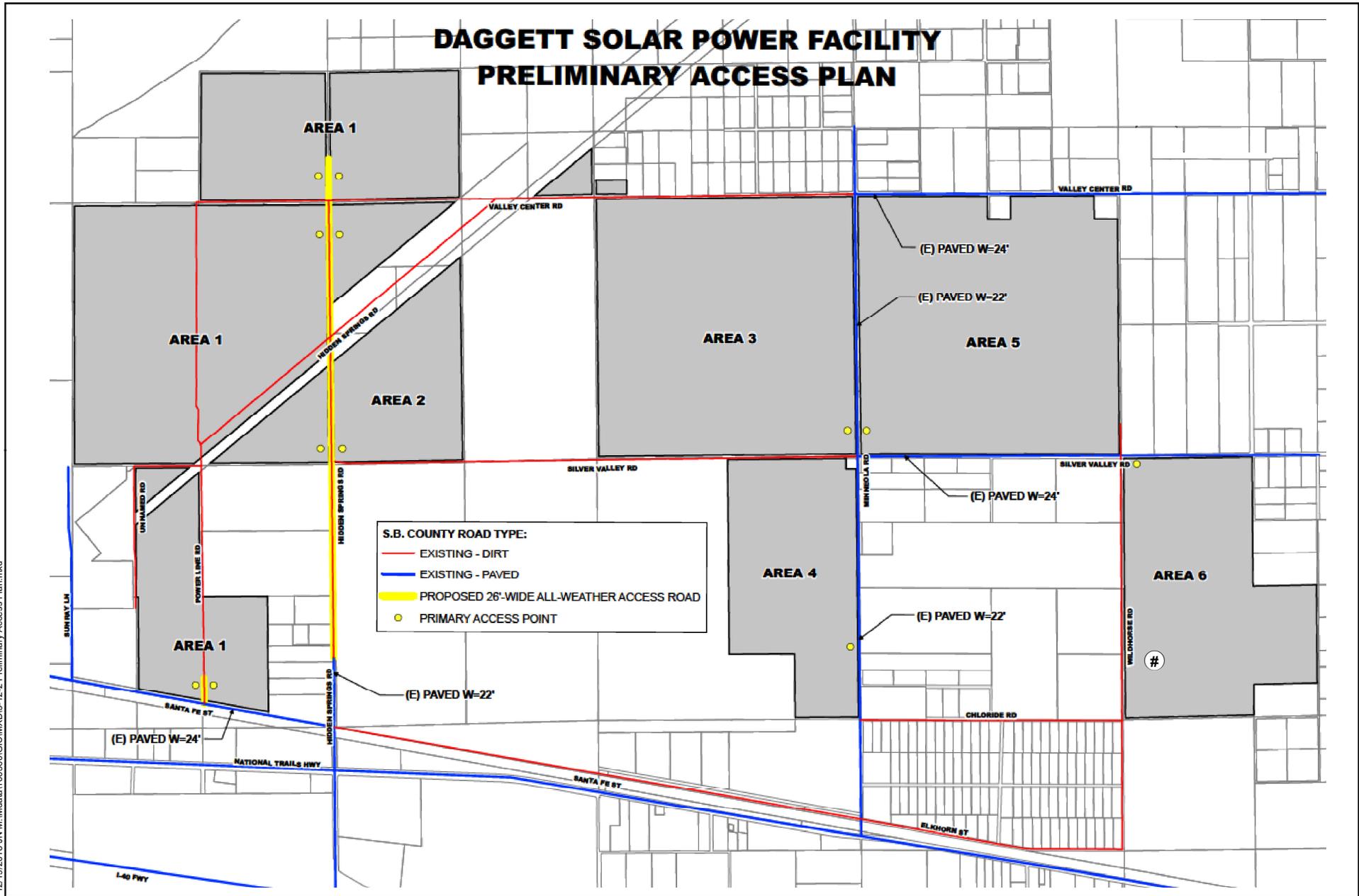
**Legend**

- Project Boundary
- Roadway Segments



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# DAGGETT SOLAR POWER FACILITY PRELIMINARY ACCESS PLAN



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Source: Tetra Tech

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