

# Technical Memorandum

February 26, 2025

Project# 29206

To: Lori Coleman, PMP  
SWCA Environmental Consultants  
20 E Thomas Rd, Ste 1700  
Phoenix, AZ 85012

From: Sam Liu, EIT; Fernando Sotelo, TE

RE: Seville 4 Project – Transportation Analysis Memorandum

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Apex Energy Solutions, LLC (Applicant) is proposing to develop a 145-megawatt (MW) solar photovoltaic (PV) energy generation facility on approximately 595 acres of land in unincorporated Imperial County. The facility would consist of two sections: Seville 4 with 90 MWs of energy and 180 MWs of battery storage, and Seville 5 with 65 MWs of energy and 130 MWs of battery storage. This memorandum provides a transportation analysis associated with the development of the Seville 4 site, referred in this memorandum as Project. A separate analysis was prepared for the Seville 5 section, as this memorandum only provides an assessment of the Seville 4 section.

Kittelison & Associates, Inc (Kittelison) prepared this trip generation technical memorandum for the Applicant to determine the expected transportation-related effects during Project construction and operations. The transportation analyses documented in this memorandum were performed to comply with CEQA transportation vehicle miles travelled (VMT) analysis and to assess transportation effects and consistency with the Imperial County Traffic Study and Report Policy Guidelines<sup>1</sup>. The report covers the following transportation analyses:

- Project trip generation and trip distribution
- LOS and site access analyses
- VMT Assessment

## PROJECT BACKGROUND

### PROPOSED PROJECT

The Project is a large-scale solar and battery energy storage development in unincorporated Imperial County. It consists of 90 MWs of energy and 180 MWs of battery storage. The solar facility will use photovoltaic technology modules mounted on horizontal single-axis tracker systems. Electricity generated by the solar modules will be collected and transmitted through underground or overhead collection lines to new on-site substations. Additionally, the Project includes a battery energy storage system (BESS) that will be constructed adjacent to the solar facilities, potentially using lithium-ion or flow batteries, connected through underground trenches. The Project site will be enclosed with six-foot-high security fencing and limited to authorized personnel access. Slat screening could be used at the County's discretion.

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<sup>1</sup> <https://publicworks.imperialcounty.org/wp-content/uploads/2019/12/TrafficStudyReportPolicy.pdf>

A detailed site plan of the Project can be found in Appendix A.

## LOCATION

The Project site is located along State Route 78, approximately 5.8 miles east of the unincorporated community of Ocotillo Wells. Adjacent land uses include the Ocotillo Wells Off-Highway Vehicle (OHV) State Recreation Area to the north, Solar Power Panels Power Plant to the east, and vacant land and the Tarantula Wash to the south and west. The Project site is approximately 0.5 miles east of Ocotillo RV Resort. A portion of land where the Project site is located is owned by Bureau of Land Management (BLM), but the remainder of the Project site is owned by Apex Energy Solutions, LLC.

The Project site overview and location can be visualized in Figure 1.

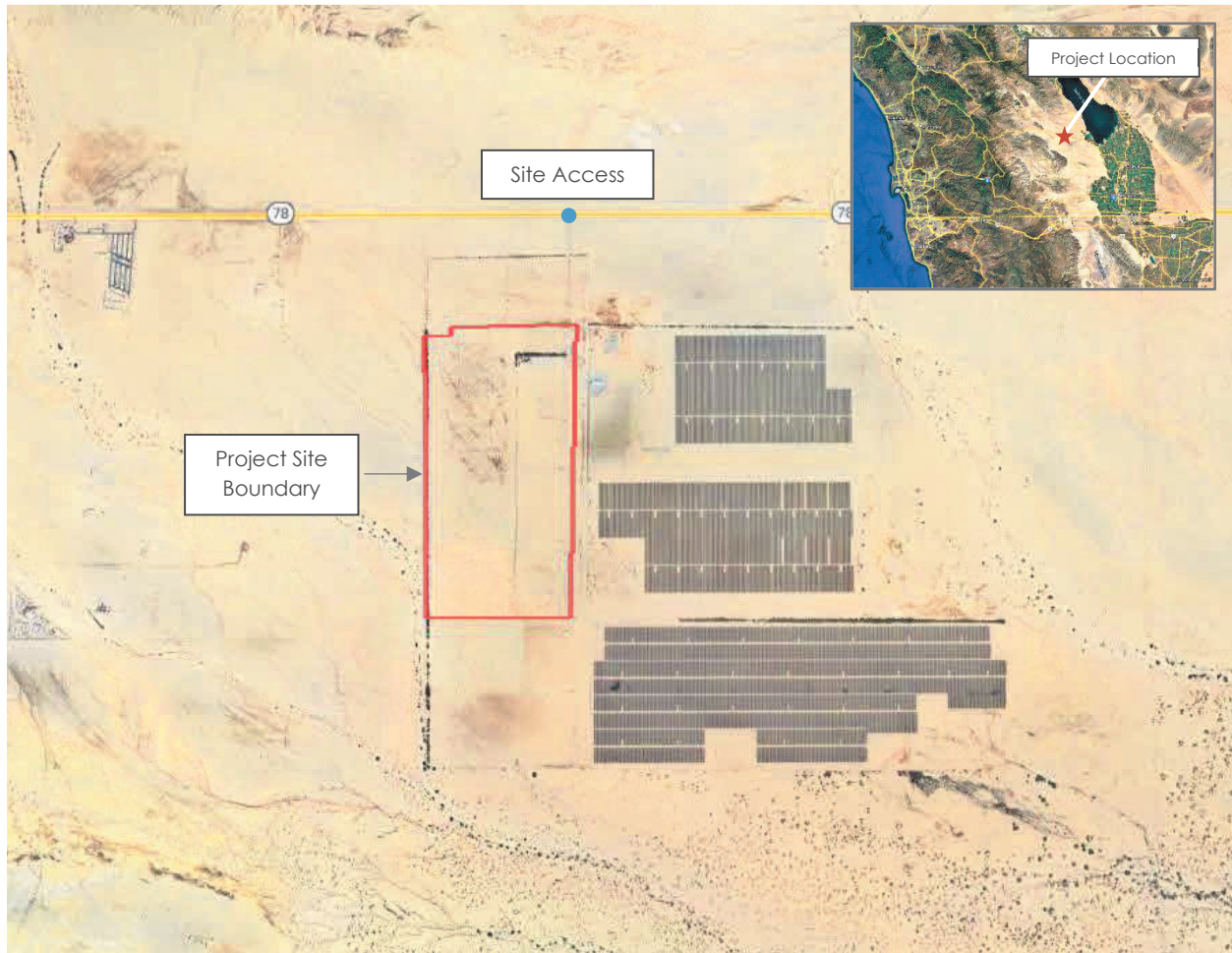
## ROADWAYS

The Project site is connected to the following regional and local roadway facilities:

- **State Route 78 (SR-78)** is a major east-west highway in California that traverses mountain grades into the Sonoran Desert, where it becomes a mostly rural highway. It starts at Interstate 5 in Oceanside, San Diego County, and ends at Interstate 10 near Blythe, Riverside County. SR-78 is a 2-lane undivided highway that provides access to the Project site via a local dirt road.

## TRANSIT, BICYCLE, AND PEDESTRIAN FACILITIES

There are no transit services, paved sidewalks, nor dedicated bike lanes in the area. The primary mode of travel in the vicinity of the site is vehicular travel.

**Figure 1: Project Site Overview and Location**

SOURCE: KITTELSON & ASSOCIATES, INC (2025)

## PROJECT TRAFFIC GENERATION

It is anticipated that construction activities would last approximately 12 to 18 months with the Project operation starting in 2026. Project-related trip estimates were calculated to assess the Project's traffic impact on local roads during construction and while the solar farm is in operation.

### TRIP GENERATION

For all trip generation estimates, a passenger car equivalent (PCE) factor is applied to truck trips to account for the fact that trucks utilize more capacity on the roadway than a passenger car due to larger size and slower acceleration. A PCE factor of 2.0 for trucks was used for this analysis, based on the guidance for PCE factors found in the Highway Capacity Manual, 7<sup>th</sup> Edition.

### DURING CONSTRUCTION

Construction activities for the Project would take place between 6:30 am and 5:00 pm, five days a week, weather permitting. The delivery of materials would occur over approximately three weeks, with two to three

truck deliveries per week from the south via Parkside Drive and SR-111. Most of the deliveries would be for the solar array installation and any necessary aggregate material for road base. During construction, minimal water usage would be required primarily for dust control, sourced from on-site wells.

Project construction would involve grubbing and grading new construction areas, trenching for underground electrical conduit, installing solar equipment, graveling new access roads, pouring concrete foundations if necessary, and installing substation and switching station apparatus. The installation of photovoltaic (PV) modules would involve the use of small cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other appropriate construction equipment. Construction equipment would be transported to the site on "low-bed" trucks unless the equipment can be driven directly to the site, such as boom trucks.

It is anticipated that daily vehicle traffic would be primarily comprised of worker's passenger cars/light trucks, worker shuttles, delivery trucks, dump trucks, waste hauling trucks, and crane equipment vehicles during the construction period.

The workforce for onsite construction activities includes laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel. The Project would have between 15 and 25 construction workers onsite, depending on construction activities. To be conservative, it has been assumed 25 workers will arrive during AM peak and leave during PM peak.

While passenger vehicle trips associated with the workforce are expected to be a daily occurrence during construction, heavy vehicle trips would vary throughout the construction period. Project materials would be brought over the course of approximately six weeks, with deliveries between six and eight trucks, twice a week for the six-week timespan. Moreover, most construction and delivery trucks are expected to arrive and depart the site throughout the workday. It has been assumed that 50% heavy duty trucks would arrive during AM peak and leave during PM peak. The remaining number of trucks are to be distributed evenly throughout the remaining construction hours.

The construction trip generation is shown in Table 1 and has been calculated for total trips and PCE. The trip generation estimate reflects a worst-case condition with the maximum number of construction workers on site and the anticipated maximum heavy duty truck activity during the construction period. Table 1 summarizes the daily trip generation during Project construction.

**Table 1: Project Construction Daily Trip Generation**

| Trip Type         | Number of Workers/ Trucks | Vehicle Trips |              |              | Passenger Car Equivalent (PCE) Trips |              |              |
|-------------------|---------------------------|---------------|--------------|--------------|--------------------------------------|--------------|--------------|
|                   |                           | Daily         | AM Peak Hour | PM Peak Hour | Daily                                | AM Peak Hour | PM Peak Hour |
| Workers           | 25                        | 50            | 25           | 25           | 50                                   | 25           | 25           |
| Heavy Duty Trucks | 13                        | 26            | 7            | 7            | 52                                   | 14           | 14           |
| <b>Total</b>      |                           | <b>76</b>     | <b>32</b>    | <b>32</b>    | <b>102</b>                           | <b>39</b>    | <b>39</b>    |

Notes:

Water will be sourced from on-site wells.

SOURCE: KITTELSON & ASSOCIATES, INC (2025)

## POST-CONSTRUCTION (OPERATIONS)

After the completion of construction, the Project will be remotely controlled, eliminating the need for on-site employees. Primary security monitoring will also be conducted remotely. However, security personnel will perform unscheduled rounds and respond to alarms or fence breaches when necessary. The facility will not be accessible to the public, and access will be infrequent and limited to authorized personnel.

To maintain the power generation efficiency of the PV modules, periodic washing is planned twice a year to remove dust. During this period, workers will be on-site for minor repairs, panel washing, equipment inspection, and area maintenance. An estimated total of up to 22,500 gallons or 0.069 acre-feet of water will be needed annually for this purpose. Water will be sourced from an on-site well.

The operations trip generation is shown in Table 2 and has been calculated for total trips and PCE. The trip generation estimate reflects a worst-case condition with the maximum number of construction workers on site and the anticipated maximum heavy duty truck activity during the construction period. Table 2 summarizes the daily trip generation during post-construction (operations).

**Table 2: Project Post-Construction Trip Generation**

| Trip Type    | Number of Workers/ Trucks | Vehicle Trips |              |              | Passenger Car Equivalent (PCE) Trips |              |              |
|--------------|---------------------------|---------------|--------------|--------------|--------------------------------------|--------------|--------------|
|              |                           | Daily         | AM Peak Hour | PM Peak Hour | Daily                                | AM Peak Hour | PM Peak Hour |
| Workers      | 6                         | 12            | 6            | 6            | 12                                   | 6            | 6            |
| <b>Total</b> |                           | <b>12</b>     | <b>6</b>     | <b>6</b>     | <b>12</b>                            | <b>6</b>     | <b>6</b>     |

Notes:

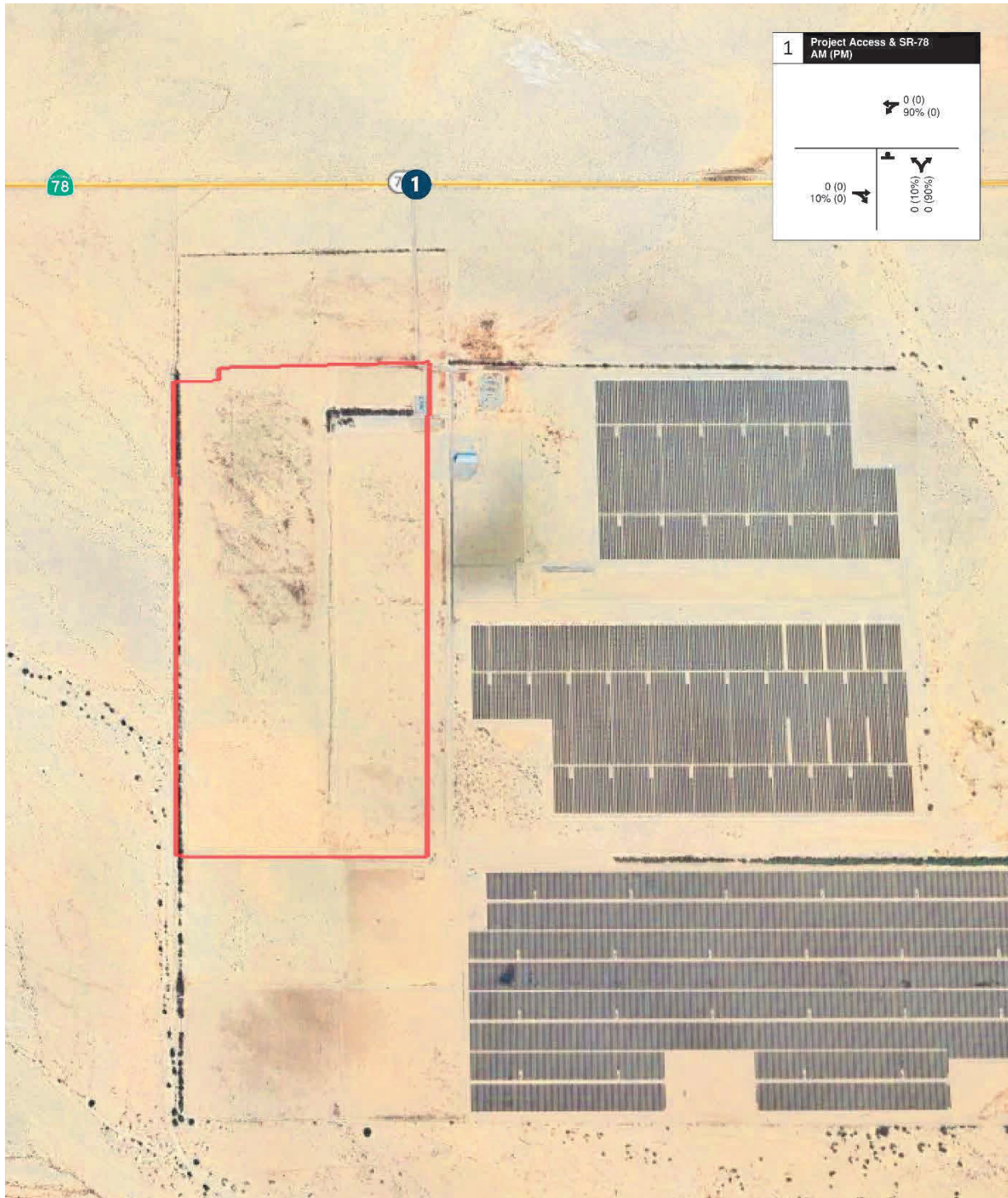
Water will be sourced from on-site wells.

SOURCE: KITTELSON & ASSOCIATES, INC (2025)

## TRIP DISTRIBUTION

The Project's trip distribution was developed based on a review of the adjacent roadway network and surrounding land uses to determine anticipated origins and paths of travel. It is assumed that 90 percent of the workforce would commute daily to the jobsite from communities east of the Project site during both construction and operations. The remaining 10 percent were assumed to commute from communities west of the Project site. Trip distribution for the study area intersections during the weekday AM and PM peak hours are shown in Figure 2.

Figure 2: Project Trips Distribution (% of Total Trips Generated)



SOURCE: KITTELSON & ASSOCIATES, INC (2025)

## LEVEL-OF-SERVICE AND SITE ACCESS ANALYSES

The existing roadway conditions and proposed site plan were assessed in conjunction with the anticipated project traffic during construction and operations to determine if improvements are necessary to accommodate an increase in traffic from the Project to the circulation network.

### LEVEL-OF-SERVICE (LOS) ANALYSIS

The Imperial County Traffic Study and Report Policy Section C.1.b, states that projects that generate no more than 200 vehicle trips during peak hours are not required to have a detailed LOS analysis. Since the total number of trips generated do not exceed 200 peak hour trips, a detailed LOS analysis is not required for both project construction and operations. As previously discussed, the Project would generate a negligible amount of trips during long-term operations, as it would be operated mostly remotely. No long term impacts to the circulation system would occur as the Project would not generate a nominal amount of traffic to the circulation system.

### SITE ACCESS

Access to the site will be via an existing driveway that connects to SR-78 in the northeast section of the Project site. The access driveway approximately 9 miles west of State Route 86, a paved intersection with a stop control is located at the northbound approach at the intersection. All temporary construction parking and staging areas will be onsite. Additionally, the site plan indicates that there will not be any landscaping or other additions that will obstruct sight distance. There appears to be no visual obstructions and no significant topography changes from the Project access point.

## VEHICLE MILES TRAVELLED (VMT) ASSESSMENT

Senate Bill 743 (SB 743) was signed into law in September 2013. It required changes to the California Environmental Quality Act (CEQA) Guidelines specifically related to the analysis of transportation impacts. Prior to SB 743, transportation analyses under CEQA focused on factors such as roadway delay and capacity at specific locations. However, SB 743 introduced significant changes by eliminating the use of auto delay, level of service (LOS), and similar measures of vehicular capacity or traffic congestion as the basis for determining significant impacts. Instead, SB 743 identified VMT as the most appropriate metric for evaluating a project's transportation impacts. This means that since the bill took effect, automobile delay measured by LOS and similar metrics no longer qualifies as a significant environmental effect under CEQA. However, LOS can still be used as a measure for local agency planning purposes. The goals of SB743 are to promote a reduction in greenhouse gas emissions, promote a diversity in land uses and to promote non-auto travel.

As of July 1, 2020, compliance with SB 743 and the use of SB 743-compliant CEQA analysis became mandatory for land use and transportation projects. These changes have been officially approved and are currently in effect.

The State Office of Planning and Research's (OPR) interpretation of CEQA Guidelines § 15064.3 suggests that VMT analysis in the Transportation section of a CEQA document should be focused on automobiles and light duty truck trips. Therefore, vehicle trips mentioned in this section do not include trips that are from heavy duty trucks such as water-transporting and construction trucks.

## SCREENING CRITERIA

CEQA analysis requires an evaluation of project impacts related to VMT. However, a detailed CEQA assessment is not required for land use elements of a project that meet certain screening criteria. To be screened out of a detailed VMT analysis, a project or project component would need to satisfy at least one of the VMT screening criteria. A summary of OPR's screening criteria and determinations are listed below:

- **Small Project Size:** Projects generating less than 110 trips per day may be considered to have an insignificant impact on VMT. This threshold is not VMT-based but relates to the CEQA categorical exemption for existing facilities and additions to existing structures up to 10,000 square feet.
- **Projects Within Transit Priority Areas:** Projects, including residential, retail, and office projects, as well as mixed-use projects within a ½ mile of an existing major transit stop or along a high-quality transit corridor, are generally presumed to have a minor impact on VMT. This presumption is not valid if project-specific or location-specific information indicates significant VMT levels. An existing major transit stop is defined as a site with a rail transit station, a ferry terminal served by bus or rail transit, or the intersection of multiple major bus routes with frequent service during peak commute periods.
- **Local-Serving Retail:** Projects categorized as local-serving retail are presumed to have an insignificant impact on VMT.
- **Redevelopment Projects Resulting in Net VMT Reduction:** Redevelopment projects that would decrease VMT, meaning the proposed land use generates less VMT than the existing use, may be considered to have an insignificant impact on VMT.
- **Affordable Housing:** The OPR's technical advisory provides special considerations for affordable housing. Projects that consist of 100% affordable housing in infill locations are presumed to have a minor impact on VMT. Infill locations generally offer better access to transit and more opportunities for walking and cycling. The definition of infill locations is determined based on local conditions.

## SCREENING DETERMINATION

It is anticipated that the Project will generate less than 110 daily one-way trips during Project construction and operations. Therefore, the Project screens out as a small project during both construction and operations and is not anticipated to result in a significant VMT impact due to low long-term operational traffic.

**Table 3: VMT Screening Summary**

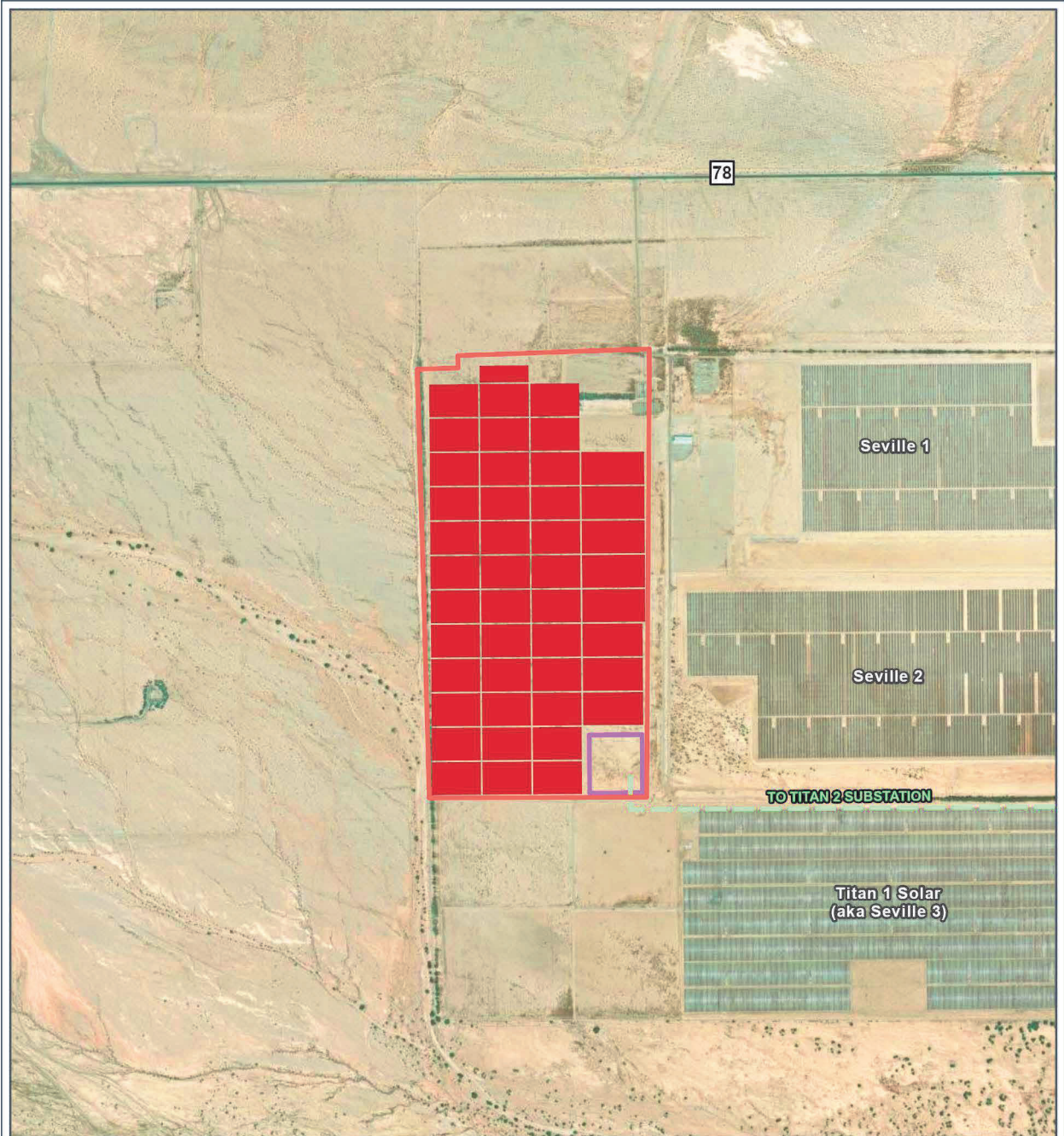
| VMT Screening Criteria             | Criterion Met? | Reasoning  |
|------------------------------------|----------------|--|
| Small Projects                     | Yes            | <b>The Project would generate up to 50 and 12 net new daily primary vehicle trips (non-truck trips) during construction and operations, respectively</b> and therefore would screen out of a detailed VMT analysis for both scenarios. |
| Projects Near High Quality Transit | No             | The Project is not located in a near high-quality transit and is not screened out under this criterion.  |
| Local-Serving Retail               | No             | The Project is not considered local-serving retail.  |
| Affordable Housing                 | No             | The Project is not part of a residential project and is not screened out under this criterion.   |
| Redevelopment Projects             | No             | The Project would likely generate more daily total VMT since the land is currently open area and is not screened out under this criterion.   |

SOURCE: KITTELSON & ASSOCIATES, INC (2023)

## SUMMARY

It is anticipated that daily vehicle traffic would be primarily comprised of worker's passenger cars/light trucks, worker shuttles, delivery trucks, dump trucks, waste hauling trucks, crane equipment vehicles, and portable toilet trucks during the construction period. The highest number of trips would generally be from construction workers traveling to and from the site each day. After the construction is finished and the Project site is in operation, traffic volumes in the area will be relatively low. The Solar Field operation requires only a few daily trips to the site for security, maintenance, and repairs and would generate a negligible number of trips. In result, the total number of trips during both construction and operations do not exceed 200 peak hour trips and 110 daily automobile/light-duty vehicle trips. Therefore, the Project screens out of a detailed LOS and VMT analysis as it is considered a small project during both construction and operations with no significant VMT impact due to low long-term operational traffic.

**APPENDIX A**  
Site Plan



- Project Site
- Substation and Battery Storage
- 92 KV Gen-tie
- PV Arrays

Imperial County, CA  
 NAD 1983 UTM Zone 11N  
 37.4183°N 119.2589°W



1:24,000



*Base Map: Esri ArcGIS Online,  
 accessed February 2025  
 Updated: 2/20/2025  
 Project No. 79383  
 Layout: 79383\_ProjectArea  
 Aprx: 79383\_Seville\_Solar\_CR\_Geo*

**SWCA**  
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