Appendix L

Transportation Assessment Technical Memorandum

Kimley»Horn

TECHNICAL MEMORANDUM

To:	Desert Breeze Solar, LLC
From:	Jessie Fan, Kimley-Horn and Associates, Inc.
Date:	September 6, 2022
Subject:	Desert Breeze Solar Project – Transportation Assessment Technical Memorandum

Purpose

The purpose of this memorandum is to evaluate transportation impacts as a result of the Desert Breeze Solar Project (Project), located in unincorporated Hinkley, California.

Project Location

The Project is in an unincorporated area of the County of San Bernardino (County) in the community of Hinkley, CA, approximately seven (7) miles northwest of the intersection of Harper Lake Road and Mojave-Barstow Highway 58 (shown in **Figure 1**, *Regional Vicinity Map*). The Project would be developed on an approximately 923-acre Project Site, comprised of an 813-acre solar array development area and a 110-acre Shared Facilities Area (SFA). The Project Site consists of area within two parcels: County Assessor's Parcel Numbers (APN) 0490-223-33, which is currently vacant; and APN 0490-101-56, which contains existing shared infrastructure and support facilities for the adjacent solar facilities. The Project Site is bordered on the south by existing and approved solar facilities; Harper Lake Road to the east; Hoffman Road to the west; and Maltice Drive to the north (shown in **Figure 2**, *Local Vicinity Map*).

The Project Site is bordered on the south by the Lockhart Solar PV II Project (Lockhart II; PROJ-2021-00029), approved by the County on June 28, 2022, and the Lockhart Solar PV Facility (Lockhart I; PROJ-2019-00125), approved by the County on January 7, 2020. The Lockhart I project area is comprised of the former Solar Energy Generating System (SEGS) VIII Solar Thermal Plant site (now decommissioned) and the existing SEGS IX Solar Thermal Plant. Existing SEGS VIII and IX facilities within the SFA include the Operation and Maintenance (O&M) building, warehouse, employee building, switchyard and other supporting facilities.

The Project proposes improvement of a portion of Harper Lake Road, which is an existing off-site dirt road. Construction activities associated with the road improvement will include grading to widen or level the existing road; importing and compacting materials, such as soil and gravel; and may include paving. The road improvement may extend up to approximately 60 feet wide and approximately 1 mile long from the southeastern corner of Hoffman Road and Harper Lake Road (adjacent to the east of SEGS IX) to the existing secondary access gate. This road would provide construction vehicle access for construction activities in the eastern portion of the solar array area, as well as vehicle access during Project O&M.

SOURCE: Nearmap, 2022

N.T.S.

FIGURE 1: Regional Vicinity Map

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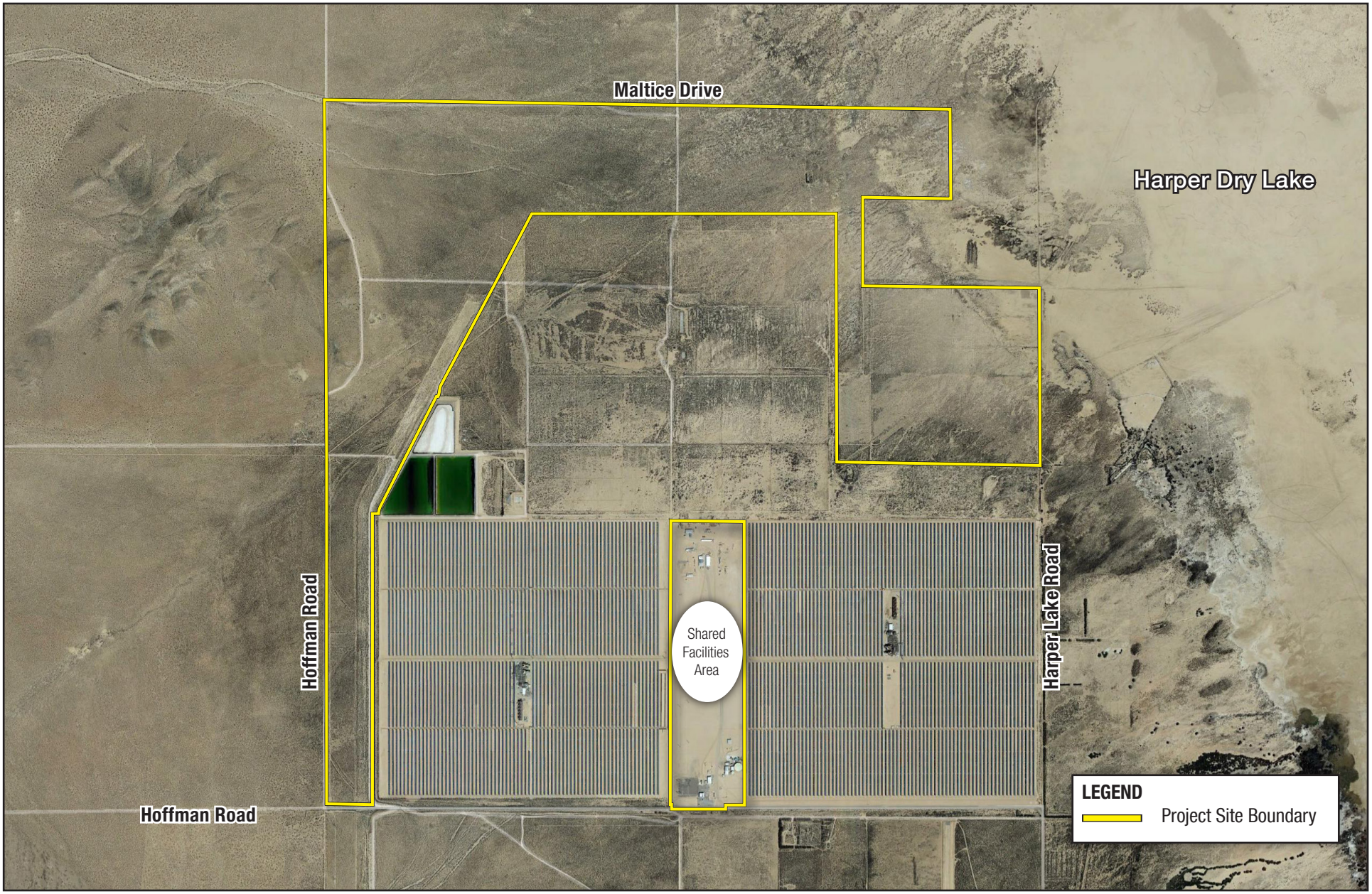

SOURCE: Nearmap, 2022

N.T.S.

FIGURE 2: Local Vicinity Map

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Existing Conditions

According to the California Department of Transportation (Caltrans) Traffic Census Program, Highway 58 east and west of Harper Lake Road carried approximately 12,500 vehicles per day in 2019 or 1,400 peak hour trips. Highway 58 is a four-lane facility with a level of service (LOS) C capacity of 1,430 passenger cars per hour per lane (pc/hr/ln) according to Caltrans Guide for The Preparation of Traffic Impact Studies (December 2002). As a four-lane roadway, Highway 58 has a capacity of 5,720 (4 lanes x 1,430) pc/hr.

At the two-way stop-controlled intersection of Highway 58 and Harper Lake Road, an approximately 650-foot left-turn lane is provided for the eastbound to northbound left-turn movement onto Harper Lake Road. In addition, the intersection provides an approximately 500-foot acceleration lane for traffic making a southbound to eastbound left-turn movement. Existing peak hour traffic on Harper Lake Road turning left or right onto Highway 58 is anticipated to be low and thus traffic operations are expected to be acceptable.

Project Description

The Project is a utility scale solar photovoltaic (PV) electricity generation and energy storage facility that would produce up to 130 megawatts (MW) of solar power and include up to 2 gigawatt hours (GWh) of energy storage capacity in a battery energy storage system (BESS) within an approximately 923-acre Project Site comprised of an 813-acre solar array development area and a 110-acre SFA. The Project is located within the County and is sited adjacent to similar existing and approved solar facilities and infrastructure.

The Project would share existing support facilities with the Lockhart I and Lockhart II Facilities (e.g., O&M building, warehouse, employee building, water and septic systems, switchyard and electrical transmission infrastructure), and a new collector substation (approved and to be constructed as part of Lockhart I) within the approximately 110-acre SFA. The Project would utilize an existing 13.8-mile transmission line which runs from the SFA to the point of interconnection at the Southern California Edison (SCE)-owned Kramer Junction substation.

Project Trip Generation

Project Construction

Project construction is anticipated to be completed over a period of up to approximately 18 months. For the purpose of estimating construction trips, Project construction activities include site preparation, grading, and facilities construction/installation. The on-site construction workforce is expected to peak at approximately 250 individuals; however, the average daily workforce on-site is expected to be between 180 and 200 construction, supervisory, support, and construction management personnel. Construction would primarily occur during daylight hours, Monday through Saturday, between 7:00 AM and 7:00 PM, as required to meet the construction schedule. Any construction work performed outside of the normal work schedule would be coordinated with the appropriate agencies and would conform to the County Noise Ordinance.

Table 1, *Estimated Project Construction Trip Generation,* provides a summary of estimated Project construction-related trips.

Table 1: Estimated Project Construction Trip Generation

Description	Quantity	Duration[1]	Total Daily Trips[2]	AM Peak Hour[3]		PM Peak Hour[3]	
				Total	In/Out	Total	In/Out
Site Preparation							
Employees	250 Peak Employees	22 Days	282	141	141 / 0	141	0 / 141
Total Estimated Trip Generation – Site Preparation			*282*	*141*	*141 / 0*	*141*	*0 / 141*
Grading							
Employees	250 Peak Employees	90 Days	282	141	141 / 0	141	0 / 141
Truck Hauling	1,250 Loads (1-way)		28	4	2 / 2	4	2 / 2
Total Estimated Trip Generation – Grading			*310*	*145*	*143 / 2*	*145*	*2 / 143*
Facilities Installation							
Employees	250 Peak Employees	275 Days	282	141	141 / 0	141	0 / 141
Truck Delivery	565 Vendor Trips (1-way)	113 Days	10	2	1 / 1	2	1 / 1
Total Estimated Trip Generation – Facilities Installation			*292*	*143*	*142 / 1*	*143*	*1 / 142*

Notes:
1. Duration refers to the number of working days (Monday – Saturday), not calendar days.
2. Daily trip rates for truck hauling/delivery were derived by dividing the number of loads/vendor 1-way trips by the estimated number of working days (duration) and then multiplying by 2 to account for inbound and outbound trips. Daily trip rates for employees were based on the San Bernardino Average Vehicle Occupancy (AVO) rate of 1.77 (Southern California Association of Governments, *Year 2000 Post-Census Regional Travel Survey, Table 12*, dated 2003) and one inbound and one outbound trip for a total of 2 per day.
3. Truck trips are expected to be spread throughout the workday, which is from 7 AM to 6 PM. Therefore, the AM and PM peak hour volumes assumed 20 percent of the daily trips occurred during the peak hours.

During site preparation activities over a period of approximately 22 working days, a peak of 250 employees was assumed on-site during site preparation. As shown in **Table 1**, site preparation is estimated to generate approximately 282 daily trips with 141 AM and 141 PM peak hour trips.

During Project grading, 1,250 one-way truck loads importing engineered materials (road base, cement stabilization materials, rock surfacing, riprap, engineered trench backfill, etc.) is assumed for approximately 90 working days. This translates to approximately 28 truck trips per day. A peak of 250 employees was assumed to be on-site during grading activities. As shown in **Table 1**, approximately 310 daily trips, with approximately 145 AM and 145 PM peak hour trips, are estimated during Project grading activities.

During facilities installation, 565 deliveries are expected to arrive on-site over a period of 113 working days. This translates to approximately 10 deliveries per day. As stated, a peak of 250 construction employees was assumed to be on-site during facility installation. As shown in **Table 1**, the estimated

trip generation for this phase is approximately 143 daily trips with 254 AM and 143 PM peak hour trips.

With 145 additional peak hour vehicles during construction, the total peak hour volume on Highway 58 during construction would be 1,545.[1] This translates to a volume to capacity ratio of 0.27 (1,545 / 5,720) which would represent an acceptable level of service (i.e., LOS C or better). Daily traffic volumes on Harper Lake Road are anticipated to be very low (approximately 100 daily vehicles) since this roadway primarily serves the Lockhart I facility. Traffic associated with each of the construction phases is considered temporary and is not expected to negatively impact the current operations of the surrounding roadway network. Therefore, the additional traffic during construction is not expected to negatively impact existing traffic operations near the Project Site.

Project Operation

Typical O&M activities for the Project include but are not limited to, facility monitoring; administration and reporting; remote operations of inverters, BESS system and other equipment; site security and management; communication protocol; repair and maintenance of solar facilities, substation, electrical transmission lines, and periodic panel washing. The existing SEGS operations staff would continue supporting operation of the Project's facilities. Therefore, the Project would not generate additional daily and peak hour vehicle trips on the surrounding roadway network as a result of routine O&M.

Solar panel washing is expected to occur one to four times per year and general labor (up to 10 individuals) may assist in the panel cleaning. Therefore, it was assumed that the Project would generate approximately 40 trips per year associated with solar panel washing activities. From a daily and peak hour perspective, these trips are considered nominal and would not be expected to impact the existing road network near the Project Site including Highway 58.

Vehicle Miles Traveled

The San Bernardino County Transportation Impact Study Guidelines (TISG) dated July 9, 2019 was used as a resource for determining whether a vehicle miles traveled (VMT) analysis is required for the Project. According to the County's TISG, land use projects that meet certain screening criteria, listed in **Table 2**, *VMT Screening Criteria and Project Evaluation*, below, are assumed to result in a less-than-significant transportation impact under CEQA and do not require a detailed quantitative VMT assessment. Each of the screening criteria identified in the County's TISG and an evaluation of the screening criteria for the Project are discussed below in **Table 2**.

[1] The 1,545 total peak hour volume is based on 1,400 vehicles during the peak hour plus the 145 AM or PM peak hour trips.

Table 2: VMT Screening Criteria and Project Evaluation			
Screening	**Screening Criteria**	**Project Evaluation**	**Result**
Local Community Projects	The following list of projects would be screened out: • K-12 Schools • Local-serving retail less than 50,000 SF • Local parks • Day care centers • Local serving gas stations • Local serving banks • Student housing projects • Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS	Project is a solar and energy storage facility, and is not considered a local community project.	Does Not Meet Criteria
Trip Generation Threshold	Projects generating less than 110 daily vehicle trips such as: • 11 single-family housing units • 16 multi-family, condominium, or townhouse units • 10,000 SF of office • 15,000 SF of light industrial • 63,000 SF of warehouse • 79,000 SF of high cube transload and short-term storage warehouse • 12 hotel rooms	Project generates less than 110 daily vehicle trips since the new trips generated by the Project is estimated at 40 trips per year for washing solar panels.	Criteria is Met
Transit Priority Area	Projects located within a Transit Priority Area as determined by the most recent SCAG RTP/SCS	The Project is not located within a TPA.	Does Not Meet Criteria
Low VMT Area	Projects located within a low VMT generating area as determined by the analyst based on the County's VMT efficient area maps online at https://www.arcgis.com/apps/webappviewer/index.html?id=779a71bc659041ad995cd48d9ef4052b.	The Project is not located within a low VMT generating area.	Does Not Meet Criteria

While the Project is not located within a Transit Priority Area (TPA) and is not located within a Low VMT Area, the Project would generate less than 110 daily vehicle trips. As such, the Project would meet one of the screening criteria identified in the County's TISG, and a detailed quantitative VMT assessment is not required. Therefore, the Project is considered to have a less-than-significant transportation impact.

Summary and Conclusion

Project construction is anticipated to be completed over a period of up to approximately 18 months, during which it was conservatively assumed that a peak of 250 employees would travel to and from the Project Site on a daily basis Monday through Saturday. This translates to approximately 282 daily vehicle trips during Project construction. The highest volume of construction-related traffic is expected during Project grading activities generating approximately 310 daily trips (282 employee

trips and 28 truck trips) with 145 AM peak hour trips and 145 PM peak hour trips. The roadway network in the vicinity of the Project Site is characterized by free-flowing traffic conditions. Construction traffic is considered temporary (approximately 18 months) and therefore is not expected to negatively affect existing roadway operations near the Project Site.

Project operations would generate approximately 40 new vehicle trips per year for solar panel washing activities. Existing employees serving the SEGS VIII and IX facilities, will continue O&M activities associated with the Project. Therefore, no new daily vehicle trips would be generated by Project operations.

The results of the VMT screening analysis show that the Project meets one of the screening criteria (i.e., trip generation threshold). Therefore, the Project is considered to have a less-than-significant transportation impact, and a detailed quantitative VMT assessment is not required.