APPENDIX K
TRAFFIC IMPACT ANALYSIS

TRAFFIC IMPACT ANALYSIS

FOR THE
DESERT QUARTZITE SOLAR PROJECT
RIVERSIDE COUNTY, CALIFORNIA

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January 2016

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SECTION 1.0
PROJECT OVERVIEW

1.1 INTRODUCTION

Desert Quartzite, LLC (Applicant), proposes to develop and construct a 300-megawatt (MW) alternating current photovoltaic solar facility known as the Desert Quartzite Solar Project (Project). The overall Project includes the solar generation facility, an on-site substation, and a generation-tie (gen-tie) line. The proposed Project is located in eastern Riverside County near Blythe, California. The proposed solar facility and the approximately 3-mile-long, 230-kilovolt (kV) gen-tie line interconnection to the existing Southern California Edison (SCE) Colorado River Substation (CRSS) are located primarily on lands administered by the U.S. Department of the Interior, Bureau of Land Management (BLM) (BLM CACA# 04937; 5,115 acres). The Project site also includes 160 acres of private land (APN 879-110-001). The overall Project site encompasses approximately 5,275 acres. The proposed solar facility would be constructed within an approximately 3,714-acre fenced portion of the overall Project site. The gen-tie line study corridor encompasses approximately 445 acres of BLM lands within the overall Project site. A vicinity map of the proposed Project (i.e., including BLM and privately-owned lands) is presented on Figure 1-1 and the proposed preliminary site layout is presented on Figure 1-2. Figures 1-1 and 1-2 are presented at the end of Section 1.0.

Site access will be via Interstate 10 (I-10) at the State Route (SR)-78 to SR-78 (south)/Neighbours Boulevard to 16th Avenue/Seeley Avenue (west).Project construction is anticipated to require from approximately 25 to 48 months to complete, and is expected to start in late 2016. This analysis is based on an assumed approximately 25-month construction timeframe which is considered to be worst case for impact assessment purposes. The construction workforce is estimated to result in an average of 450 (round trip) vehicles per day (21 working days per month), with a maximum of 810 (round trip) vehicle trips per day during peak construction. The workforce is expected to commute to the site from within an average distance of 35 miles from the Project site and is expected to arrive at the Project site by 7 a.m. and to depart at 5 p.m. each day (i.e., avoid 7–9 AM peak traffic period but not the 4–6 PM peak period); it is common that a fairly large portion of the workforce voluntarily carpools regularly. In addition to commute trips by construction workers, approximately 14,400 truck deliveries (i.e., 14,400 round trips or 28,800 one way trips) of equipment, materials, and fuel for on-site construction equipment are estimated to be required over the course of the construction period. Construction of the proposed Project is expected to require a total of up to 10-15 oversize loads for transformers and motor graders. Equipment, material, and fuel deliveries are planned to occur during non-peak traffic hours. Construction phase-related truck deliveries are estimated to require one-way distances (within the boundaries of the Mojave Desert Air Quality Management District) as follows: equipment

and material deliveries at 30.5 miles; aggregate and concrete at 13 miles; and fuel at 10 miles.

Construction activities will include site preparation and grading, solar array foundation installation (which may include post driving), equipment installation, on-site substation and operations and maintenance building construction, gen-tie poles and conductor installation along the gen-tie route, equipment testing, and site cleanup and restoration. Typical construction equipment considered in this analysis includes graders, scrapers, dozers, loaders, tractors, tractor discs, skid steers, roller/vibrator/padders, trenchers, post drivers, forklifts, pumps, generators, and trucks. The operational workforce is anticipated to be 5 employees.

It is currently estimated that the maximum water usage for an approximate 25-month construction timeframe is 1,400 acre feet (AF) or approximately 700 AF per year on average. During construction, water will be needed primarily for dust control and soil compaction, with small amounts used for sanitary and other purposes. During operations, the Project will use no water directly for electricity generation. The operational phase of the Project is expected to require up to 38 AF per year (AFY) of water. The Project plans to utilize groundwater from either existing local well(s) or via installation of on-site groundwater wells. The applicant is also considering trucking water to the Project Site for at least the initial months of construction if an on-site water supply well(s) is not yet installed and functional. It is possible that trucking water to the Project Site could be required for the entire length of construction which would potentially require up to approximately 57,000 water deliveries (assuming 8,000-gallon capacity water trucks). All water deliveries to the Project site would be required by the Applicant to occur during non-peak traffic hours. It is assumed that water deliveries would originate from a water supply source within 10 miles of the Project site.

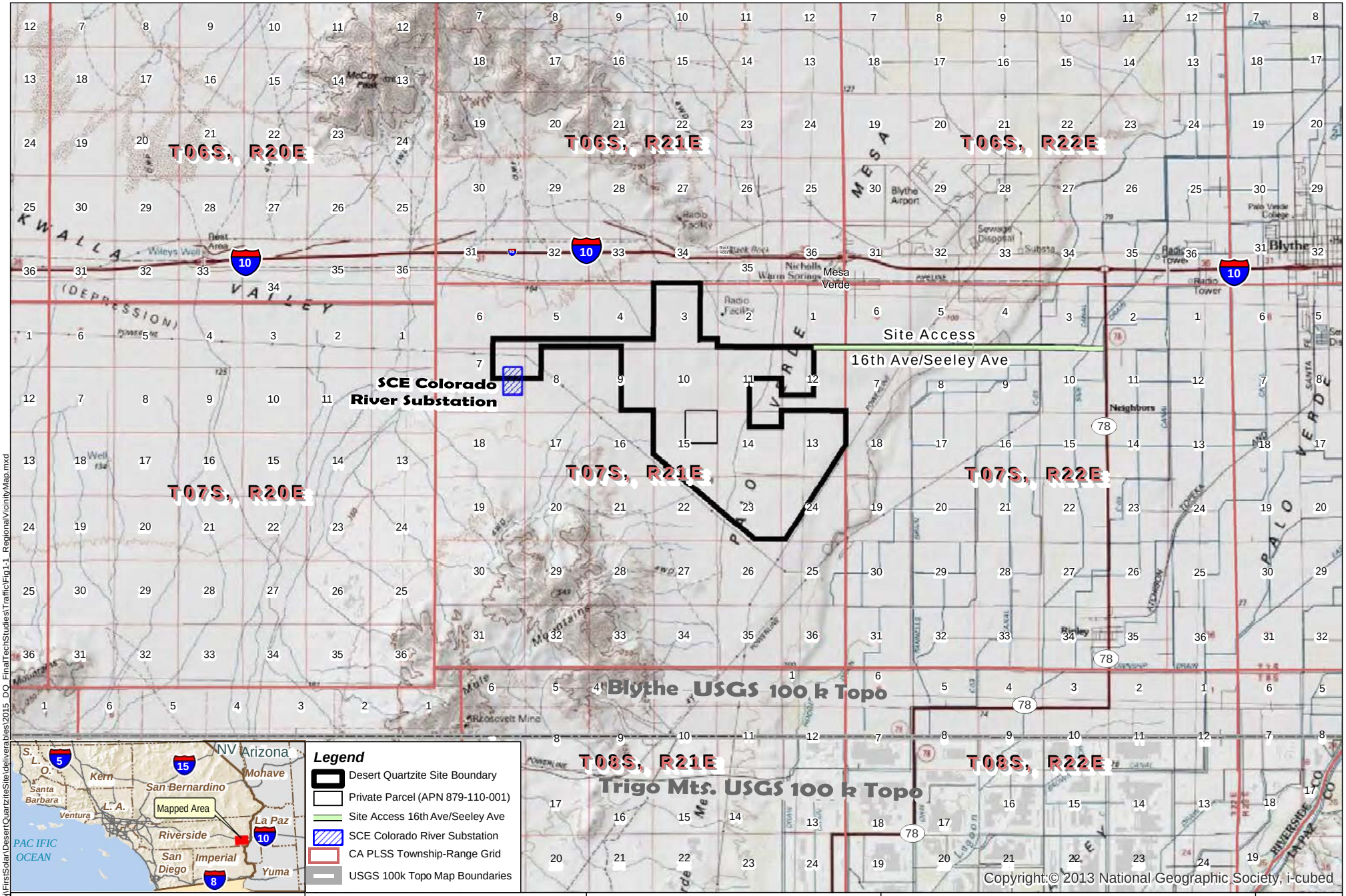
The purpose of this study is to provide scientific and technical data regarding the existing Traffic and Transportation within the study area and the proposed Project's potential to change the area's Traffic and Transportation system. The Project information supporting this analysis is based primarily on the Applicant's revised Desert Quartzite Solar Project Plan of Development (POD) submitted to the BLM in May 2014, as amended. The POD will continue to be updated by the Applicant to provide current and accurate Project information. If warranted, Applicant measures are proposed or recommended in this study to address adverse changes to Traffic and Transportation system as a result of the Project. This study is submitted to the BLM and Riverside County to support their independent review and evaluation of the environmental impacts of the Project pursuant to applicable Federal, State, and local laws. The POD is part of the BLM Right-of-Way (ROW) grant application process which for this Project includes preparation of an Environmental Impact Statement in accordance with the National Environmental Policy Act (NEPA). The proposed Project is also expected to require a Conditional Use Permit (CUP) from Riverside County which would require compliance with the California Environmental Quality Act (CEQA) (e.g.,

Environmental Impact Report). Therefore, it is currently assumed that a joint EIS/EIR will be prepared by the BLM and Riverside County.

1.2 PROJECT BACKGROUND

The fundamental purpose of the Project is to construct, operate, and eventually decommission a clean, renewable source of solar electricity that helps meet California's growing demand for power and helps fulfill national and State renewable energy and GHG goals. Solar energy provides a sustainable, renewable source of power that helps reduce fossil fuel dependence and GHG emissions. The proposed Project will help California meet its Renewable Portfolio Standard (RPS) goal, which is currently 50 percent of electrical power retail sales by 2030 under Senate Bill (SB) 350. The Project supports Secretary of the Interior Salazar's Orders 3283 and 3285, which make developing renewable energy a top national priority. The Project will also help the State achieve the 2006 Global Warming Solutions Act (Assembly Bill [AB] 32) greenhouse gas (GHG) reduction targets, which require California's GHG emissions to be reduced to 1990 levels by 2020.

When fully operational, the 300 MW Project will deliver over 1.5 billion kilowatt-hours of clean, renewable energy annually. This is equivalent to the amount of energy needed to serve over 90,000 California homes each year. When compared to the carbon dioxide (CO2) emissions that would be emitted if the same amount of electricity was generated from fossil fuels, implementing the Project will avoid emissions of over 165,000 metric tons of CO2 annually – the equivalent of taking almost 32,000 automobiles off the road. The electricity generated by the Project will be sold to one or more utilities or other retail customers.



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Desert Quartzite Solar Project
Riverside County, CA

URS Corporation

0 0.5 1 1.5 2 Miles

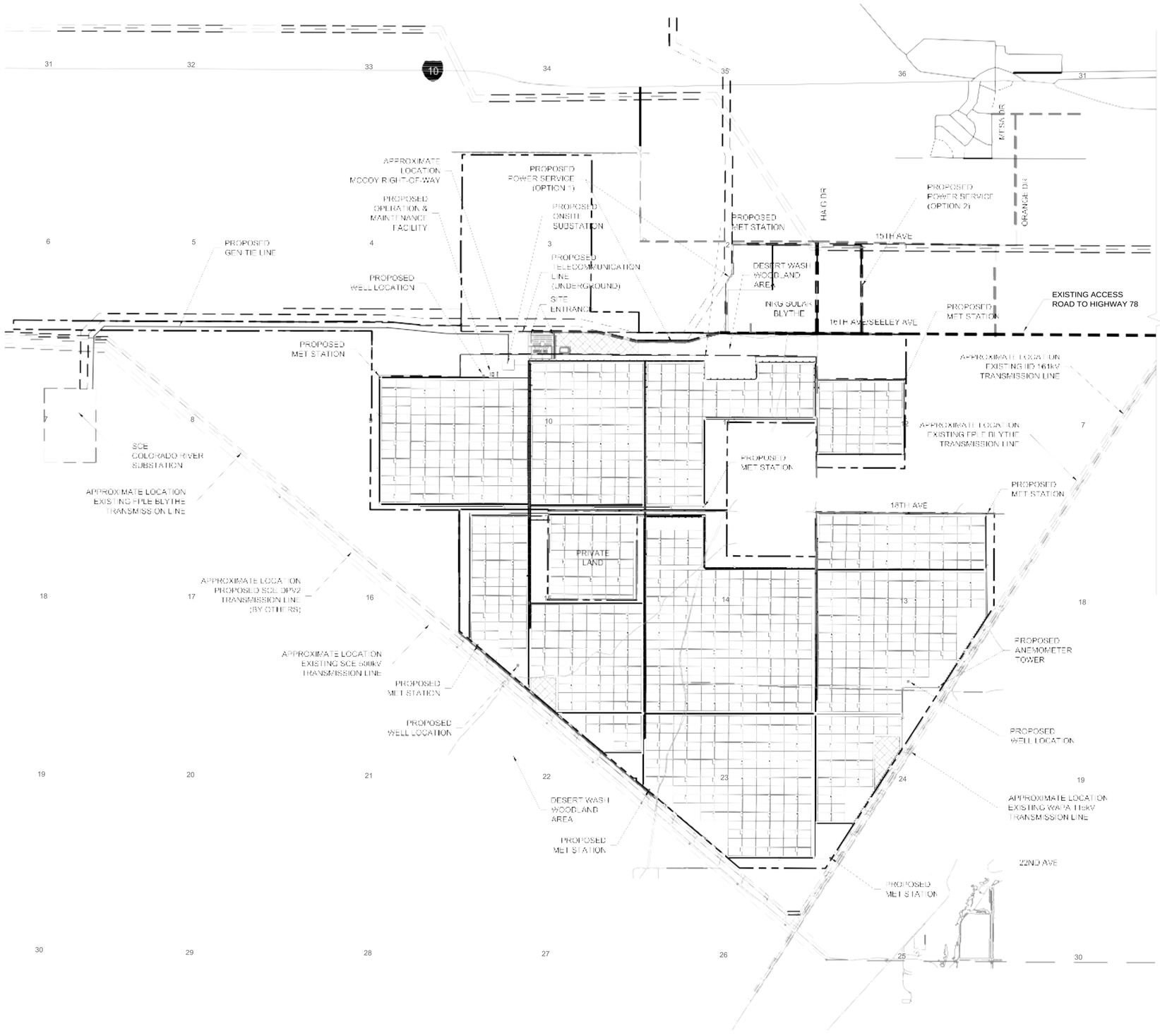
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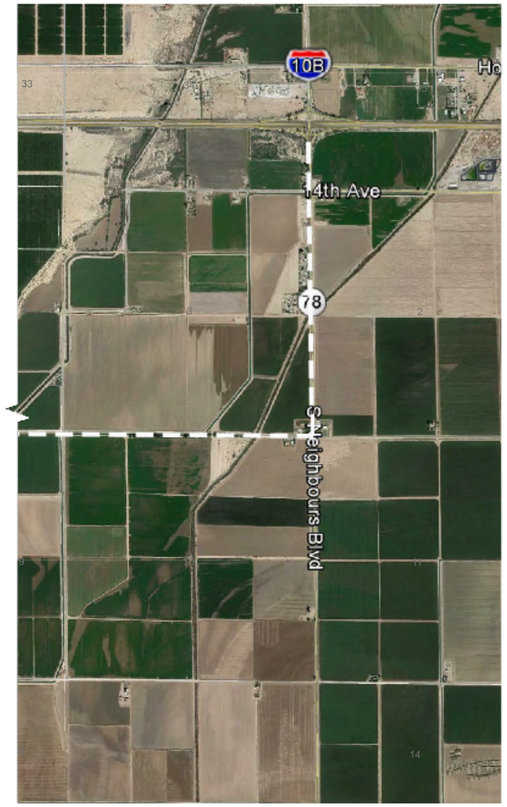
Source: [1] Bing Maps Aerial Imagery Web Mapping Service - (c) 2010 Microsoft Corporation and its datas upplier (Image Date: 3/13/2011), [2] California Geospatial Information Library PLS, [3] ESRI StreetMap USA (2007).

Figure 1-1. Regional Vicinity Map

2015

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LEGEND

- PROPOSED PROJECT SITE BOUNDARY
- PROPOSED GEN-TIE
- PROPOSED PERIMETER FENCE
- PROPOSED ACCESS ROAD
- PROPOSED WELL LOCATION (GROUNDWATER)
- TYPICAL PV ARRAY
- CONSTRUCTION STAGING AREA
- EXISTING ROADS
- EASEMENTS/RIGHT-OF-WAY BY OTHERS
- EXISTING/PROPOSED TRANSMISSION LINE

NORTH

2000 1000 0 2000

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DESERT QUARTZITE

SOLAR PROJECT
IN RIVERSIDE COUNTY
CALIFORNIA

FIGURE 1-2

PRELIMINARY SITE PLAN

SHEET 2 OF 14

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SECTION 2.0
EXISTING BASELINE CONDITIONS

2.1 EXISTING ROADWAY NETWORK

This section describes key roadways segments and intersections, existing daily roadway and peak hour intersection traffic volume information, and LOS analysis results for existing conditions in the Project study area. Although closer to the Project site, the Mesa Drive interchange at I-10 is not considered for Project-related traffic to avoid the potential for traffic-related impacts to the community of Nicholls Warm Springs/Mesa Verde between the interchange and the Project site.

The description and characteristics of several regionally and locally significant roadways that traverse and serve the study area are discussed below.

2.1.1 North-south Facilities

2.1.1.1 State Route 78 (Neighbours Boulevard)

SR-78 is a north-south state highway that is located east of the Project site. SR-78 is a two-lane highway with a posted speed limit of 55 mph. except through Ripley, where the speed limit is 45 mph. SR-78 has two 12-foot-wide lanes and paved shoulders. The project site is accessed via Seeley Avenue which turns to 16th Avenue just west of SR-78. SR-78 is also referred to by local street names as Neighbours Boulevard, 28th Avenue and Rannells Boulevard. The east and west I-10 ramps at SR-78 are stop sign controlled. The land uses adjacent to SR-78 are predominantly agricultural fields with some residential and farm structures mostly on the west side between I-10 and 16th Avenue.

2.1.2 East-west Facilities

2.1.2.1 Interstate 10 (I-10 Freeway)

I-10 is a four-lane, east-west interstate freeway located to the north of the Project site and is under the operational jurisdiction of the California Department of Transportation (Caltrans). I-10 originates in Santa Monica and runs through Los Angeles, San Bernardino County, Riverside County, and beyond through the transcontinental U.S. to the east. In the vicinity of the Project, access to I-10 is provided via freeway ramp connections at South Neighbours Boulevard / SR-78 as well as Mesa Drive. The posted speed limit is 70 miles per hour (mph), and trucks comprise 37 to 38 percent of traffic on I-10.

2.1.2.2 16th Avenue/Seeley Avenue

The proposed access route to the Project site is via 16th Avenue, which is accessible from SR-78. Approximately 1.5 miles west of SR-78, 16th Avenue becomes Seeley Avenue, a generally unpaved dirt road providing access to local farms and the Project site.

2.2 STUDY INTERSECTIONS AND ROADWAY SEGMENTS

Based on the result of the traffic study field review, the following four key study area intersections were identified for analysis in the traffic study, as shown in Table 2-1. The existing intersection geometrics are shown on Figure 2-1.

TABLE 2-1
STUDY INTERSECTIONS

ID	Intersection	Jurisdiction
1	SR-78 (Neighbours Blvd)/I-10 WB Ramps	Caltrans
2	SR-78 (Neighbours Blvd)/I-10 EB Ramps	Caltrans
3	SR-78 (Neighbours Blvd)14th Avenue	Caltrans, Riverside County
4	SR-78 (Neighbours Blvd)16th Avenue	Caltrans, Riverside County

Note: All study intersections are currently unsignalized.

In addition to the study intersections described above, Table 2-2 lists the study roadway segments that serve and provide access to the Project site.

TABLE 2-2
STUDY ROADWAY SEGMENTS

ID	Roadway	Segment Location	Cross-section Classification	Jurisdiction
1	I-10	West of SR-78	4-Lane Freeway	Caltrans
2	I-10	East of SR-78	4-Lane Freeway	Caltrans
3	SR-78	South of I-10	2-Lane Undivided	Caltrans
4	16th Street	West of SR-78	2-Lane Collector	Riverside County

2.3 EXISTING TRAFFIC VOLUME

In order to support this analysis, traffic data were collected during typical weekdays in July 2011 (Wednesday, July 27, 2011) for the two SR-78 (Neighbours Blvd.) and I-10 ramp intersections, and September 2014 (Thursday, September 4, 2014) for the remainder of the study locations. Schools are closed from June 4 to August 18 per current calendar for both elementary and secondary schools. The traffic counts include 24-hour roadway segment

counts and AM and PM peak hour study intersection counts which are used in this traffic impact analysis. The specific traffic count dates are included on the traffic count sheets provided in Appendix A – Traffic Counts. For analysis purposes, peak hour intersection data were collected during the 7 to 9 AM and 4 to 6 PM peak hours. These peak hours are the standard adjacent street traffic peak hours used in the ITE Trip Generation Manual and the majority of traffic analyses performed in Riverside County. Existing AM/PM traffic volumes for the four study intersections are presented on Figure 2-2. The traffic counts collected in 2011 for the two SR-78 (Neighbours Blvd.) and I-10 ramp intersections have been updated to 2015 conditions (based on 2 percent annual growth) as shown on Figure 2-2 and supported by the calculations in Appendix B (Existing LOS Worksheets).

2.4 EXISTING LEVEL OF SERVICE ANALYSIS

This section presents level of service (LOS) information for existing conditions at study area intersections and roadway segments. LOS descriptions are presented in Section 3.2 (Impact Thresholds).

2.4.1 Intersection Analysis

Table 2-3 displays intersection LOS and average delay results for the key study area intersections under Existing conditions. All intersections in the Project study area are currently unsignalized.

TABLE 2-3
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
EXISTING CONDITIONS[1]

	AM Peak Hour		PM Peak Hour	
Intersection	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
SR-78 (Neighbours Blvd)/I-10 WB Ramps	A	9.1	A	9.2
SR-78 (Neighbours Blvd)/I-10 EB Ramps	A	9.1	A	9.4
SR-78 (Neighbours Blvd)14th Avenue	A	9.4	A	9.7
SR-78 (Neighbours Blvd)16th Avenue	A	9.7	A	9.7

[1] Source: URS (August 2015).

Figure 2-2 shows existing AM/PM peak hour traffic volumes for the key study area intersections. The 24-hour traffic data and AM/PM peak hour intersection turning movement counts are provided in Appendix A.

The detailed LOS calculation worksheets for existing conditions are provided in Appendix B.

As shown in Table 2-3, all four study area intersections are currently operating at acceptable LOS A under existing conditions. These findings are consistent with the current low volume traffic at the study intersections

2.4.2 Roadway Analysis

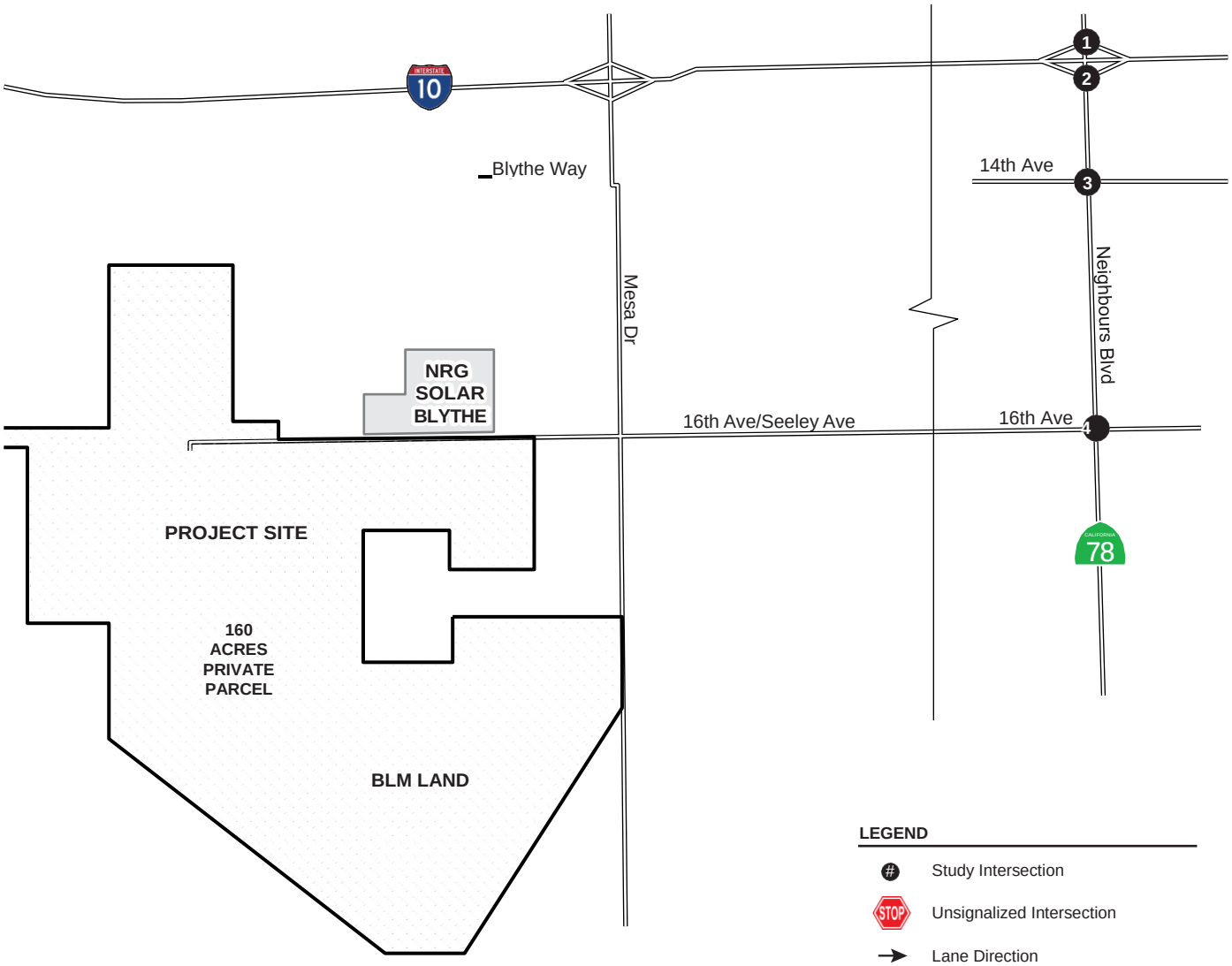
The analysis described below summarizes the result of the roadway segment LOS analysis conducted for existing conditions. Table 2-4 displays roadway segment volume and segment LOS under existing conditions.

TABLE 2-4
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
EXISTING CONDITIONS

Roadway	Segment	Cross-section Classification	Existing ADT[1]	Roadway Capacity	Truck Percent	LOS
I-10	West of SR-78	4-lane freeway	26,000	68,900	38%	C
I-10	East of SR-78	4-lane freeway	27,500	68,900	37%	C
SR-78	South of I-10	2-lane undivided	2,105	16,200	30%	C
16th Street	West of SR-78	2-lane collector	117	11,700	30%	C

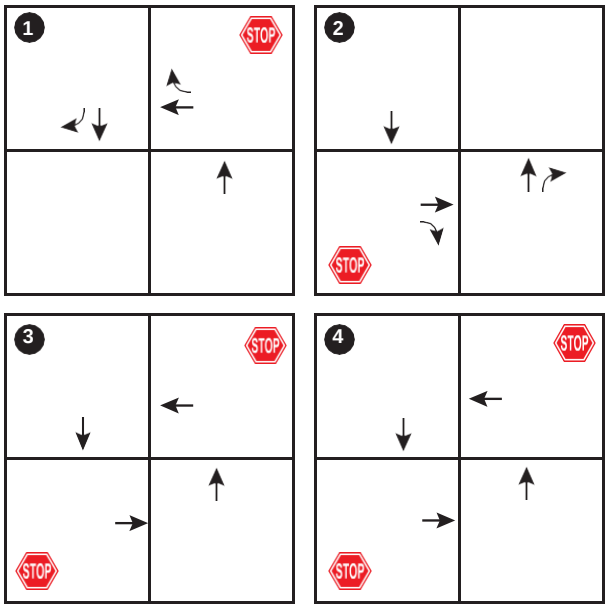
[1] Average Daily Traffic (ADT).

As shown in Table 2-4, all study roadway segment are currently operating at acceptable LOS C under existing conditions.



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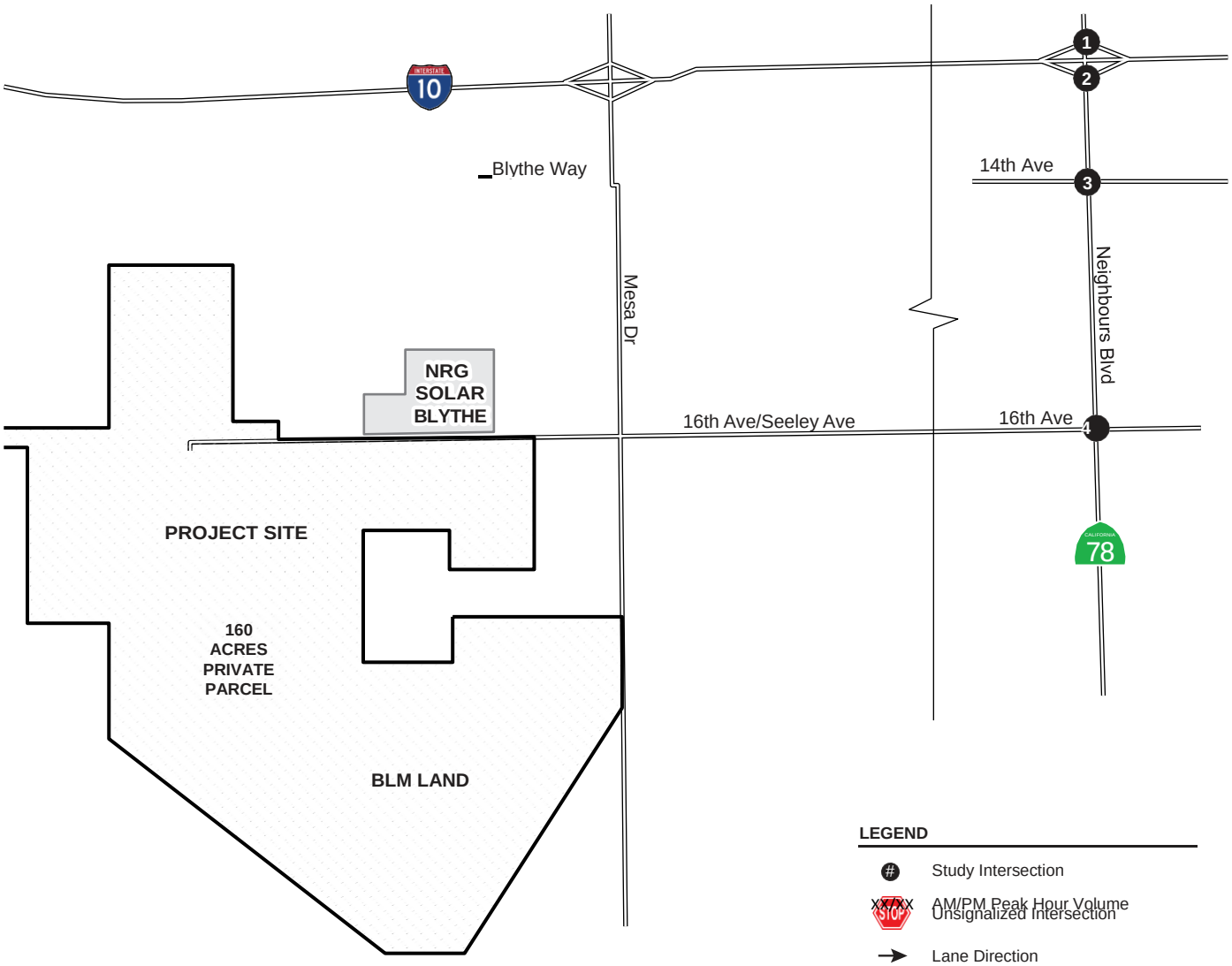
- # Study Intersection
- STOP Unsignalized Intersection
- → Lane Direction





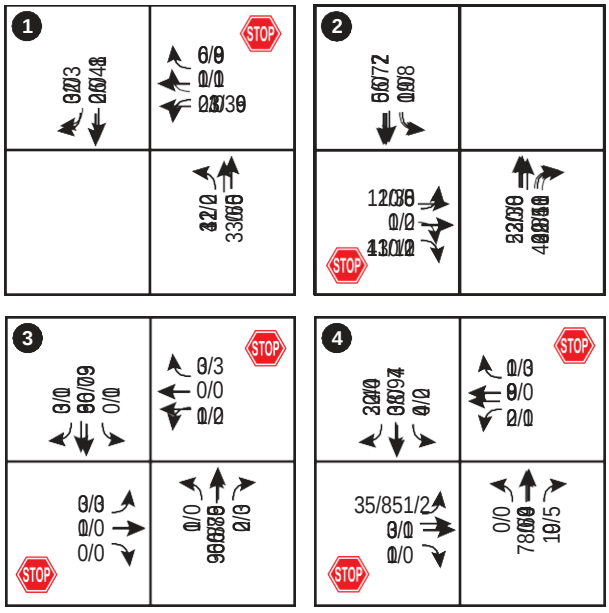
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Traffic Impact Analysis **Desert Quartzite Solar Project** **Riverside County, CA** URS Corporation		**Figure 2-1.** Existing Intersection Geometrics	2015



LEGEND

- # Study Intersection
- XX/XX AM/PM Peak Hour Volume
- STOP Unsignalized Intersection
- Lane Direction





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Traffic Impact Analysis **Desert Quartzite Solar Project** **Riverside County, CA** URS Corporation		**Figure 2-2.** Existing (2015) Project Adjusted Traffic Volumes	2015

SECTION 3.0
IMPACT ASSESSMENT

3.1 REGULATORY FRAMEWORK

3.1.1 Federal

3.1.1.1 National Environmental Policy Act of 1969

NEPA establishes a public, interdisciplinary framework for Federal agencies reviewing projects under their jurisdiction to consider environmental impacts. NEPA's basic policy is to assure that all branches of government give proper consideration to the environment prior to undertaking any major federal action that significantly affects the environment.

The BLM, as lead Federal agency for the Project, is responsible for preparation of an Environmental Impact Statement (EIS) in compliance with NEPA to evaluate the environmental impacts of the Project.

3.1.1.2 Title 49, Code of Federal Regulations, §§ 171 177

Governs the transportation of hazardous materials, the types of materials defined as hazardous, and the marking of the transportation vehicles. The administering agencies for this are the California Highway Patrol (CHP) and the DOT, Pipeline and Hazardous Materials Safety Administration. The Project will conform to this law by requiring that shippers of hazardous materials use the required markings on their transportation vehicles.

3.1.2 State

3.1.2.1 California Environmental Quality Act

The State CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, Article 9, Contents of Environmental Impact Reports [Sections 15120-15132]) include the requirement that the environmental analysis for an EIR must evaluate impacts associated with the project and identify mitigation for any potentially significant impacts. All phases of a proposed project, including development and operation, are to be evaluated in the analysis.

Specific to traffic and transportation, Appendix G of the CEQA Guidelines, Environmental Checklist Form includes the following guidance:

XVI. TRANSPORTATION/TRAFFIC -- Would the project: a) 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?; b) 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?; c) 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?; d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?; e) Result in inadequate emergency access?; f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

As discussed previously, it is planned that CEQA compliance for the Project will be achieved through a combined NEPA/CEQA document, which will be prepared jointly by the BLM and Riverside County.

3.1.2.2 California Vehicle Code, § 353

Defines hazardous materials as any substance, material, or device posing an unreasonable risk to health, safety, or property during transportation, as defined by regulations adopted pursuant to § 2402.7. The administering agency for this statute is the California Highway Patrol (CHP). The Project will comply with these codes by continuing to classify all hazardous materials in accordance with their clarification.

3.1.2.3 California Vehicle Code, §§ 2500 2505

Authorizes the Commissioner of Highway Patrol to issue licenses for the transportation of hazardous materials including explosives. The administering agency for these statutes is the CHP. The Project will comply with these codes by requiring that contractors and employees be properly licensed and endorsed when operating vehicles used to transport hazardous materials.

3.1.2.4 California Vehicle Code, §§ 13369, 15275, 15278

Addresses the licensing of drivers and the classification of license required for the operation of particular types of vehicles. Requires a commercial driver's license to operate commercial vehicles. Requires an endorsement issued by the Department of Motor Vehicles (DMV) to drive any commercial vehicle identified in § 15278. The administering agency for these statutes is the DMV. The Project will comply with these codes by requiring that contractors and employees be properly licensed and endorsed when operating such vehicles.

3.1.2.5 California Vehicle Code, §§ 31303 31309

Requires that the transportation of hazardous materials be on the state or interstate highway that offers the shortest possible overall transit time. The administering agency for these

statutes is the CHP. The Project will comply with this law by requiring that shippers of hazardous materials use the shortest route possible to and from the Project site.

3.1.2.6 California Vehicle Code, §§ 31600 31620

Regulates the transportation of explosive materials. The administering agency for the above statutes is the CHP. It must be noted that the Project does not propose to use explosive materials specifically defined in § 12000 of the Health and Safety Code. However, the Project will comply with this law by requiring that shippers of other potentially explosive materials have the required licenses from the CHP.

3.1.2.7 California Vehicle Code, §§ 32000 32053

Authorizes the CHP to inspect and license motor carriers transporting hazardous materials of the type requiring placards. The administering agency for this regulation is the CHP. The Project will comply with this law by requiring that motor carriers of hazardous materials be properly licensed by the CHP.

3.1.2.8 California Vehicle Code, §§ 32100 32109

Requires that shippers of inhalation hazards in bulk packaging comply with rigorous equipment standards, inspection requirements, and route restrictions. The administering agency for this regulation is the CHP. If applicable, the Project will comply with this law by requiring shippers of these types of material to comply with all route restrictions, equipment standards, and inspection requirements.

3.1.2.9 California Vehicle Code, §§ 34000 34100

Establishes special requirements for vehicles having a cargo tank and for hazardous waste transport vehicles and containers, as defined in § 25167.4 of the Health and Safety Code. The commissioner shall provide for the establishment, operation, and enforcement of random on- and off-highway inspections of cargo tanks and hazardous waste transport vehicles and containers and ensure that they are designed, constructed, and maintained in accordance with the regulations adopted by the commissioner pursuant to this code and Chapter 6.5 (commencing with § 25100) of Division 20 of the Health and Safety Code. The administering agency for this regulation is the CHP. The Project will comply with this law by requiring that shippers of hazardous materials maintain their hazardous material transport vehicles in a manner that ensures the vehicles will pass CHP inspections.

3.1.2.10 California Vehicle Code, §3500

Regulates the safe operation of vehicles, including those vehicles that are used for the transportation of hazardous materials. The administering agency for this regulation is the

CHP. The Project will comply with this law by requiring shippers of hazardous materials to have the necessary permits, inspections, and licenses issued by the CHP for the safe operation of the hazardous materials transport vehicles.

3.1.2.11 California Vehicle Code, § 35550

Imposes weight guidelines and restrictions on vehicles traveling on freeways and highways. The section holds that "a single axle load shall not exceed 20,000 pounds. The load on any one wheel or wheels supporting one end of an axle is limited to 10,500 pounds. The front steering axle load is limited to 12,500 pounds." Furthermore, California Vehicle Code § 35551 defines the maximum overall gross weight as 80,000 pounds and adds that "the gross weight of each set of tandem axles shall not exceed 34,000 pounds." The administering agency for this statute is Caltrans. The Project will comply with this code by requiring compliance with weight restrictions and by requiring heavy haulers to obtain permits, if required, prior to delivery of any heavy haul load.

3.1.2.12 California Vehicle Code, § 35780

Requires a Single-Trip Transportation Permit to transport oversized or excessive loads over state highways. The permit can be acquired through the Caltrans. The Project will comply with this code by requiring that heavy haulers obtain a Single-Trip Transportation Permit for oversized loads for each vehicle, prior to delivery of any oversized load.

3.1.2.13 California Streets and Highways Code, § 117

Unless otherwise specifically provided in the instrument conveying title, the acquisition by the department of any right-of-way over any real property for state highway purposes, includes the right of the department to issue, under Chapter 3 (commencing with § 660), permits for the location in the right-of-way of any structures or fixtures necessary to telegraph, telephone, or electric power lines or of any ditches, pipes, drains, sewers, or underground structures. The administering agency for this statute is Caltrans. If applicable, the Project will comply with this code by acquiring the necessary permits and approval from Caltrans with regard to use of public rights-of-way.

3.1.2.14 California Streets and Highways Code, §§ 660, 670, 672, 1450, 1460, 1470, 1480 et seq.

Defines highways and encroachment, requires encroachment permits for projects involving excavation in state highways and county/city streets. This law is generally enforced at the local level. The administering agencies for this regulation are Caltrans and County of Riverside Public Works Department. The Project will apply for encroachment permits for any excavation in state and county roadways prior to construction.

3.1.2.15 California Health and Safety Code, S§ 25160 et seq.

Addresses the safe transport of hazardous wastes, requires a manifest for hazardous waste shipments, require a person who transports hazardous waste in a vehicle to have a valid registration issued by the Department of Toxic Substances Control (DTSC) in his or her possession while transporting the hazardous waste. The administering agency for this regulation is the DTSC. The Project will comply with this law by requiring that shippers of hazardous wastes are properly licensed by the DTSC and hazardous waste transport vehicles are in compliance with DTSC requirements.

3.1.2.16 California Manual on Uniform Traffic Control Devices, Part 6

Requires a temporary traffic control plan be provided for "continuity of function (movement of traffic, pedestrians, bicyclists, transit operations), and access to property/utilities" during any time the normal function of a roadway is suspended. The administering agencies for this regulation are Caltrans and County of Riverside Public Works Department. If applicable, the Applicant will file a Traffic Control Plan prior to the start of construction.

3.1.3 Local

3.1.3.1 County of Riverside, General Plan, Circulation Element

Requires LOS C, D or E (depending on location) or better operating conditions for County intersections and roadways. The primary administering agency for this policy is the County of Riverside Transportation and Land Management Agency (TLMA) Public Works Department.

3.1.3.2 County of Riverside, Ordinance 500.1

An ordinance of the County of Riverside amending Ordinance No. 500, reducing the permissible weight of vehicles on unimproved County highways. The primary administering agency for this policy is the County of Riverside TLMA Public Works Department.

3.1.3.3 County of Riverside, Ordinance 524.1

An ordinance of the County of Riverside amending Ordinance No. 524, regulating oversize and overweight vehicles and loads. The primary administering agency for this policy is the County of Riverside TLMA Public Works Department.

3.1.3.4 County of Riverside, Ordinance 846

An ordinance of the County of Riverside reducing the permissible vehicle weight in the community of Mesa Verde/CSA 122. Pursuant to California Vehicle Code § 35712, any commercial vehicle exceeding a manufacturer's gross vehicle weight rating of 14,000 pounds

is prohibited from using the local streets within the community of Mesa Verde and County Service Area (CSA) 122 as identified in the restricted list. Certain exemptions apply to commercial vehicles owned by a public utility or a contractor while necessarily in use in the construction, installation, or repair of any public utility are exempt from the vehicle weight restriction. The primary administering agency for this policy is the County of Riverside TLMA Public Works Department. Project site access would be via SR-78 (south)/Neighbours Boulevard to 16th Avenue/Seeley Avenue (west).

3.2 IMPACT THRESHOLDS

The traffic analyses conducted for this study were performed in accordance with County of Riverside traffic impact analysis guidelines and the Riverside County Congestion Management Program (CMP) requirements. Detailed information on intersection analysis methodologies, standards, and thresholds are discussed in the following sections.

3.2.1 Level of Service Descriptions

LOS is an indicator of operating conditions on a roadway or at an intersection and is defined in categories ranging from A to F. These categories can be viewed much like school grades, with A representing the best traffic flow conditions and F representing poor conditions. LOS A indicates free-flowing traffic and LOS F indicates substantial congestion with stop-and-go traffic and long delays at intersections. Table 3-1 provides definitions of level of service for signalized and stop-controlled intersections.

Table 3-2 describes the Link/Volume capacity LOS for Riverside County roadways.

3.2.2 Threshold of Significance

Significance criteria were developed based on Appendix G of the CEQA Guidelines, which identifies potentially significant project impacts. A significant traffic-related project impact would occur if the project significantly changed the operating conditions on the surrounding roadway network. A freeway/roadway segment and intersection LOS analysis was conducted to assess operational performance of the traffic study area freeways/roadways and intersections during construction and operation of the Project. For LOS, the applicable significance threshold was based on the Riverside County Transportation Commission (RCTC) 2010 Congestion Management Program (CMP) and County of Riverside requirements.

3.2.2.1 State Highway Level of Service Standard

According to the Caltrans Guide for the Preparation of Traffic Impact Studies, "Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State Highway Facilities; however, Caltrans acknowledges that this may not always be feasible

TABLE 3-1
INTERSECTION LEVEL OF SERVICE DESCRIPTIONS

LOS	Description of Operation	Signalized Intersection Delay (Seconds)	Stop-controlled Intersection Delay (Seconds)
LOS A	Describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	<10.0	<10.0
LOS B	Describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	10.1–20.0	10.1–15.0
LOS C	Describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	20.1–35.0	15.1–25.0
LOS D	Describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.	35.1–55.0	25.1–35.0
LOS E	Considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.	55.1–80.0	35.1-50.0
LOS F	Describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the LOS D capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.	>80.0	>50.0

and recommends that the lead agency consult with Caltrans to determine the target LOS. If an existing state highway facility is operating at less than the appropriate target LOS, the existing LOS should be maintained.

Based on the above requirements, the following conditions apply in the determination of significant State Highway impacts:

- Desired minimum LOS is LOS D
- When pre-project (Base) LOS A, B, C, and D becomes LOS E or F with project, the impact is considered significant
- When pre-project (Base) LOS E becomes LOS F with project, the impact is considered significant

TABLE 3-2
ROADWAY LINK/VOLUME CAPACITY
LEVEL OF SERVICE
FOR RIVERSIDE COUNTY ROADWAYS

Roadway Classification	Number of Lanes	LOS C	LOS D	LOS E
Collector	2	10,400	11,700	13,000
Secondary	4	20,700	23,300	25,900
Major	4	27,300	30,700	34,100
Mountain	2	12,900	14,500	16,100
Mountain	3	16,700	18,800	20,900
Mountain	4	29,800	33,500	37,200
Urban	4	28,700	32,300	35,900
Urban	6	43,100	48,500	53,900
Urban	8	57,400	64,600	71,800
Expressway	4	32,700	36,800	40,900
Expressway	6	49,000	55,200	61,300
Expressway	8	65,400	73,500	81,700
Freeway	4	61,200	68,900	76,500
Freeway	6	94,000	105,800	117,500
Freeway	8	128,400	144,500	160,500
Freeway	10	160,500	180,500	200,600
Ramp	1	16,000	18,000	20,000

Source: Riverside County, 2003. General Plan Circulation Element.
LOS = Level of service.

3.2.2.2 CMP Level of Service Standards

The following discussion of LOS standards was excerpted from RCTC 2010 CMP:

- CMP System of Streets and Highways
- Establishment of Minimum LOS

With the intent of the legislation in mind, the RCTC Technical Advisory Committee (TAC) CMP Subcommittee approved a "two-tiered" approach to establish the minimum LOS standard. Tier 1 involves the "locally established minimum traffic LOS – or – ceiling," while Tier 2 involves the CMP minimum LOS standard – or – floor."

Most local agencies in Riverside County and Caltrans have adopted LOS standards of C or D (representing the "ceiling" in Tier 2) for roadway segments in an effort to maintain a desired LOS for the local circulation system. To address the CMP legislative requirements and establish minimum LOS along the regional system of roadways and highways within the County (representing the "floor" in Tier 2), RCTC approved a minimum traffic LOS standard of E.

In accordance with CMP statutes, certain facilities (roadway segments and intersections) had been identified (see Table 4 1 and Exhibit 4 1 of the 2010 Riverside County CMP Document) to be exempt from CMP requirements as having been documented at LOS F since 1991. No study roadways and intersections fall under this exemption.

Within the traffic study area, both SR-78 and I-10 have been identified as key elements of the CMP system.

A CMP significant traffic impact occurs when:

- Pre-project (Base) LOS A, B, C, and D becomes LOS E or F with project
- Pre-project (Base) LOS E becomes LOS F with project

3.2.2.3 Local Level of Service Standards

According to the Riverside County General Plan Circulation Element, to achieve the true intent of community center design, LOS designations are typically lower (LOS E) to minimize the impacts of accommodating uncongested roadways and to maximize pedestrian use. Higher level of service designations (LOS A, B, C) require wider road widths, and as a result, would create circulation systems that are more accommodating to automobiles than pedestrians.

The County strives to maintain the following county-wide target LOS:

- LOS C along all County-maintained roads and conventional state highways. As an exception, LOS D may be allowed in Community Development areas, only at intersections of any combination of Secondary Highways, Major Highways, Expressways, conventional state highways, or freeway ramp intersections.
- LOS E may be allowed in designated community centers to the extent that it would support transit-oriented development and walkable communities.

The City of Blythe, strives to maintain LOS B (not applicable for the study locations) on residential streets and LOS C, D (depending on location) or better operating conditions for City intersections and roadways.

Based on the above requirements, the following conditions apply in the determination of significant local impacts:

- Desired LOS is LOS C, D, or E (with specific conditions)
- When pre-project (Base) LOS A, B, C, and D becomes LOS E or F with project, the impact is considered significant
- When pre-project (Base) LOS E becomes LOS F with project, the impact is considered significant

Significance issues for the other transportation elements include:

1. Additional Vehicular Traffic: Would the additional traffic generated by the project adversely affect operating conditions (i.e., LOS) on local and regional roadways?
2. Public Transit: Would the additional traffic generated by the project impede public transit operations in the vicinity of the project?
3. Bicycle and Pedestrian Circulation: Would the additional traffic generated by the project obstruct bicycle and pedestrian access to and from the project site or along adjacent bicycle and pedestrian routes?
4. Parking Facilities: Would the additional traffic generated by the project consume parking in proximity to the project site?
5. Goods Movement: Would the additional traffic generated by the project hinder goods movement along local and regional roadways?
6. Safety: Would the traffic generated by the project impose any safety concerns, such as a significant increase in crashes?
7. Air, Rail, and Waterborne Traffic: Would the traffic generated by the project interfere with air, rail, or waterborne traffic, or access to these transportation modes?

3.3 IMPACT ASSESSMENT AND FINDINGS

3.3.1 Year 2018 (Project Construction) Conditions

This section provides an analysis of Future Year 2018 traffic conditions both with and without the proposed Project construction traffic. The Future Year 2018 conditions were selected for analysis since they coincide with the peak construction traffic period for the assumed worst-case 25-month construction schedule. The traffic analysis conducted includes the following construction scenarios:

- Year 2018 Base Traffic Conditions (No Project)
- Year 2018 Base Traffic Conditions Plus Project Construction

The peak Project construction scenario considered the varying levels of Project construction activity and the associated amount of solar photovoltaic equipment installation per month and evaluated the worst case overlap of construction worker traffic and material and equipment deliveries.

3.3.2 Year 2018 Base (No Project) Traffic Conditions

For analysis purposes, and to establish Year 2018 baseline or no project conditions, it was conservatively assumed that to account for ambient traffic growth for yet to be developed cumulative development projects that could potentially occur within the Project study area, an annual traffic growth of two percent per year was used to develop Year 2018 baseline conditions from existing intersection traffic count data. Figure 3-1 shows the Year 2018 Base (No Project) Traffic Volume.

3.3.2.1 Intersection Analysis

Table 3-3 displays the results of intersection LOS and average delay analysis under Year 2018 Base conditions. The detailed LOS calculation worksheets for the Year 2018 Base conditions are provided in Appendix C.

TABLE 3-3
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
YEAR 2018 BASE CONDITIONS[1]

	AM Peak Hour		PM Peak Hour	
Intersection	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
SR-78 (Neighbours Blvd)/I-10 WB Ramps	A	9.2	A	9.2
SR-78 (Neighbours Blvd)/I-10 EB Ramps	A	9.1	A	9.4
SR-78 (Neighbours Blvd)14th Avenue	A	9.4	A	9.9
SR-78 (Neighbours Blvd)16th Avenue	A	9.7	A	9.8

[1] Source: URS (August 2015).

As shown in Table 3-3, all four study area intersections are forecast to operate at LOS A under Year 2018 Base conditions.

3.3.2.2 Roadway Analysis

The analysis described below summarizes the result of the roadway segment level of service analysis conducted for Year 2018 Base conditions. Table 3-4 displays roadway segment volume and segment LOS under Year 2018 Base conditions.

TABLE 3-4
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
YEAR 2018 BASE CONDITIONS

Roadway	Segment	Cross-section Classification	2018 No Project ADT[1]	Roadway Capacity	Truck Percent	LOS
I-10	West of Mesa Drive	4-Lane freeway	28,080	68,900	38%	C
I-10	East of SR-78	4-Lane freeway	29,700	68,900	37%	C
SR-78	South of I-10	2-Lane undivided	2,273	16,200	30%	C
16th Street	West of SR-78	2-Lane collector	126	11,700	30%	C

[1] Average Daily Traffic (ADT).

As shown in Table 3-4, all study roadway segment are forecast to operate at acceptable LOS C under Year 2018 Base conditions.

3.3.3 Year 2018 Project Construction Conditions

The traffic impact analysis is based on construction worker daily trip and construction-related truck delivery data provided by the Applicant (Desert Quartzite, LLC 2015). The traffic analysis is based on worst-case construction worker trips and truck delivery volumes which vary by construction activity and month for the assumed 25-month construction schedule. For reference, a detailed breakdown of the estimated construction worker trips and truck deliveries is presented by construction activity and month of construction in Appendix E (see Table 1, Off-site Construction Phase Trips).

During the construction phase of the proposed Project, the construction workforce is expected to peak at approximately 1,620 daily trips while the construction delivery traffic during construction is estimated to peak at 50 vehicles resulting in 300 daily trips (the trip generation assessment for the construction deliveries have been Passenger Car Equivalent adjusted for this analysis, 50 delivery vehicles multiplied 3 = 150 PCE or 300 daily trips). The Project plans to utilize groundwater from either existing local well(s) or via installation of on-site groundwater wells. The Applicant is also considering trucking water to the Project Site for at least the initial months of construction if an on-site water supply well(s) is not yet installed and functional. It is possible that trucking water to the Project Site could be required for the entire length of construction which would potentially require up to approximately 57,000 water deliveries (assuming the need for approximately 1,400 acre feet of water over the 25-month construction period and 8,000-gallon capacity water trucks). Off-site water delivery trucks, as applicable, are assumed to originate from within 10 miles of the Project site (refer to Table 1.2, Trip Distance, in Appendix E). All water deliveries to the Project site would be required by the Applicant to occur during non-peak traffic hours and, thus, would

not contribute to traffic impacts on local roadways during the peak traffic periods of concern to this analysis.

Table 3-5 summarizes the peak Project construction trip generation used in the evaluation of Project construction impacts in this study. Figure 3-2 shows Year 2018 Construction Traffic Volumes and Figure 3-3 shows the Year 2018 Base with Project Construction Traffic Volumes.

TABLE 3-5
PEAK MONTH PROJECT CONSTRUCTION TRIP GENERATION

Category	Actual No. of Vehicles	Daily Trips (One-Way Trips)	AM Peak Hour Trips (7:00 – 9:00 AM)		PM Peak Hour Trips (4:00 – 6:00 PM)		Non-Peak Hour Trips	
			In	Out	In	Out	In	Out
Workers (staff and craft)[1]	810	1,620	0	0	0	810	810	0
Construction deliveries[2]	50	300[2]	30	30	0	0	120	120
Water truck deliveries[3]	109	654[3]	0	0	0	0	327	327
Total	969	2,574	30	30	0	810	1,257	447

[1] On-site Management Staff and Craft will use 810 (actual) worker vehicles resulting 1,620 daily (in/out) one-way trips during the Peak Project Construction Months in Year 2018. It is assumed that all the workers arrive at the Project site by 7:00 AM, thereby avoiding the 7:00–9:00 AM peak hour; 810 worker vehicles are assumed to depart the site at 5:00 PM during the 4:00–6:00 PM peak hour. The 810 worker vehicles estimate does not include consideration of carpooling.

[2] Construction deliveries were converted to Passenger Car Equivalent (PCE), assuming 1 Truck equals to 3 Passenger Cars. During the Peak Project Construction Month, there are 50 (actual) trucks delivering on-site each day converted to 150 PCE resulting in 300 daily (combined in/out) one-way trips. It was assumed that up to 20 percent of the deliveries (60 trips) occur during the AM peak hour and the remaining deliveries are expected to occur during non-peak traffic period (avoiding the 4:00–6:00 PM peak hour).

[3] Water truck deliveries were converted to Passenger Car Equivalent (PCE), assuming 1 Truck equals to 3 Passenger Cars. In the event that on-site groundwater is not available and trucking water to the Project site is necessary, there are an estimated 109 (actual) trucks delivering on-site each day converted to 327 PCE resulting in 654 daily (combined in/out) one-way trips. It was assumed that 100 percent of the water truck deliveries would occur during non-peak traffic periods (avoiding the 7:00–9:00 AM and 4:00–6:00 PM peak hour periods).

3.3.3.1 Intersection Analysis

Table 3-6 displays the results of intersection LOS and average delay analysis under Year 2018 Project Construction conditions. The detailed LOS calculation worksheets for the Year 2018 Project Construction conditions are provided in Appendix D.

As shown in Table 3-6, all four study area intersections are forecast to operate at LOS A during the AM peak hour under Year 2018 Project Construction conditions. During the PM peak all study intersections operate at LOS D or better with the exception of one LOS F location at SR-78 (Neighbours Boulevard) and 16th Avenue.

TABLE 3-6
PEAK HOUR INTERSECTION LEVEL OF SERVICE RESULTS
YEAR 2018 PROJECT CONSTRUCTION CONDITIONS[1]

	AM Peak Hour		PM Peak Hour	
Intersection	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)
SR-78 (Neighbours Blvd)/I-10 WB ramps	A	9.7	A	9.2
SR-78 (Neighbours Blvd)/I-10 EB ramps	A	9.0	B	12.8
SR-78 (Neighbours Blvd)/14th Avenue	A	9.9	D	31.9
SR-78 (Neighbours Blvd)/16th Avenue	A	9.9	F	78.2

1 Source: URS (August 2015).

3.3.3.2 Roadway Analysis

The information presented below summarizes the result of the roadway segment level of service analysis conducted for Year 2018 Project Construction conditions. Table 3-6 displays the roadway segment volume and segment LOS under Year 2018 Project Construction conditions. As shown in Table 3-7, all study roadway segment are currently operating at acceptable LOS C under Year 2018 Base conditions.

TABLE 3-7
ROADWAY SEGMENT LEVEL OF SERVICE RESULTS
YEAR 2018 PROJECT CONSTRUCTION CONDITIONS

Roadway	Segment	Cross-section Classification	2018 + Project Const. ADT[1]	Roadway Capacity	Truck Percent	LOS
I-10	West of Mesa Drive	4-Lane Freeway	28,380	68,900	38%	C
I-10	East of SR-78	4-Lane Freeway	31,164	68,900	37%	C
SR-78	South of I-10	2-Lane Undivided	4,847	16,200	30%	C
16th Street	West of SR-78	2-Lane Collector	2,700	11,700	30%	C

1 Average Daily Traffic (ADT).

3.3.4 Year 2019 Project Operations Conditions

This section provides a discussion of Future Year 2019 traffic conditions both with and without the proposed Project operations traffic. After the construction period, the workforce for operations and maintenance (O&M) and security purposes is estimated to be 5 full time workers. During operations, potable water will be trucked into the site (one truck a week

from Blythe) or on-site groundwater will be utilized, including treatment, as necessary. The O&M workforce will generate small amounts of sanitary wastewater that will be handled by an on-site septic system and leach field.

Only limited deliveries will be necessary for replacement photovoltaic modules and equipment during Project operation. When compared to construction activities, Project operations traffic will be miniscule (<2 percent of peak construction phase traffic) and would not create any significant delay or change in LOS from Year 2019 Base conditions. Based on the low anticipated employee trips (5 daily round trips) and deliveries (up to 10 daily round trips), no significant Project traffic impact is anticipated during Project operations.

3.3.5 Area Roadway Considerations

3.3.5.1 Truck Traffic Impacts to Roadway Surfaces

The proposed Project would involve considerable truck traffic for deliveries of materials and equipment, and water deliveries from an off-site source (if needed) over the assumed 25-month construction schedule (see Table 3-5). The proposed access route for workers and truck traffic to the Project site is primarily via I-10 to SR-78 to 16th Avenue/Seeley Avenue (see Figures 1-1 and 1-2).

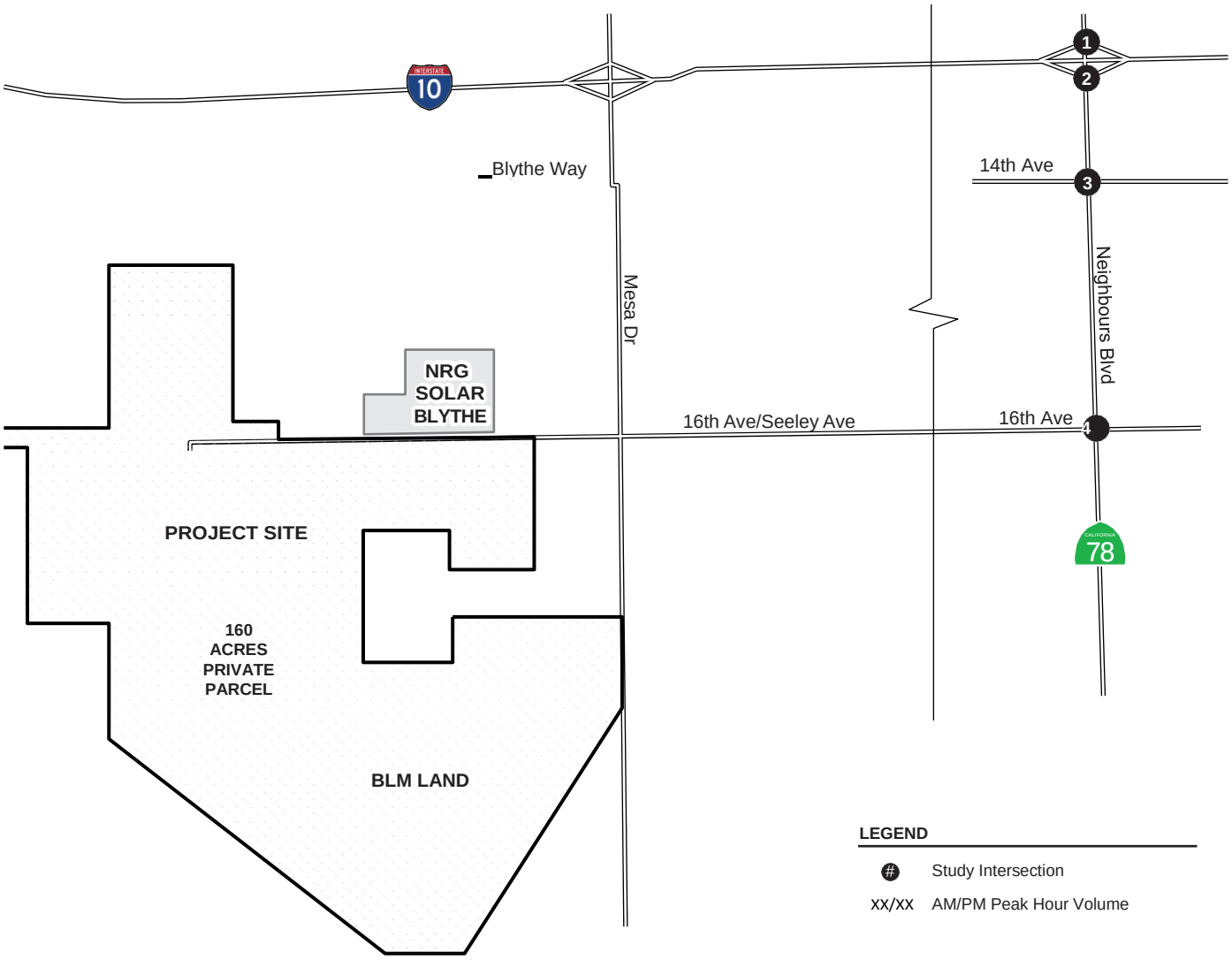
As discussed in Section 2.1, I-10 is a four-lane east-west interstate highway under the jurisdiction of Caltrans. SR-78 is a two-lane State Highway. Both of these facilities were designed with the appropriate Traffic Indices (TI index) – a measure of truck loading effects over pavements, to carry interstate and interregional goods movement with substantial truck traffic and any short-term Project-related truck traffic on the applicable portions of these highways would not exceed their inherent design limits and would not be expected to result in degradation of the roadway surfaces.

The planned east-west access to the Project site from SR-78 is along 16th Avenue/Seeley Avenue which is paved along an approximate 1.5-mile section west of SR-78 and then is unpaved to the Project site. This generally 2-lane roadway west of SR-78 is under the jurisdiction of Riverside County until it reaches the eastern portion of the Project site. Prior to construction, the Applicant will coordinate with the Riverside County Transportation Department to discuss road maintenance requirements and plans to ensure that road conditions along 16th Avenue/Seeley Avenue are kept safe for Project-related traffic to traverse, including potential adverse roadway conditions following infrequent storm events in the area.

3.3.5.2 Gen-Tie Line Construction/Power Line Road

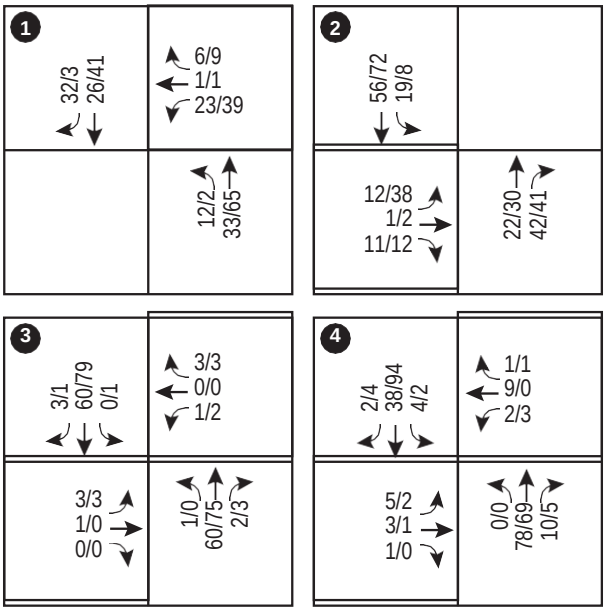
As discussed in Section 1.1, the proposed Project includes construction of an approximately 3-mile-long, 230 kilovolt gen-tie interconnection line to the SCE CRSS (refer to Figures 1-1

and 1-2). Construction of the gen-tie line will be coordinated with the BLM, SCE, and other transmission line projects in the area to ensure safe and efficient installation of the poles and conductors. The SCE CRSS is accessed by SCE from the west via Power Line Road which is paved and owned by SCE. The proposed gen-tie line will be constructed to the CRSS from the east within the gen-tie right-of-way on BLM land that is part of the proposed Project. Multiple transmission lines by others are either recently constructed, under construction, or planned within this corridor. The proposed Project does not propose to use Power Line Road for construction access. The tie-in to the CRSS will be coordinated with SCE to make sure SCE's CRSS operations are not impacted, including their use of the eastern end of Power Line Road for their access from the west. The proposed gen-tie line route and installation would not impact any public roadways to the east of the CRSS.



LEGEND

#	Study Intersection
xx/xx	AM/PM Peak Hour Volume





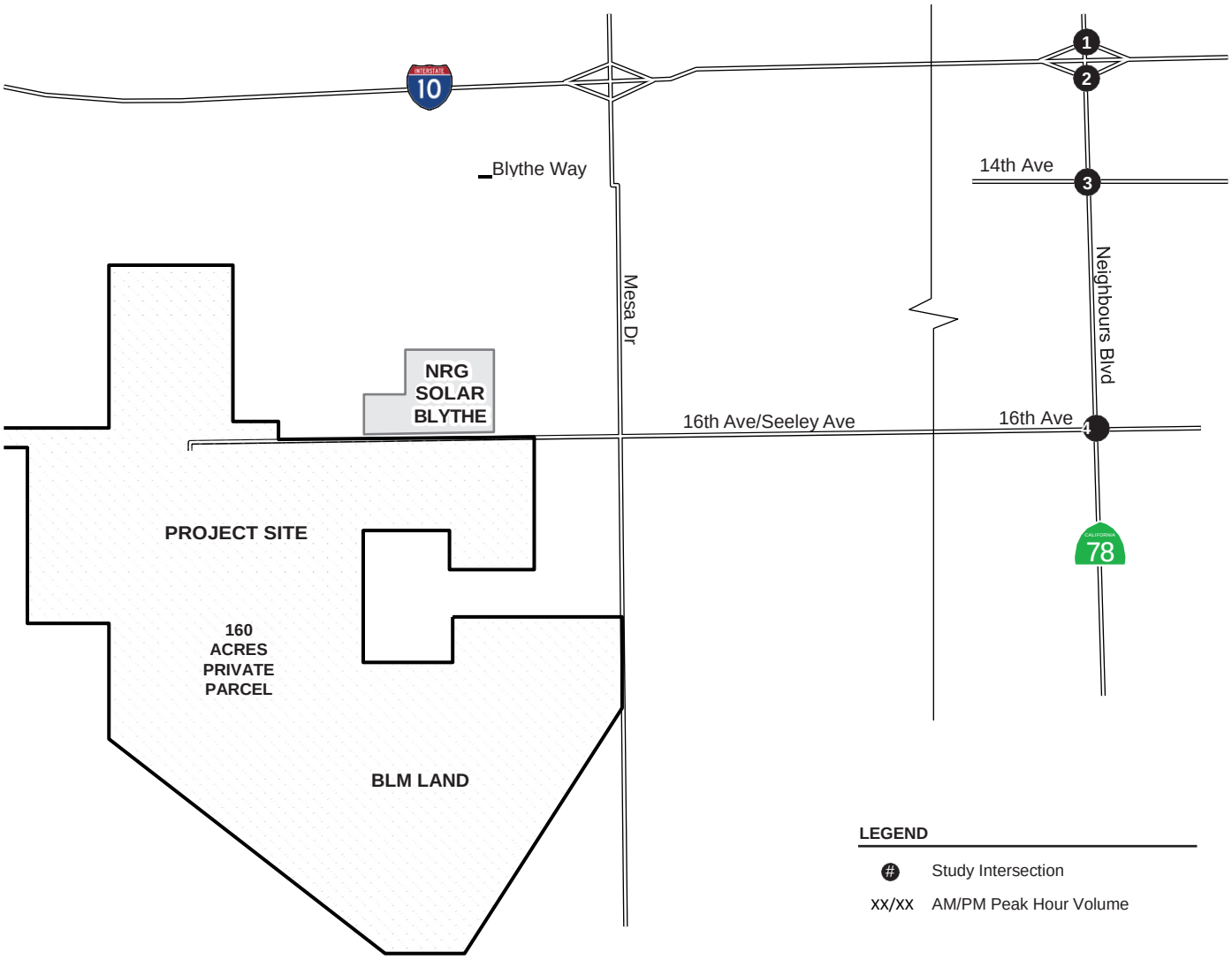
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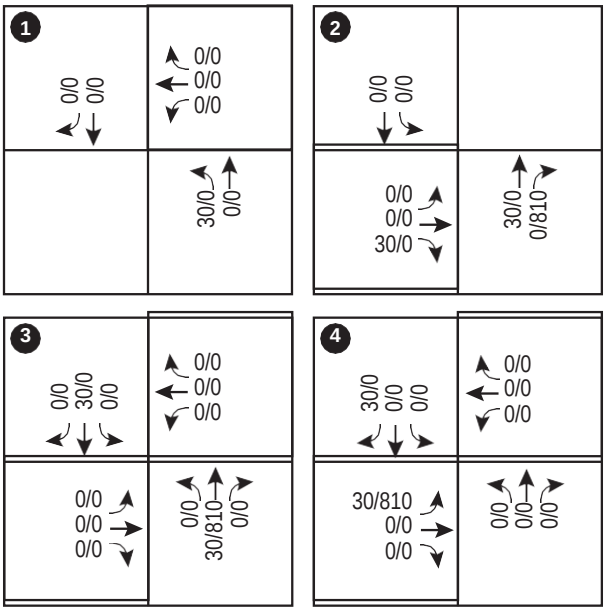
Traffic Impact Analysis
Desert Quartzite Solar Project
Riverside County, CA

URS Corporation

Figure 3-1. Year 2018 Base No Project Traffic Volumes

2015

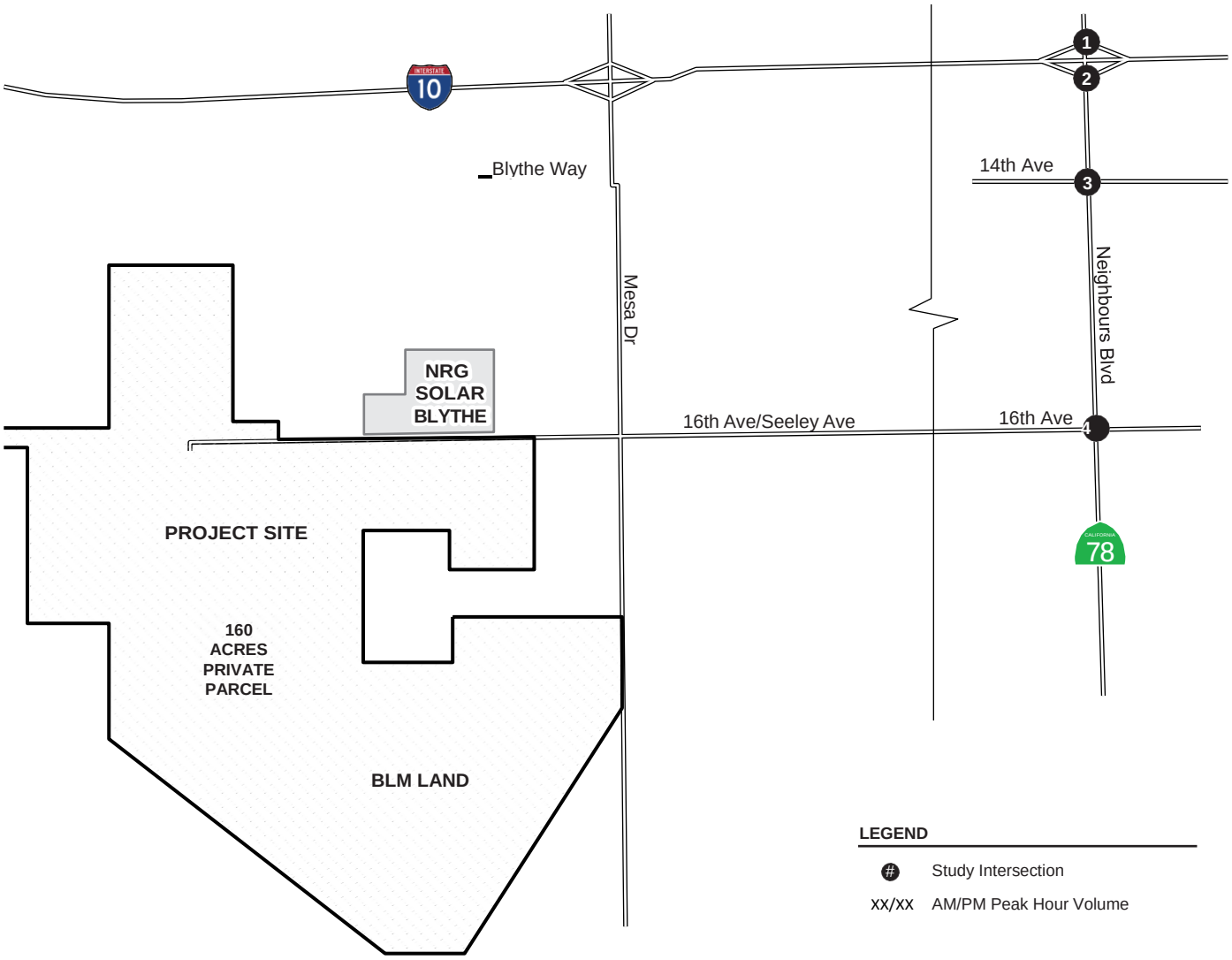






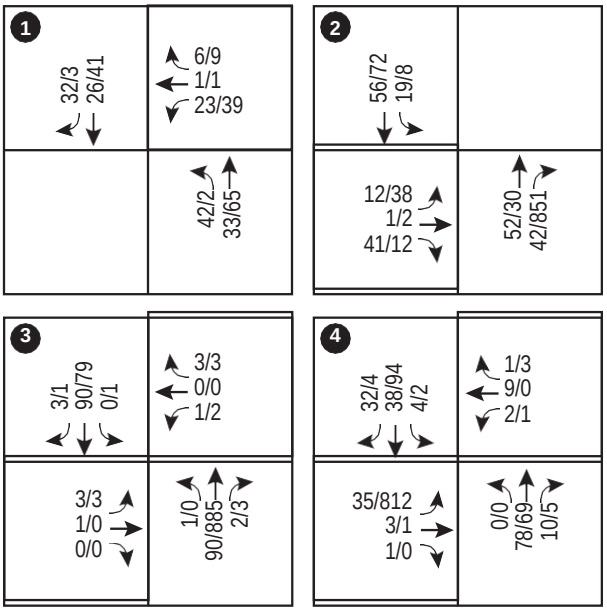
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Traffic Impact Analysis **Desert Quartzite Solar Project** **Riverside County, CA** URS Corporation		**Figure 3-2.** Year 2018 Construction Added Traffic Volumes	2015



LEGEND

#	Study Intersection
xx/xx	AM/PM Peak Hour Volume





Traffic Impact Analysis
Desert Quartzite Solar Project
Riverside County, CA

URS Corporation

Figure 3-3. Year 2018 Base with Project Construction Traffic Volumes

2015

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SECTION 4.0
APPLICANT RECOMMENDED MITIGATION MEASURES

4.1 MITIGATION MEASURES

During Project construction, no study roadway segments will be significantly impacted by the Project. Some study intersections will experience short-term increases in traffic during the peak construction period and only one study intersection SR-78 (Neighbours Blvd.)/16th Avenue will be significantly impacted by the Project. The study roadways and intersections will return to pre-project operating conditions upon completion of Project construction.

During Project operations, no study roadway segments or intersections will be significantly impacted by the Project as discussed in Section 3.3.4. The following proposed mitigation measures are offered pro-actively to address Project-related traffic contribution to the roadway network during the construction phase.

4.1.1 TRA-1 Worker Vehicle Reduction (Project Construction – PM Peak Hour)

The Applicant will limit PM construction worker vehicles leaving the Project site between 4:00 PM to 6:00 PM to 650 vehicles resulting in LOS D, and thereby reducing the PM peak hour construction impact that would be caused by up to 810 construction worker vehicles leaving the Project site between 4 to 6 PM during the peak construction period to less than significant. The following measures will be implemented to limit the number of worker vehicles leaving the site during this timeframe to no more than 650. For reference, the maximum 650 construction worker vehicle threshold during the PM peak period for the intersection of SR-78/16th Avenue was derived through an iterative analysis (refer to Appendix F for LOS calculation worksheet).

The Applicant proposes to monitor and enforce construction traffic limits to avoid and minimize construction traffic impacts. In order to ensure that Project-related traffic levels do not exceed 650 passenger vehicles (or passenger car equivalent [PCE] considering one truck or bus is equivalent to 3 PCEs) departing the construction site during the PM peak traffic period of 4 to 6 PM, the Applicant will perform self-monitoring.

Available traffic count and monitoring technology will be used to ensure construction traffic limits are met and will be performed and logged using one or more of the following methods:

- Automatic Counts (Tube Counters, Radar Counters, Machine Vision)
- Video Recording with Manual Counting in the Office
- Manual Counts at the gate/entry point

The monitoring will be conducted during the peak construction months only when the traffic limits are needed. Assuming a 25-month construction period, the peak construction workforce months are currently anticipated to occur in the latter parts of the overall construction phase (e.g., Months 17-21) (refer to Appendix E for details). In the event that the 650 passenger vehicle limit is exceeded during the PM peak period of 4 to 6 PM, the Applicant will implement and document one or more of the following traffic reduction measures to reduce the PM peak traffic to at or below the 650 passenger vehicle equivalent limit:

- Enforce mandatory carpooling at the level needed to achieve the needed reduction in traffic
- Arrange for busing to and from the site for the needed number of employees to get below the 650 vehicle limit

Based on the Applicant's experience on other similar projects, workers will voluntarily carpool and thereby help reduce the likelihood that the 650 vehicle limit would be exceeded during the peak construction period. In the event that the 650 vehicle limit is found to be exceeded, the Applicant will further evaluate carpool options and/or busing. Although not anticipated, if necessary, off-site busing locations will be identified at that time.

The traffic level monitoring will be logged on a daily basis during the applicable peak construction periods to document that the traffic level threshold of 650 passenger equivalent vehicles is not being exceeded. In the event that the threshold is exceeded, remedial traffic volume reduction measures will be implemented and documented. The Applicant will self-monitor, implement any remedial actions necessary, and report the results to the BLM and Riverside County, as appropriate.

4.1.2 TRA-3 Traffic and Monitoring Control Plan

The Applicant will develop and implement a standard traffic and monitoring control plan consistent with the size and scope of the project construction activity designed to minimize impact to traffic flow.

Proposed measures where applicable include, but are not limited to, the following:

1. Use proper signs and traffic control measures in accordance with Caltrans and Riverside County requirements. All traffic signs, equipment, and control measures shall conform to the provisions specified in the Caltrans Manual of Uniform Traffic Control Device. Specific jurisdictional requirements will be identified during the plan review and approval process.
2. Schedule traffic lane or road closures during off-peak hours whenever possible (e.g., during construction at road crossings, culverts or any Project activity that may encroach

in the traveled way). No traffic lane or off-site road closures are currently planned associated with the proposed Project.

3. Limit vehicular traffic to designated access roads, construction laydown and worker parking areas, and the Project construction site.
4. Provide orientation and briefing to employees and contractors on the desired construction route.
5. Encourage worker carpooling to minimize drive-alone worker trips.

Prior to construction, the Applicant will coordinate with the Riverside County Transportation Department to discuss road maintenance requirements and plans to ensure that road conditions along 16th Avenue/Seeley Avenue are kept safe for Project-related traffic to traverse, including potential adverse roadway conditions following infrequent storm events in the area.

SECTION 5.0
REFERENCES

Caltrans. 2014. 2014 Traffic Volumes on the California State Highway System. Available at http://www.dot.ca.gov/hq/traffops/saferesr/trafdata.

1999. California Department of Transportation Route Concept Report State Route 78. Available at http://www.dot.ca.gov/hq/tpp/corridor-mobility/D8_docs/TCRs/State Route 78.pdf

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Desert Quartzite, LLC. 2015. Technical Details for Desert Quartzite Solar Project (spreadsheets) to Support Technical Studies. August.

National Research Council, Transportation Research Board. 2000. *Highway Capacity Manual 2000.*

Riverside County Transportation Commission. 2010. *Congestion Management Program for Riverside County.*

2008. *Traffic Impact Analysis Preparation Guide.*

SECTION 6.0
LIST OF PREPARERS

The following staff assisted in the preparation of this document:

- Noel Casil, PE, TE, PTOE
- Sabrina Ventresca

APPENDIX A
TRAFFIC COUNTS

ITM Peak Hour Summary

Prepared by:

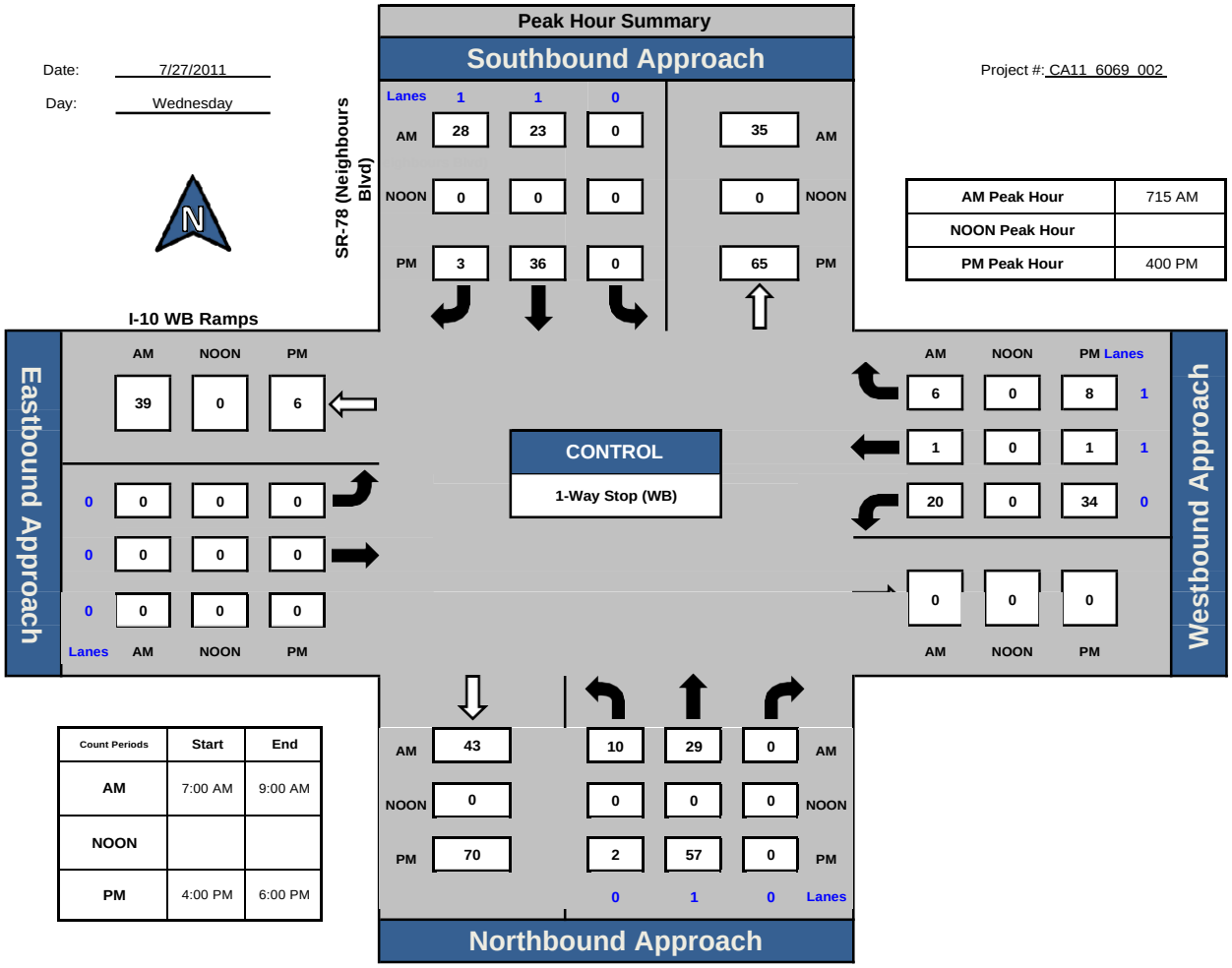
National Data & Surveying Services

SR-78 (Neighbours Blvd) and I-10 WB Ramps , City of Blythe

Date: 7/27/2011

Day: Wednesday

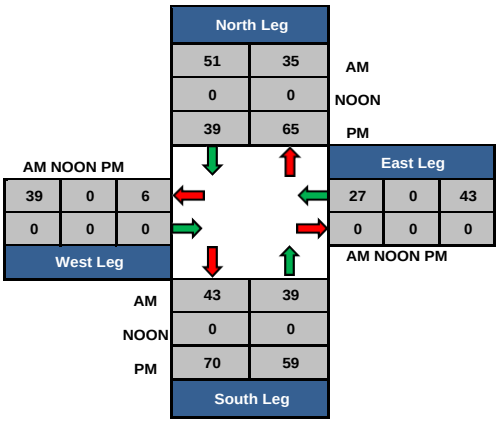
Project #: CA11_6069_002



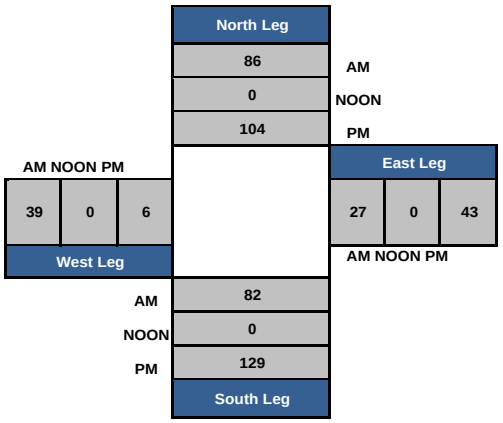
AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	400 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

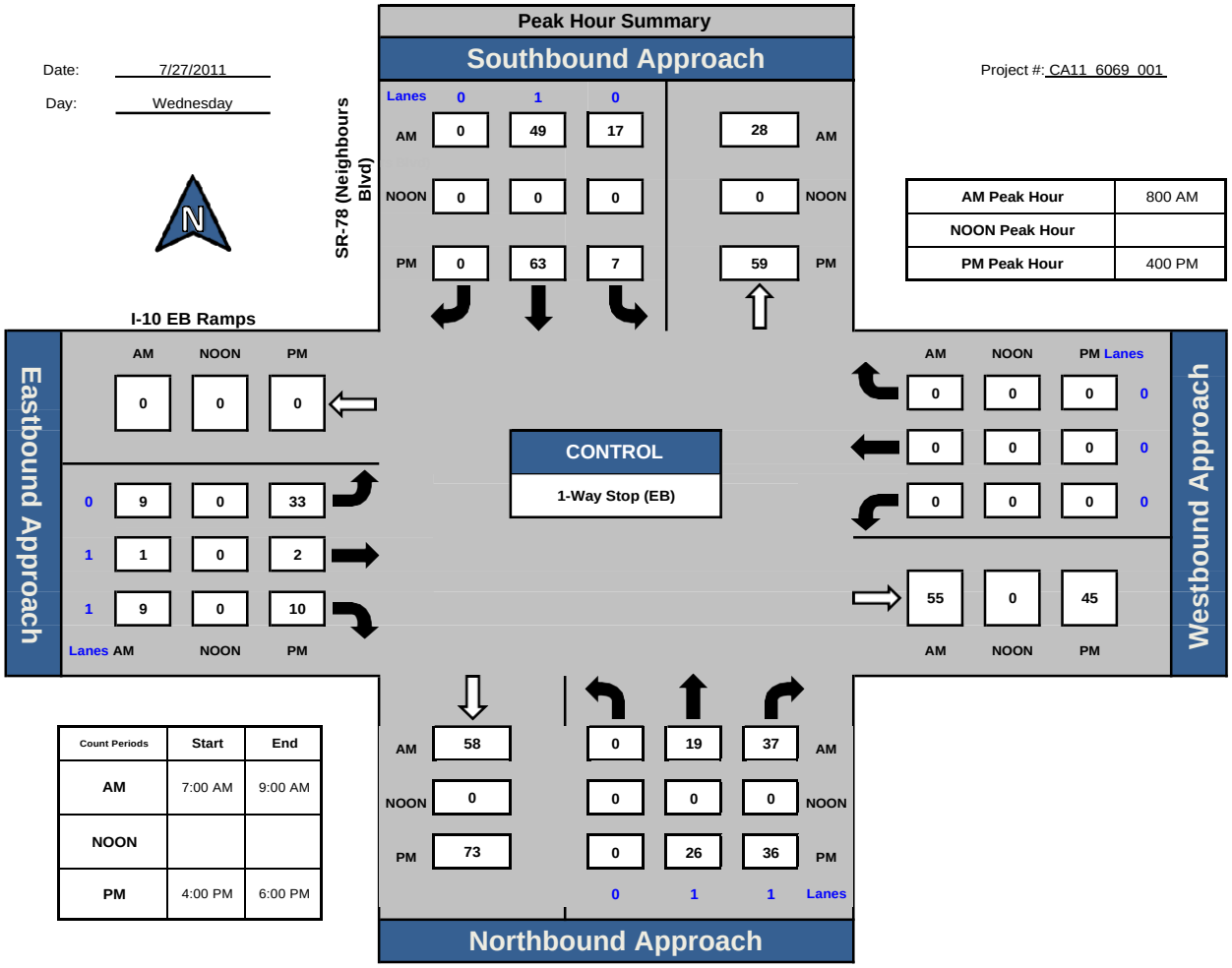
National Data & Surveying Services

SR-78 (Neighbours Blvd) and I-10 EB Ramps , City of Blythe

Date: 7/27/2011

Day: Wednesday

Project #: CA11_6069_001



AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	400 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs

	North Leg	
AM	66	28
NOON	0	0
PM	70	59

West Leg			East Leg		
AM NOON PM			AM NOON PM		
0	0	0	0	0	0
19	0	45	55	0	45

	South Leg	
AM	58	56
NOON	0	0
PM	73	62

Total Volume Per Leg

	North Leg
AM	94
NOON	0
PM	129

West Leg			East Leg		
AM NOON PM			AM NOON PM		
19	0	45	55	0	45

	South Leg
AM	114
NOON	0
PM	135

ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

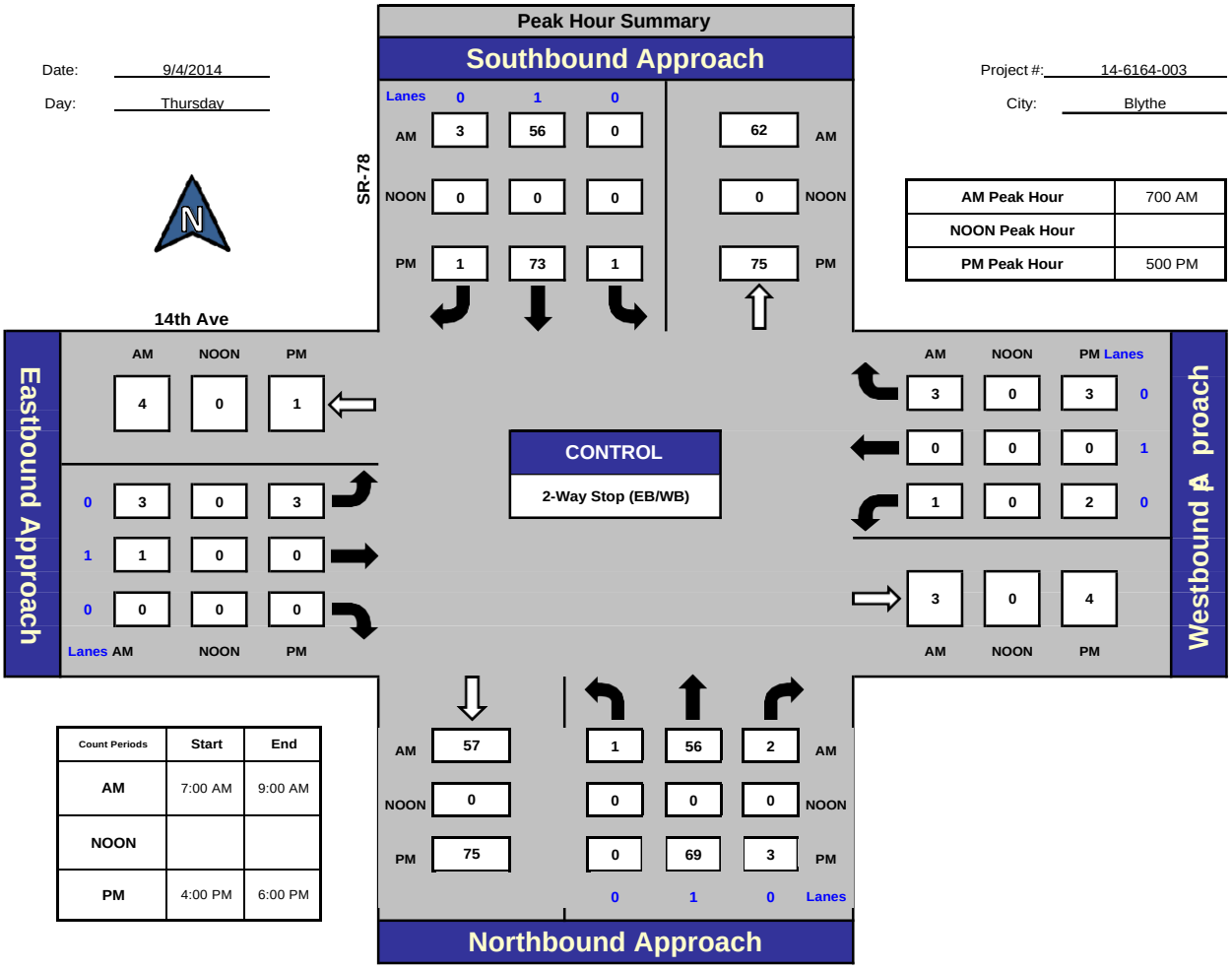
SR-78 and 14th Ave , Blythe

Date: 9/4/2014

Day: Thursday

Project #: 14-6164-003

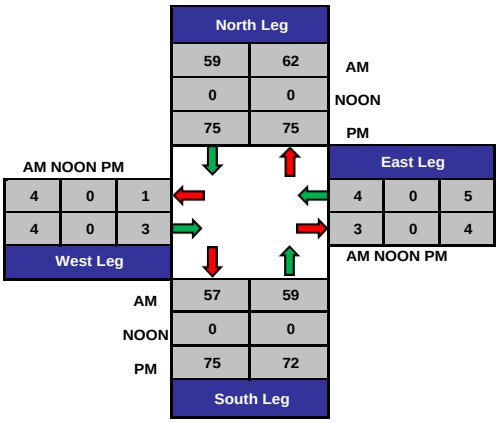
City: Blythe



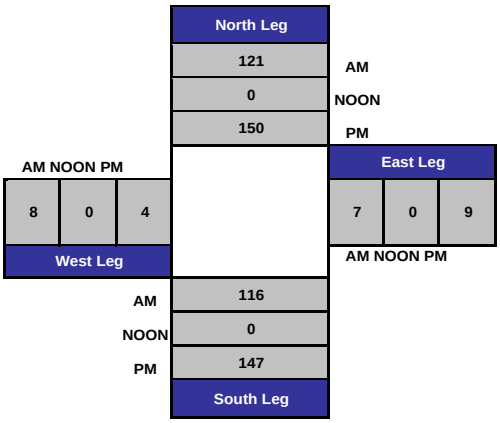
AM Peak Hour	700 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

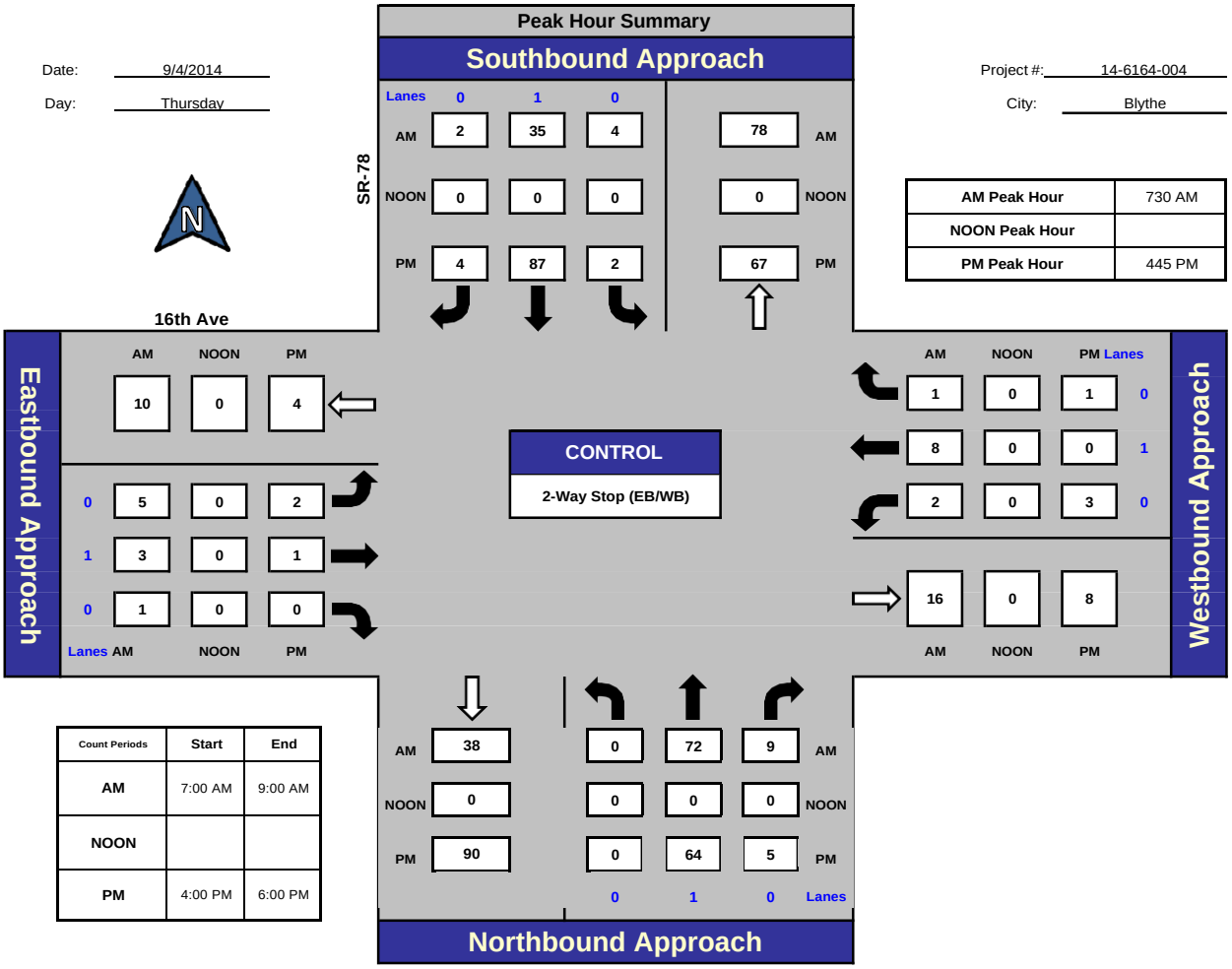
SR-78 and 16th Ave , Blythe

Date: 9/4/2014

Day: Thursday

Project #: 14-6164-004

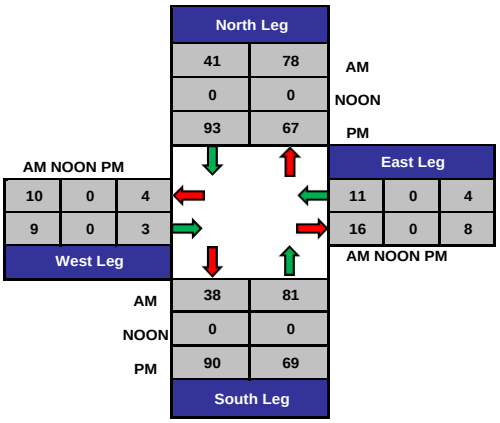
City: Blythe



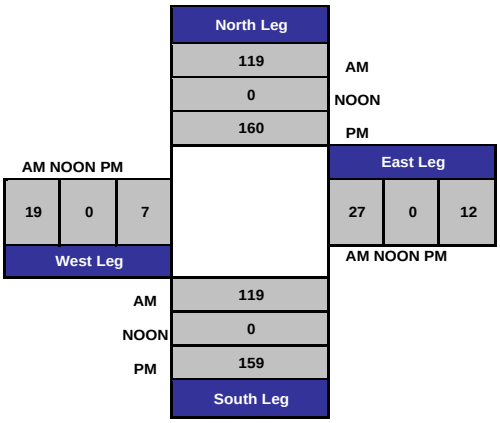
AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Prepared by National Data & Surveying Services

CLASSIFICATION

SR-78 s/o I-10

Day: Thursday
Date: 9/4/2014

City: Blythe
Project #: CA14_6165_001n

North Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	1	2	3	0	1	0	0	0	0	0	1	0	0	8
01:00	0	1	0	0	1	0	0	0	1	0	1	0	0	4
02:00	0	2	2	0	0	0	0	0	1	0	0	0	0	5
03:00	0	5	0	0	0	0	0	0	1	0	3	0	0	9
04:00	0	7	2	0	2	0	0	0	0	0	0	0	0	11
05:00	1	26	9	1	3	0	0	2	0	0	0	0	0	42
06:00	0	21	9	0	9	0	0	0	5	0	2	0	0	46
07:00	1	32	12	4	10	2	0	2	3	0	0	0	0	66
08:00	0	32	11	0	6	0	0	3	3	0	0	0	0	55
09:00	0	34	14	0	8	1	0	1	7	0	0	0	0	65
10:00	0	38	8	0	10	0	0	1	8	0	0	0	0	65
11:00	0	46	14	4	10	1	0	1	2	0	2	0	0	80
12:00 PM	0	25	14	0	12	1	0	0	4	0	1	0	0	57
13:00	0	22	10	2	6	0	0	1	5	0	0	0	0	46
14:00	1	41	12	0	13	0	0	0	4	0	1	0	0	72
15:00	1	35	9	3	6	0	0	0	2	0	2	0	0	58
16:00	0	29	7	0	7	0	0	1	3	0	3	0	0	50
17:00	1	43	8	0	12	0	0	0	6	0	1	0	0	71
18:00	0	36	12	0	6	0	0	1	3	0	1	0	0	59
19:00	0	23	2	0	10	0	0	0	3	0	1	0	0	39
20:00	0	21	5	0	8	0	0	0	2	0	0	0	0	36
21:00	0	13	0	0	1	2	0	1	1	0	0	0	0	18
22:00	0	8	3	0	3	0	0	0	4	0	2	0	0	20
23:00	0	11	1	0	2	0	0	0	1	0	2	0	0	17
Totals	6	553	167	14	146	7		14	69		23			999
% of Totals	1%	55%	17%	1%	15%	1%		1%	7%		2%			100%

AM Volumes	3	246	84	9	60	4	0	10	31	0	9	0	0	456
% AM	0%	25%	8%	1%	6%	0%		1%	3%		1%			46%
AM Peak Hour		11:00	09:00	07:00	07:00	07:00		08:00	10:00		03:00			11:00
Volume	1	46	14	4	10	2		3	8		3			80
PM Volumes	3	307	83	5	86	3	0	4	38	0	14	0	0	543
% PM	0%	31%	8%	1%	9%	0%		0%	4%		1%			54%
PM Peak Hour	14:00	17:00	12:00	15:00	14:00	21:00		13:00	17:00		16:00			14:00
Volume	1	43	14	3	13	2		1	6		3			72

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	121	⟷	12%	103	⟷	10%	121	⟷	12%	654	⟷	65%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

SR-78 s/o I-10

Day: Thursday
Date: 9/4/2014

City: Blythe
Project #: CA14_6165_001s

South Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	3	1	1	1	0	0	0	5	0	1	0	0	12
01:00	0	3	1	0	1	0	0	0	0	0	2	0	0	7
02:00	0	1	1	0	0	0	0	0	3	0	1	0	0	6
03:00	0	0	0	0	2	0	0	0	1	0	1	0	0	4
04:00	0	3	2	0	0	0	0	0	6	0	1	0	0	12
05:00	0	22	4	1	6	0	0	0	2	0	3	0	0	38
06:00	0	21	7	1	9	0	0	2	6	0	1	0	0	47
07:00	0	19	10	2	12	1	0	0	7	0	1	0	0	52
08:00	1	18	11	0	11	0	0	4	9	0	0	0	0	54
09:00	0	26	7	0	4	0	0	1	8	0	2	0	0	48
10:00	0	29	13	1	10	1	0	0	9	0	4	0	0	67
11:00	0	20	14	3	11	0	0	0	14	0	2	0	0	64
12:00 PM	0	42	14	0	18	0	0	1	10	0	4	0	0	89
13:00	0	36	10	2	8	0	0	2	7	0	2	0	0	67
14:00	1	38	10	3	10	0	0	1	4	0	5	0	0	72
15:00	1	48	6	2	15	0	0	6	10	0	3	0	0	91
16:00	0	41	8	1	14	0	0	0	10	0	0	0	0	74
17:00	0	49	9	0	9	0	0	2	8	0	0	0	0	77
18:00	0	33	6	0	2	0	0	2	6	0	1	0	0	50
19:00	1	27	2	0	2	1	0	1	7	0	1	0	0	42
20:00	0	23	9	0	3	0	0	0	6	0	0	0	0	41
21:00	1	14	3	1	4	0	0	1	5	0	0	0	0	29
22:00	0	25	3	2	8	0	0	0	1	0	0	0	0	39
23:00	0	7	3	0	10	0	0	0	1	0	3	0	0	24
Totals	5	548	154	20	170	3		23	145		38			1106
% of Totals	0%	50%	14%	2%	15%	0%		2%	13%		3%			100%

AM Volumes	1	165	71	9	67	2	0	7	70	0	19	0	0	411
% AM	0%	15%	6%	1%	6%	0%		1%	6%		2%			37%
AM Peak Hour	08:00	10:00	11:00	11:00	07:00	07:00		08:00	11:00		10:00			10:00
Volume	1	29	14	3	12	1		4	14		4			67
PM Volumes	4	383	83	11	103	1	0	16	75	0	19	0	0	695
% PM	0%	35%	8%	1%	9%	0%		1%	7%		2%			63%
PM Peak Hour	14:00	17:00	12:00	14:00	12:00	19:00		15:00	12:00		14:00			15:00
Volume	1	49	14	3	18	1		6	10		5			91

Directional Peak Periods	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	106	10%	156	14%	151	14%	693	63%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

SR-78 s/o I-10

Day: Thursday
Date: 9/4/2014

City: Blythe
Project #: CA14_6165_001

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	1	5	4	1	2	0	0	0	5	0	2	0	0	20
01:00	0	4	1	0	2	0	0	0	1	0	3	0	0	11
02:00	0	3	3	0	0	0	0	0	4	0	1	0	0	11
03:00	0	5	0	0	2	0	0	0	2	0	4	0	0	13
04:00	0	10	4	0	2	0	0	0	6	0	1	0	0	23
05:00	1	48	13	2	9	0	0	2	2	0	3	0	0	80
06:00	0	42	16	1	18	0	0	2	11	0	3	0	0	93
07:00	1	51	22	6	22	3	0	2	10	0	1	0	0	118
08:00	1	50	22	0	17	0	0	7	12	0	0	0	0	109
09:00	0	60	21	0	12	1	0	2	15	0	2	0	0	113
10:00	0	67	21	1	20	1	0	1	17	0	4	0	0	132
11:00	0	66	28	7	21	1	0	1	16	0	4	0	0	144
12:00 PM	0	67	28	0	30	1	0	1	14	0	5	0	0	146
13:00	0	58	20	4	14	0	0	3	12	0	2	0	0	113
14:00	2	79	22	3	23	0	0	1	8	0	6	0	0	144
15:00	2	83	15	5	21	0	0	6	12	0	5	0	0	149
16:00	0	70	15	1	21	0	0	1	13	0	3	0	0	124
17:00	1	92	17	0	21	0	0	2	14	0	1	0	0	148
18:00	0	69	18	0	8	0	0	3	9	0	2	0	0	109
19:00	1	50	4	0	12	1	0	1	10	0	2	0	0	81
20:00	0	44	14	0	11	0	0	0	8	0	0	0	0	77
21:00	1	27	3	1	5	2	0	2	6	0	0	0	0	47
22:00	0	33	6	2	11	0	0	0	5	0	2	0	0	59
23:00	0	18	4	0	12	0	0	0	2	0	5	0	0	41
Totals	11	1101	321	34	316	10		37	214		61			2105
% of Totals	1%	52%	15%	2%	15%	0%		2%	10%		3%			100%

AM Volumes	4	411	155	18	127	6	0	17	101	0	28	0	0	867
% AM	0%	20%	7%	1%	6%	0%		1%	5%		1%			41%
AM Peak Hour		10:00	11:00	11:00	07:00	07:00		08:00	10:00		03:00			11:00
Volume	1	67	28	7	22	3		7	17		4			144
PM Volumes	7	690	166	16	189	4	0	20	113	0	33	0	0	1238
% PM	0%	33%	8%	1%	9%	0%		1%	5%		2%			59%
PM Peak Hour	14:00	17:00	12:00	15:00	12:00	21:00		15:00	12:00		14:00			15:00
Volume	2	92	28	5	30	2		6	14		6			149

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	227	⟷	11%	259	⟷	12%	272	⟷	13%	1347	⟷	64%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

16th St w/o SR-78

Day: Thursday
Date: 9/4/2014

City: Blythe
Project #: CA14_6165_002e

East Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	1	0	1	1	0	0	0	0	0	0	0	0	3
07:00	0	5	1	0	3	0	0	0	0	0	0	0	0	9
08:00	0	1	1	1	2	0	0	0	0	0	0	0	0	5
09:00	0	3	0	2	0	0	0	0	0	0	0	0	0	5
10:00	1	0	0	0	1	0	0	0	0	0	0	0	0	2
11:00	0	0	1	0	1	1	0	0	0	0	0	0	0	3
12:00 PM	1	1	1	0	1	0	0	0	0	0	0	0	0	4
13:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
14:00	0	1	1	0	1	0	0	0	0	0	0	0	0	3
15:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
16:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
17:00	0	3	0	0	1	0	0	0	0	0	0	0	0	4
18:00	0	1	1	1	0	0	0	0	0	0	0	0	0	3
19:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	2	25	7	5	14	1								54
% of Totals	4%	46%	13%	9%	26%	2%								100%

AM Volumes	1	12	3	4	9	1	0	0	0	0	0	0	0	30
% AM	2%	22%	6%	7%	17%	2%								56%
AM Peak Hour	10:00	07:00	07:00	09:00	07:00	11:00								07:00
Volume	1	5	1	2	3	1								9
PM Volumes	1	13	4	1	5	0	0	0	0	0	0	0	0	24
% PM	2%	24%	7%	2%	9%									44%
PM Peak Hour	12:00	17:00	12:00	18:00	12:00									12:00
Volume	1	3	1	1	1									4

Directional Peak Periods All Classes	AM 7-9 Volume		%	NOON 12-2 Volume		%	PM 4-6 Volume		%	Off Peak Volumes Volume		%
	14	⟷	26%	5	⟷	9%	7	⟷	13%	28	⟷	52%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

16th St w/o SR-78

Day: Thursday
Date: 9/4/2014

City: Blythe
Project #: CA14_6165_002w

West Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	2	0	0	0	0	0	0	0	0	3
06:00	0	0	1	1	3	0	0	0	0	0	0	0	0	5
07:00	0	2	2	0	3	0	0	1	0	0	0	0	0	8
08:00	0	0	1	0	6	0	0	0	0	0	0	0	0	7
09:00	0	3	0	0	2	0	0	0	0	0	0	0	0	5
10:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
11:00	0	3	1	1	0	0	0	0	0	0	0	0	0	5
12:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	2
13:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
14:00	0	2	1	0	0	1	0	0	0	0	0	0	0	4
15:00	0	1	0	0	1	0	0	0	0	0	0	0	0	2
16:00	1	2	0	0	0	0	0	0	0	0	0	0	0	3
17:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
18:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
19:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	1	30	10	2	18	1		1						63
% of Totals	2%	48%	16%	3%	29%	2%		2%						100%

AM Volumes	0	11	6	2	17	0	0	1	0	0	0	0	0	37
% AM		17%	10%	3%	27%			2%						59%
AM Peak Hour		09:00	07:00	06:00	08:00			07:00						07:00
Volume		3	2	1	6			1						8
PM Volumes	1	19	4	0	1	1	0	0	0	0	0	0	0	26
% PM	2%	30%	6%		2%	2%								41%
PM Peak Hour	16:00	18:00	13:00		15:00	14:00								14:00
Volume	1	4	1		1	1								4

Directional Peak Periods All Classes	AM 7-9 Volume		%	NOON 12-2 Volume		%	PM 4-6 Volume		%	Off Peak Volumes Volume		%
	15	⟷	24%	5	⟷	8%	4	⟷	6%	39	⟷	62%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

16th St w/o SR-78

Day: Thursday
Date: 9/4/2014

City: Blythe
Project #: CA14_6165_002

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	0	0	0	1	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	2	0	0	0	0	0	0	0	0	3
06:00	0	1	1	2	4	0	0	0	0	0	0	0	0	8
07:00	0	7	3	0	6	0	0	1	0	0	0	0	0	17
08:00	0	1	2	1	8	0	0	0	0	0	0	0	0	12
09:00	0	6	0	2	2	0	0	0	0	0	0	0	0	10
10:00	1	1	0	0	2	0	0	0	0	0	0	0	0	4
11:00	0	3	2	1	1	1	0	0	0	0	0	0	0	8
12:00 PM	1	3	1	0	1	0	0	0	0	0	0	0	0	6
13:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
14:00	0	3	2	0	1	1	0	0	0	0	0	0	0	7
15:00	0	2	0	0	1	0	0	0	0	0	0	0	0	3
16:00	1	4	0	0	1	0	0	0	0	0	0	0	0	6
17:00	0	4	0	0	1	0	0	0	0	0	0	0	0	5
18:00	0	5	1	1	0	0	0	0	0	0	0	0	0	7
19:00	0	4	1	0	1	0	0	0	0	0	0	0	0	6
20:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
21:00	0	1	2	0	0	0	0	0	0	0	0	0	0	3
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	3	55	17	7	32	2		1						117
% of Totals	3%	47%	15%	6%	27%	2%		1%						100%

AM Volumes	1	23	9	6	26	1	0	1	0	0	0	0	0	67
% AM	1%	20%	8%	5%	22%	1%		1%						57%
AM Peak Hour	10:00	07:00	07:00	06:00	08:00	11:00		07:00						07:00
Volume	1	7	3	2	8	1		1						17
PM Volumes	2	32	8	1	6	1	0	0	0	0	0	0	0	50
% PM	2%	27%	7%	1%	5%	1%								43%
PM Peak Hour	12:00	18:00	14:00	18:00	12:00	14:00								14:00
Volume	1	5	2	1	1	1								7

Directional Peak Periods All Classes	AM 7-9 Volume		%	NOON 12-2 Volume		%	PM 4-6 Volume		%	Off Peak Volumes Volume		%
	29	⟷	25%	10	⟷	9%	11	⟷	9%	67	⟷	57%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

APPENDIX B
EXISTING LOS WORKSHEETS

Desert Quartzite Solar Project
Existing AM Peak Hour Conditions

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in	
# 1 SR-78/I-10 WB Ramps	A	9.1	0.000	A	9.1	0.000	+ 0.000	D/V
# 2 SR-78/I-10 EB Ramps	A	9.1	0.000	A	9.1	0.000	+ 0.000	D/V
# 3 SR-78/14th Avenue	A	9.4	0.000	A	9.4	0.000	+ 0.000	D/V
# 4 SR-78/16th Avenue	A	9.7	0.000	A	9.7	0.000	+ 0.000	D/V

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Desert Quartzite Solar Project
Existing AM Peak Hour Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 SR-78/I-10 WB Ramps

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: A[9.1]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Channel			Include			Channel		
Lanes:	0 1 0	0 0		0 0 1	0 1		0 0 0	0 0		0 1 0	0 1	
Volume Module: >> Count Date: 27 Jul 2011 << Adjusted to 2014												
Base Vol:	11	31	0	0	24	30	0	0	0	21	1	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	31	0	0	24	30	0	0	0	21	1	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
PHF Volume:	15	42	0	0	33	41	0	0	0	29	1	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	15	42	0	0	33	41	0	0	0	29	1	8
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	33	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	126	105	42
Potent Cap.:	1592	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	874	788	1034
Move Cap.:	1592	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	867	781	1034
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	0.00	0.01
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	0.0
Stopped Del:	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.5
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	A
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	863	xxxx	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd StpDel:	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.3	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	A	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.1		
ApproachLOS:	*			*			*			A		

Desert Quartzite Solar Project
Existing AM Peak Hour Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 SR-78/I-10 EB Ramps

Average Delay (sec/veh): 2.2 Worst Case Level Of Service: A[9.1]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Channel			Include			Channel			Include		
Lanes:	0 0 1	0	1	0 1	0	0	0 1	0	1	0 0	0	0
Volume Module: >> Count Date: 27 Jul 2011 << Adjusted to 2014												
Base Vol:	0 20	39		18 52	0		11 1	10		0 0	0	
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Initial Bse:	0 20	39		18 52	0		11 1	10		0 0	0	
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
PHF Adj:	0.84 0.84	0.84		0.84 0.84	0.84		0.84 0.84	0.84		0.84 0.84	0.84	
PHF Volume:	0 24	46		21 62	0		13 1	12		0 0	0	
Reduct Vol:	0 0	0		0 0	0		0 0	0		0 0	0	
Final Vol.:	0 24	46		21 62	0		13 1	12		0 0	0	
Critical Gap Module:												
Critical Gp:	xxxxx xxxx xxxxx			4.1 xxxx xxxxx			6.4 6.5	6.2		xxxxx xxxx xxxxx		
FollowUpTim:	xxxxx xxxx xxxxx			2.2 xxxx xxxxx			3.5 4.0	3.3		xxxxx xxxx xxxxx		
Capacity Module:												
Cnflict Vol:	xxxx xxxx xxxxx	24		xxxx xxxxx	152		129	62		xxxx xxxx xxxxx		
Potent Cap.:	xxxx xxxx xxxxx	1604		xxxx xxxxx	845		766	1009		xxxx xxxx xxxxx		
Move Cap.:	xxxx xxxx xxxxx	1604		xxxx xxxxx	836		755	1009		xxxx xxxx xxxxx		
Volume/Cap:	xxxx xxxx xxxx	0.01		xxxx xxxx	0.02		0.00	0.01		xxxx xxxx xxxx		
Level Of Service Module:												
Queue:	xxxxx xxxx xxxxx	0.0		xxxx xxxxx	xxxxx		xxxx	0.0		xxxxx xxxx xxxxx		
Stopped Del:	xxxxx xxxx xxxxx	7.3		xxxx xxxxx	xxxxx		xxxx	8.6		xxxxx xxxx xxxxx		
LOS by Move:	* *	*		A *	*		*	*		A *	*	
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx xxxxx			xxxx xxxx xxxxx			829 xxxx xxxxx			xxxx xxxx xxxxx		
SharedQueue:	xxxxx xxxx xxxxx	0.0		xxxx xxxxx	0.1		xxxx xxxxx			xxxxx xxxx xxxxx		
Shrd StpDel:	xxxxx xxxx xxxxx	7.3		xxxx xxxxx	9.4		xxxx xxxxx			xxxxx xxxx xxxxx		
Shared LOS:	* *	*		A *	*		A *	*		* *	*	
ApproachDel:	xxxxxx			xxxxxx			9.1			xxxxxx		
ApproachLOS:	*			*			A			*		

Desert Quartzite Solar Project
Existing AM Peak Hour Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 SR-78/14th Avenue

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A[9.4]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	1!	0	0		0	0	0	1	0		0	1	0	0	0		0	0	1!	0	0	
Volume Module:																								
Base Vol:	1	56	2	0	56	3	3	1	0	1	0	3												
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
Initial Bse:	1	56	2	0	56	3	3	1	0	1	0	3												
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93												
PHF Volume:	1	60	2	0	60	3	3	1	0	1	0	3												
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0												
Final Vol.:	1	60	2	0	60	3	3	1	0	1	0	3												
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.1	6.5	xxxxx	7.1	xxxx	6.2												
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	xxxxx	3.5	xxxx	3.3												
Capacity Module:																								
Cnflict Vol:	63	xxxx	xxxxx	xxxx	xxxx	xxxxx	127	126	xxxxx	126	xxxx	61												
Potent Cap.:	1552	xxxx	xxxxx	xxxx	xxxx	xxxxx	851	768	xxxxx	853	xxxx	1009												
Move Cap.:	1552	xxxx	xxxxx	xxxx	xxxx	xxxxx	848	767	xxxxx	851	xxxx	1009												
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.00	xxxx	0.00	xxxx	0.00												

Level Of Service Module:																		
Queue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx						
Stopped Del:	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx						
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*						
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	826	xxxx	xxxxx	xxxx	965	xxxxx						
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	0.0	xxxxx						
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.4	xxxx	xxxxx	xxxxx	8.7	xxxxx						
Shared LOS:	*	*	*	*	*	*	A	*	*	*	A	*						
ApproachDel:	xxxxxx			xxxxxx			9.4			8.7								
ApproachLOS:	*			*			A			A								

Desert Quartzite Solar Project
Existing AM Peak Hour Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 SR-78/16th Avenue

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: A[9.7]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	0	1	0		0	0	1!	0	0		0	0	1!	0	0		0	0	1!	0	0	
Volume Module:																								
Base Vol:	0	72		9			4	35		2			5	3		1			2	8		1		
Growth Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
Initial Bse:	0	72		9			4	35		2			5	3		1			2	8		1		
User Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
PHF Adj:	0.89	0.89		0.89			0.89	0.89		0.89			0.89	0.89		0.89			0.89	0.89		0.89		
PHF Volume:	0	81		10			4	39		2			6	3		1			2	9		1		
Reduct Vol:	0	0		0			0	0		0			0	0		0			0	0		0		
Final Vol.:	0	81		10			4	39		2			6	3		1			2	9		1		
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx		xxxxx			4.1	xxxx		xxxxx			7.1	6.5		6.2			7.1	6.5		6.2		
FollowUpTim:	xxxxx	xxxx		xxxxx			2.2	xxxx		xxxxx			3.5	4.0		3.3			3.5	4.0		3.3		
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx		xxxxx			91	xxxx		xxxxx			140	140		40			138	137		86		
Potent Cap.:	xxxx	xxxx		xxxxx			1517	xxxx		xxxxx			834	754		1036			838	758		978		
Move Cap.:	xxxx	xxxx		xxxxx			1517	xxxx		xxxxx			824	752		1036			832	756		978		
Volume/Cap:	xxxx	xxxx		xxxx			0.00	xxxx		xxxx			0.01	0.00		0.00			0.00	0.01		0.00		
Level Of Service Module:																								
Queue:	xxxxx	xxxx		xxxxx			0.0	xxxx		xxxxx			xxxxx	xxxx		xxxxx			xxxxx	xxxx		xxxxx		
Stopped Del:	xxxxx	xxxx		xxxxx			7.4	xxxx		xxxxx			xxxxx	xxxx		xxxxx			xxxxx	xxxx		xxxxx		
LOS by Move:	*		*		*		A		*		*		*		*		*		*		*		*	
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx		xxxxx			xxxx	xxxx		xxxxx			xxxx	816		xxxxx			xxxx	785		xxxxx		
SharedQueue:	xxxxx	xxxx		xxxxx			xxxxx	xxxx		xxxxx			xxxxx	0.0		xxxxx			xxxxx	0.0		xxxxx		
Shrd StpDel:	xxxxx	xxxx		xxxxx			xxxxx	xxxx		xxxxx			xxxxx	9.5		xxxxx			xxxxx	9.7		xxxxx		
Shared LOS:	*		*		*		*		*		*		*	A		*			*	A		*		
ApproachDel:	xxxxxx						xxxxxx						9.5						9.7					
ApproachLOS:	*						*						A						A					

Desert Quartzite Solar Project
Existing PM Peak Hour Conditions

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in V/ C	
# 1 SR-78/I-10 WB Ramps	A	9.2	0.000	A	9.2	0.000	+ 0.000	D/V
# 2 SR-78/I-10 EB Ramps	A	9.4	0.000	A	9.4	0.000	+ 0.000	D/V
# 3 SR-78/14th Avenue	A	9.7	0.000	A	9.7	0.000	+ 0.000	D/V
# 4 SR-78/16th Avenue	A	9.7	0.000	A	9.7	0.000	+ 0.000	D/V

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Desert Quartzite Solar Project
Existing PM Peak Hour Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 SR-78/I-10 WB Ramps

Average Delay (sec/veh): 2.9 Worst Case Level Of Service: A[9.2]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Channel						Include						Channel					
Lanes:	0	1	0	0	0		0	0	1	0	1		0	0	0	0	0		0	1	0	0	1	
Volume Module: >> Count Date: 27 Jul 2011 << Adjusted to 2014																								
Base Vol:	2		60		0		0		38		3		0		0		0		36		1		8	
Growth Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Initial Bse:	2		60		0		0		38		3		0		0		0		36		1		8	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	0.88		0.88		0.88		0.88		0.88		0.88		0.88		0.88		0.88		0.88		0.88		0.88	
PHF Volume:	2		68		0		0		43		3		0		0		0		41		1		9	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
Final Vol.:	2		68		0		0		43		3		0		0		0		41		1		9	
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx										6.4		6.5		6.2	
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx										3.5		4.0		3.3	
Capacity Module:																								
Cnflict Vol:	43	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx								118		116		68	
Potent Cap.:	1578	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx								883		778		1001	
Move Cap.:	1578	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx								882		777		1001	
Volume/Cap:	0.00	xxxx	xxxx		xxxx	xxxx	xxxx		xxxx	xxxx	xxxx								0.05		0.00		0.01	
Level Of Service Module:																								
Queue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx		0.0											
Stopped Del:	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx		8.6											
LOS by Move:	A	*		*		*		*		*		*		*		*		A						
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx								879		xxxx		xxxxx	
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx										0.2		xxxx		xxxxx	
Shrd StpDel:	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx										9.3		xxxx		xxxxx	
Shared LOS:	A	*		*		*		*		*		*							A		*		*	
ApproachDel:	xxxxxx			xxxxxx			xxxxxx												9.2					
ApproachLOS:	*			*			*												A					

Desert Quartzite Solar Project
Existing PM Peak Hour Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 SR-78/I-10 EB Ramps

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: A[9.4]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Channel						Include						Channel						Include					
Lanes:	0	0	1	0	1		0	1	0	0	0		0	1	0	0	1		0	0	0	0	0	
Volume Module:																								
Base Vol:	0	28	38				7	67	0				35	2	11				0	0	0			
Growth Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
Initial Bse:	0	28	38				7	67	0				35	2	11				0	0	0			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	0.84	0.84	0.84				0.84	0.84	0.84				0.84	0.84	0.84				0.84	0.84	0.84			
PHF Volume:	0	33	45				8	80	0				42	2	13				0	0	0			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Final Vol.:	0	33	45				8	80	0				42	2	13				0	0	0			
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx	xxxxx				4.1	xxxx	xxxxx				6.4	6.5	6.2				xxxxx	xxxx	xxxxx			
FollowUpTim:	xxxxx	xxxx	xxxxx				2.2	xxxx	xxxxx				3.5	4.0	3.3				xxxxx	xxxx	xxxxx			
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx	xxxxx	33	xxxx	xxxxx	152	130	80	xxxx	xxxx	xxxxx												
Potent Cap.:	xxxx	xxxx	xxxxx	1592	xxxx	xxxxx	844	765	986	xxxx	xxxx	xxxxx												
Move Cap.:	xxxx	xxxx	xxxxx	1592	xxxx	xxxxx	841	761	986	xxxx	xxxx	xxxxx												
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	0.05	0.00	0.01	xxxx	xxxx	xxxx												
Level Of Service Module:																								
Queue:	xxxxx	xxxx	xxxxx		0.0	xxxx	xxxxx	xxxxx	xxxx		0.0	xxxxx	xxxx	xxxxx										
Stopped Del:	xxxxx	xxxx	xxxxx		7.3	xxxx	xxxxx	xxxxx	xxxx		8.7	xxxxx	xxxx	xxxxx										
LOS by Move:	*	*	*		A	*	*	*	*		A	*	*	*										
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		836	xxxx	xxxxx		xxxx	xxxx	xxxxx									
SharedQueue:	xxxxx	xxxx	xxxxx		0.0	xxxx	xxxxx		0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx										
Shrd StpDel:	xxxxx	xxxx	xxxxx		7.3	xxxx	xxxxx		9.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx										
Shared LOS:	*	*	*		A	*	*		A	*	*	*	*	*										
ApproachDel:	xxxxxx				xxxxxx				9.4			xxxxxx												
ApproachLOS:	*				*				A			*												

Desert Quartzite Solar Project
Existing PM Peak Hour Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 SR-78/14th Avenue

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: A[9.7]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	0	1	0		0	0	1!	0	0		1	0	0	0	0		0	0	1!	0	0	
Volume Module:																								
Base Vol:	0	69		3			1	73		1			3	0		0			2	0		3		
Growth Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
Initial Bse:	0	69		3			1	73		1			3	0		0			2	0		3		
User Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
PHF Adj:	0.75	0.75		0.75			0.75	0.75		0.75			0.75	0.75		0.75			0.75	0.75		0.75		
PHF Volume:	0	92		4			1	97		1			4	0		0			3	0		4		
Reduct Vol:	0	0		0			0	0		0			0	0		0			0	0		0		
Final Vol.:	0	92		4			1	97		1			4	0		0			3	0		4		
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx	xxxxx				4.1	xxxx	xxxxx				7.1	xxxx	xxxxx				7.1	xxxx		6.2		
FollowUpTim:	xxxxx	xxxx	xxxxx				2.2	xxxx	xxxxx				3.5	xxxx	xxxxx				3.5	xxxx		3.3		
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx	xxxxx				96	xxxx	xxxxx				197	xxxx	xxxxx				195	xxxx		94		
Potent Cap.:	xxxx	xxxx	xxxxx				1510	xxxx	xxxxx				767	xxxx	xxxxx				769	xxxx		968		
Move Cap.:	xxxx	xxxx	xxxxx				1510	xxxx	xxxxx				763	xxxx	xxxxx				769	xxxx		968		
Volume/Cap:	xxxx	xxxx	xxxx				0.00	xxxx	xxxx				0.01	xxxx	xxxx				0.00	xxxx		0.00		
Level Of Service Module:																								
Queue:	xxxxx	xxxx	xxxxx				0.0	xxxx	xxxxx				0.0	xxxx	xxxxx				xxxxx	xxxx		xxxxx		
Stopped Del:	xxxxx	xxxx	xxxxx				7.4	xxxx	xxxxx				9.7	xxxx	xxxxx				xxxxx	xxxx		xxxxx		
LOS by Move:	*		*		*		A		*		*		A		*		*		*			*		
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx				xxxx		877	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx		0.0	xxxxx		
Shrd StpDel:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx		9.1	xxxxx		
Shared LOS:	*		*		*		*		*		*		*		*		*		*			A		*
ApproachDel:	xxxxxx						xxxxxx						9.7						9.1					
ApproachLOS:	*						*						A						A					

Desert Quartzite Solar Project
Existing PM Peak Hour Conditions

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 SR-78/16th Avenue

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: A[9.7]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	0	1	0		0	0	1!	0	0		0	1	0	0	0		0	0	1!	0	0	
Volume Module:																								
Base Vol:	0	64		5			2	87		4			2	1		0			3	0		1		
Growth Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
Initial Bse:	0	64		5			2	87		4			2	1		0			3	0		1		
User Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
PHF Adj:	0.96	0.96		0.96			0.96	0.96		0.96			0.96	0.96		0.96			0.96	0.96		0.96		
PHF Volume:	0	67		5			2	91		4			2	1		0			3	0		1		
Reduct Vol:	0	0		0			0	0		0			0	0		0			0	0		0		
Final Vol.:	0	67		5			2	91		4			2	1		0			3	0		1		
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx	xxxxx				4.1	xxxx	xxxxx				7.1	6.5	xxxxx				7.1	xxxx		6.2		
FollowUpTim:	xxxxx	xxxx	xxxxx				2.2	xxxx	xxxxx				3.5	4.0	xxxxx				3.5	xxxx		3.3		
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx	xxxxx				72	xxxx	xxxxx				167	169	xxxxx				167	xxxx		69		
Potent Cap.:	xxxx	xxxx	xxxxx				1541	xxxx	xxxxx				802	728	xxxxx				802	xxxx		999		
Move Cap.:	xxxx	xxxx	xxxxx				1541	xxxx	xxxxx				800	727	xxxxx				800	xxxx		999		
Volume/Cap:	xxxx	xxxx	xxxx				0.00	xxxx	xxxx				0.00	0.00	xxxx				0.00	xxxx		0.00		
Level Of Service Module:																								
Queue:	xxxxx	xxxx	xxxxx				0.0	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx	xxxx		xxxxx		
Stopped Del:	xxxxx	xxxx	xxxxx				7.3	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx	xxxx		xxxxx		
LOS by Move:	*	*	*				A	*	*				*	*	*				*	*		*		
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx				774	xxxx	xxxxx				xxxx		842	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				0.0	xxxx	xxxxx				xxxxx		0.0	xxxxx		
Shrd StpDel:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				9.7	xxxx	xxxxx				xxxxx		9.3	xxxxx		
Shared LOS:	*	*	*				*	*	*				A	*	*				*		A	*		
ApproachDel:	xxxxxx						xxxxxx						9.7						9.3					
ApproachLOS:	*						*						A						A					

APPENDIX C
YEAR 2018 BASE LEVEL OF SERVICE WORKSHEETS

Desert Quartzite Solar Project
Near Term AM Peak Hour Conditions - No Project

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in V/ C	
# 1 SR-78/I-10 WB Ramps	A	9.2	0.000	A	9.2	0.000	+ 0.000	D/V
# 2 SR-78/I-10 EB Ramps	A	9.1	0.000	A	9.1	0.000	+ 0.000	D/V
# 3 SR-78/14th Avenue	A	9.4	0.000	A	9.4	0.000	+ 0.000	D/V
# 4 SR-78/16th Avenue	A	9.7	0.000	A	9.7	0.000	+ 0.000	D/V

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Desert Quartzite Solar Project
Near Term AM Peak Hour Conditions - No Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #1 SR-78/I-10 WB Ramps

****

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: A[9.2]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Channel			Include			Channel		
Lanes:	0 1 0 0 0			0 0 1 0 1			0 0 0 0 0			0 1 0 0 1		
Volume Module: >> Count Date: 27 Jul 2011 << Adjusted to 2014												
Base Vol:	11	31	0	0	24	30	0	0	0	21	1	6
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	12	33	0	0	26	32	0	0	0	23	1	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	33	0	0	26	32	0	0	0	23	1	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
PHF Volume:	16	46	0	0	36	44	0	0	0	31	1	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	16	46	0	0	36	44	0	0	0	31	1	9
Critical Gap Module:												
Critical Gp:	4.1 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		6.4	6.5	6.2
FollowUpTim:	2.2 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	36 xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		136	114	46
Potent Cap.:	1589 xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		862	780	1029
Move Cap.:	1589 xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		855	772	1029
Volume/Cap:	0.01 xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx		0.04	0.00	0.01
Level Of Service Module:												
Queue:	0.0 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx		0.0
Stopped Del:	7.3 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx		8.5
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	A
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx	xxxxx		xxxx xxxx	xxxxx		xxxx xxxx	xxxxx		851 xxxx	xxxxx	
SharedQueue:	0.0 xxxx	xxxxx	xxxxx	xxxx xxxxx	xxxxx	xxxx	xxxxx			0.1 xxxx	xxxxx	
Shrd StpDel:	7.3 xxxx	xxxxx	xxxxx	xxxx xxxxx	xxxxx	xxxx	xxxxx			9.4 xxxx	xxxxx	
Shared LOS:	A	*	*	*	*	*	*	*	*	A	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.2		
ApproachLOS:	*			*			*			A		

Desert Quartzite Solar Project
Near Term AM Peak Hour Conditions - No Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 SR-78/I-10 EB Ramps

Average Delay (sec/veh): 2.2 Worst Case Level Of Service: A[9.1]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Channel			Include			Channel			Include		
Lanes:	0 0 1	0	1	0 1	0	0	0 1	0	1	0 0 0	0	0
Volume Module: >> Count Date: 27 Jul 2011 << Adjusted to 2014												
Base Vol:	0	20	39	18	52	0	11	1	10	0	0	0
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	0	22	42	19	56	0	12	1	11	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	22	42	19	56	0	12	1	11	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	0	26	50	23	67	0	14	1	13	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	26	50	23	67	0	14	1	13	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	26	xxxx	xxxxx	164	139	67	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1602	xxxx	xxxxx	831	756	1002	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1602	xxxx	xxxxx	822	745	1002	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	0.02	0.00	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	0.0	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	8.6	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	A	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	815	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	9.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			9.1			xxxxxx		
ApproachLOS:	*			*			A			*		

Desert Quartzite Solar Project
Near Term AM Peak Hour Conditions - No Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 SR-78/14th Avenue

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A[9.4]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	1!	0	0		0	0	0	1	0		0	1	0	0	0		0	0	1!	0	0	
Volume Module:																								
Base Vol:	1	56	2	0	56	3	3	1	0	1	0	3												
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08												
Initial Bse:	1	60	2	0	60	3	3	1	0	1	0	3												
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0												
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0												
Initial Fut:	1	60	2	0	60	3	3	1	0	1	0	3												
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93												
PHF Volume:	1	65	2	0	65	3	3	1	0	1	0	3												
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0												
Final Vol.:	1	65	2	0	65	3	3	1	0	1	0	3												
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.1	6.5	xxxxx	7.1	xxxx	6.2												
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	xxxxx	3.5	xxxx	3.3												
Capacity Module:																								
Cnflict Vol:	69	xxxx	xxxxx	xxxx	xxxx	xxxxx	137	136	xxxxx	136	xxxx	66												
Potent Cap.:	1545	xxxx	xxxxx	xxxx	xxxx	xxxxx	838	758	xxxxx	840	xxxx	1003												
Move Cap.:	1545	xxxx	xxxxx	xxxx	xxxx	xxxxx	835	758	xxxxx	838	xxxx	1003												
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.00	xxxx	0.00	xxxx	0.00												

Level Of Service Module:																		
Queue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx						
Stopped Del:	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx						
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*						
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	814	xxxx	xxxxx	xxxx	956	xxxxx						
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	0.0	xxxxx						
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.4	xxxx	xxxxx	xxxxx	8.8	xxxxx						
Shared LOS:	*	*	*	*	*	*	A	*	*	*	A	*						
ApproachDel:	xxxxxx			xxxxxx			9.4			8.8								
ApproachLOS:	*			*			A			A								

Desert Quartzite Solar Project
Near Term AM Peak Hour Conditions - No Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 SR-78/16th Avenue

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: A[9.7]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	0	1	0		0	0	1!	0	0		0	0	1!	0	0		0	0	1!	0	0	
Volume Module:																								
Base Vol:	0	72	9				4	35	2				5	3	1				2	8	1			
Growth Adj:	1.08	1.08	1.08				1.08	1.08	1.08				1.08	1.08	1.08				1.08	1.08	1.08			
Initial Bse:	0	78	10				4	38	2				5	3	1				2	9	1			
Added Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
PasserByVol:	0	0	0				0	0	0				0	0	0				0	0	0			
Initial Fut:	0	78	10				4	38	2				5	3	1				2	9	1			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	0.89	0.89	0.89				0.89	0.89	0.89				0.89	0.89	0.89				0.89	0.89	0.89			
PHF Volume:	0	87	11				5	42	2				6	4	1				2	10	1			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Final Vol.:	0	87	11				5	42	2				6	4	1				2	10	1			
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx	xxxxx				4.1	xxxx	xxxxx				7.1	6.5	6.2				7.1	6.5	6.2			
FollowUpTim:	xxxxx	xxxx	xxxxx				2.2	xxxx	xxxxx				3.5	4.0	3.3				3.5	4.0	3.3			
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx	xxxxx				98	xxxx	xxxxx				152	152	44				149	147	93			
Potent Cap.:	xxxx	xxxx	xxxxx				1507	xxxx	xxxxx				820	744	1032				824	748	970			
Move Cap.:	xxxx	xxxx	xxxxx				1507	xxxx	xxxxx				809	741	1032				818	745	970			
Volume/Cap:	xxxx	xxxx	xxxx				0.00	xxxx	xxxx				0.01	0.00	0.00				0.00	0.01	0.00			
Level Of Service Module:																								
Queue:	xxxxx	xxxx	xxxxx				0.0	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx			
Stopped Del:	xxxxx	xxxx	xxxxx				7.4	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx			
LOS by Move:	*	*	*				A	*	*				*	*	*				*	*	*			
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx				xxxx	804	xxxxx				xxxx	774	xxxxx			
SharedQueue:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx	0.0	xxxxx				xxxxx	0.1	xxxxx			
Shrd StpDel:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx	9.5	xxxxx				xxxxx	9.7	xxxxx			
Shared LOS:	*	*	*				*	*	*				*	A	*				*	A	*			
ApproachDel:	xxxxxx						xxxxxx						9.5						9.7					
ApproachLOS:	*						*						A						A					

Desert Quartzite Solar Project
Near Term PM Peak Hour Conditions - No Project

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in V/ C	
# 1 SR-78/I-10 WB Ramps	A	9.2	0.000	A	9.2	0.000	+ 0.000	D/V
# 2 SR-78/I-10 EB Ramps	A	9.4	0.000	A	9.4	0.000	+ 0.000	D/V
# 3 SR-78/14th Avenue	A	9.9	0.000	A	9.9	0.000	+ 0.000	D/V
# 4 SR-78/16th Avenue	A	9.8	0.000	A	9.8	0.000	+ 0.000	D/V

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Desert Quartzite Solar Project
Near Term PM Peak Hour Conditions - No Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #1 SR-78/I-10 WB Ramps

****

Average Delay (sec/veh): 2.9 Worst Case Level Of Service: A[9.2]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Channel			Include			Channel		
Lanes:	0 1 0 0 0			0 0 1 0 1			0 0 0 0 0			0 1 0 0 1		
Volume Module: >> Count Date: 27 Jul 2011 << Adjusted to 2014												
Base Vol:	2	60	0	0	38	3	0	0	0	36	1	8
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	2	65	0	0	41	3	0	0	0	39	1	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	65	0	0	41	3	0	0	0	39	1	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
PHF Volume:	2	74	0	0	47	4	0	0	0	44	1	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	2	74	0	0	47	4	0	0	0	44	1	10
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	47	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	127	125	74
Potent Cap.:	1574	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	872	769	994
Move Cap.:	1574	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	871	768	994
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	0.00	0.01
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	0.0
Stopped Del:	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.7
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	A
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	868	xxxx	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx
Shrd StpDel:	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.4	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	A	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.2		
ApproachLOS:	*			*			*			A		

Desert Quartzite Solar Project
Near Term PM Peak Hour Conditions - No Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 SR-78/I-10 EB Ramps

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: A[9.4]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Channel			Include			Channel			Include		
Lanes:	0 0 1	0	1	0 1	0	0 0	0 1	0	1	0 0	0	0 0
Volume Module:												
Base Vol:	0	28	38	7	67	0	35	2	11	0	0	0
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	0	30	41	8	72	0	38	2	12	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	30	41	8	72	0	38	2	12	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	0	36	49	9	86	0	45	3	14	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	36	49	9	86	0	45	3	14	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	36	xxxx	xxxxx	165	140	86	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1588	xxxx	xxxxx	831	755	978	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1588	xxxx	xxxxx	827	750	978	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	0.05	0.00	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	0.0	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	8.7	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	A	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	823	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	9.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			9.4			xxxxxx		
ApproachLOS:	*			*			A			*		

Desert Quartzite Solar Project
Near Term PM Peak Hour Conditions - No Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 SR-78/14th Avenue

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: A[9.9]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 0 1! 0 0			1 0 0 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	69	3	1	73	1	3	0	0	2	0	3
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	0	75	3	1	79	1	3	0	0	2	0	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	75	3	1	79	1	3	0	0	2	0	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	0	99	4	1	105	1	4	0	0	3	0	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	99	4	1	105	1	4	0	0	3	0	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	xxxx	xxxxx	7.1	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	104	xxxx	xxxxx	212	xxxx	xxxxx	210	xxxx	102
Potent Cap.:	xxxx	xxxx	xxxxx	1501	xxxx	xxxxx	749	xxxx	xxxxx	751	xxxx	959
Move Cap.:	xxxx	xxxx	xxxxx	1501	xxxx	xxxxx	745	xxxx	xxxxx	751	xxxx	959
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	0.01	xxxx	xxxx	0.00	xxxx	0.00
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	9.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	863	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	9.2	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	A	*
ApproachDel:	xxxxxx			xxxxxx			9.9			9.2		
ApproachLOS:	*			*			A			A		

Desert Quartzite Solar Project
Near Term PM Peak Hour Conditions - No Project

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 SR-78/16th Avenue

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: A[9.8]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	0	1	0		0	0	1!	0	0		0	1	0	0	0		0	0	1!	0	0	
Volume Module:																								
Base Vol:	0	64	5				2	87	4				2	1	0				3	0	1			
Growth Adj:	1.08	1.08	1.08				1.08	1.08	1.08				1.08	1.08	1.08				1.08	1.08	1.08			
Initial Bse:	0	69	5				2	94	4				2	1	0				3	0	1			
Added Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
PasserByVol:	0	0	0				0	0	0				0	0	0				0	0	0			
Initial Fut:	0	69	5				2	94	4				2	1	0				3	0	1			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	0.96	0.96	0.96				0.96	0.96	0.96				0.96	0.96	0.96				0.96	0.96	0.96			
PHF Volume:	0	72	6				2	98	5				2	1	0				3	0	1			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Final Vol.:	0	72	6				2	98	5				2	1	0				3	0	1			
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx	xxxxx				4.1	xxxx	xxxxx				7.1	6.5	xxxxx				7.1	xxxx	6.2			
FollowUpTim:	xxxxx	xxxx	xxxxx				2.2	xxxx	xxxxx				3.5	4.0	xxxxx				3.5	xxxx	3.3			
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx	xxxxx				78	xxxx	xxxxx				180	182	xxxxx				180	xxxx	75			
Potent Cap.:	xxxx	xxxx	xxxxx				1534	xxxx	xxxxx				786	715	xxxxx				786	xxxx	992			
Move Cap.:	xxxx	xxxx	xxxxx				1534	xxxx	xxxxx				784	714	xxxxx				784	xxxx	992			
Volume/Cap:	xxxx	xxxx	xxxx				0.00	xxxx	xxxx				0.00	0.00	xxxx				0.00	xxxx	0.00			
Level Of Service Module:																								
Queue:	xxxxx	xxxx	xxxxx				0.0	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx			
Stopped Del:	xxxxx	xxxx	xxxxx				7.4	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx			
LOS by Move:	*	*	*				A	*	*				*	*	*				*	*	*			
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx				760	xxxx	xxxxx				xxxx		828	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				0.0	xxxx	xxxxx				xxxxx		0.0	xxxxx		
Shrd StpDel:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				9.8	xxxx	xxxxx				xxxxx		9.4	xxxxx		
Shared LOS:	*	*	*				*	*	*				A	*	*				*		A	*		
ApproachDel:	xxxxxx						xxxxxx						9.8						9.4					
ApproachLOS:	*						*						A						A					

APPENDIX D
YEAR 2018 PROJECT CONSTRUCTION WORKSHEETS

Desert Quartzite Solar Project
Near Term AM Peak Hour Conditions - with Peak Project Construction

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in V/ C	
# 1 SR-78/I-10 WB Ramps	A	9.2	0.000	A	9.7	0.000	+ 0.495	D/V
# 2 SR-78/I-10 EB Ramps	A	9.1	0.000	A	9.0	0.000	-0.106	D/V
# 3 SR-78/14th Avenue	A	9.4	0.000	A	9.9	0.000	+ 0.435	D/V
# 4 SR-78/16th Avenue	A	9.7	0.000	A	9.9	0.000	+ 0.180	D/V

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Desert Quartzite Solar Project
Near Term AM Peak Hour Conditions - with Peak Project Construction

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 SR-78/I-10 WB Ramps

Average Delay (sec/veh): 3.7 Worst Case Level Of Service: A[9.7]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Channel				Include				Channel			
Lanes:	0 1	0	0	0	0	0 1	0	1	0	0	0	0 0	0	1	0	0 1
Volume Module: >> Count Date: 27 Jul 2011 << Adjusted to 2014																
Base Vol:	11	31	0	0	24	30	0	0	0	21	1	6				
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08				
Initial Bse:	12	33	0	0	26	32	0	0	0	23	1	6				
Added Vol:	30	0	0	0	0	0	0	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	42	33	0	0	26	32	0	0	0	23	1	6				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73				
PHF Volume:	57	46	0	0	36	44	0	0	0	31	1	9				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Final Vol.:	57	46	0	0	36	44	0	0	0	31	1	9				
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2				
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3				
Capacity Module:																
Cnflict Vol:	36	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	218	196	46				
Potent Cap.:	1589	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	774	703	1029				
Move Cap.:	1589	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	752	677	1029				
Volume/Cap:	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.04	0.00	0.01				
Level Of Service Module:																
Queue:	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	0.0				
Stopped Del:	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.5				
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	A				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	749	xxxx	xxxxx				
SharedQueue:	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx				
Shrd StpDel:	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.0	xxxx	xxxxx				
Shared LOS:	A	*	*	*	*	*	*	*	*	B	*	*				
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.7						
ApproachLOS:	*			*			*			A						

Desert Quartzite Solar Project
Near Term AM Peak Hour Conditions - with Peak Project Construction

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #2 SR-78/I-10 EB Ramps

****

Average Delay (sec/veh): 2.8 Worst Case Level Of Service: A[9.0]

****

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Channel						Include						Channel						Include					
Lanes:	0	0	1	0	1		0	1	0	0	0		0	1	0	0	1		0	0	0	0	0	
Volume Module: >> Count Date: 27 Jul 2011 << Adjusted to 2014																								
Base Vol:	0	20	39	18	52	0	11	1	10	0	0	0												
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08												
Initial Bse:	0	22	42	19	56	0	12	1	11	0	0	0												
Added Vol:	0	30	0	0	0	0	0	0	30	0	0	0												
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0												
Initial Fut:	0	52	42	19	56	0	12	1	41	0	0	0												
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84												
PHF Volume:	0	61	50	23	67	0	14	1	49	0	0	0												
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0												
Final Vol.:	0	61	50	23	67	0	14	1	49	0	0	0												
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx												
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx												
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx	xxxxx	61	xxxx	xxxxx	200	175	67	xxxx	xxxx	xxxxx												
Potent Cap.:	xxxx	xxxx	xxxxx	1555	xxxx	xxxxx	794	722	1002	xxxx	xxxx	xxxxx												
Move Cap.:	xxxx	xxxx	xxxxx	1555	xxxx	xxxxx	784	712	1002	xxxx	xxxx	xxxxx												
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	0.02	0.00	0.05	xxxx	xxxx	xxxx												
Level Of Service Module:																								
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	0.2	xxxxx	xxxx	xxxxx												
Stopped Del:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	8.8	xxxxx	xxxx	xxxxx												
LOS by Move:	*	*	*	A	*	*	*	*	A	*	*	*												
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	778	xxxx	xxxxx	xxxx	xxxx	xxxxx												
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shrd StpDel:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	9.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shared LOS:	*	*	*	A	*	*	A	*	*	*	*	*												
ApproachDel:	xxxxxx			xxxxxx			9.0			xxxxxx														
ApproachLOS:	*			*			A			*														

Desert Quartzite Solar Project
Near Term AM Peak Hour Conditions - with Peak Project Construction

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #3 SR-78/14th Avenue

****

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: A[9.9]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 1 0			0 1 0 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	1	56	2	0	56	3	3	1	0	1	0	3
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	1	60	2	0	60	3	3	1	0	1	0	3
Added Vol:	0	30	0	0	30	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	90	2	0	90	3	3	1	0	1	0	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	1	97	2	0	97	3	3	1	0	1	0	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	1	97	2	0	97	3	3	1	0	1	0	3
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.1	6.5	xxxxx	7.1	xxxx	6.2
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	101	xxxx	xxxxx	xxxx	xxxx	xxxxx	202	201	xxxxx	200	xxxx	98
Potent Cap.:	1504	xxxx	xxxxx	xxxx	xxxx	xxxxx	761	699	xxxxx	762	xxxx	963
Move Cap.:	1504	xxxx	xxxxx	xxxx	xxxx	xxxxx	758	698	xxxxx	761	xxxx	963
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.00	xxxx	0.00	xxxx	0.00
Level Of Service Module:												
Queue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	742	xxxx	xxxxx	xxxx	903	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	0.0	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.9	xxxx	xxxxx	xxxxx	9.0	xxxxx
Shared LOS:	*	*	*	*	*	*	A	*	*	*	A	*
ApproachDel:	xxxxxx			xxxxxx			9.9			9.0		
ApproachLOS:	*			*			A			A		

Desert Quartzite Solar Project
Near Term AM Peak Hour Conditions - with Peak Project Construction

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #4 SR-78/16th Avenue

****

Average Delay (sec/veh): 2.5 Worst Case Level Of Service: A[9.9]

****

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	0	1	0		0	0	1!	0	0		0	0	1!	0	0		0	0	1!	0	0	
Volume Module:																								
Base Vol:	0	72	9				4	35	2				5	3	1				2	8	1			
Growth Adj:	1.08	1.08	1.08				1.08	1.08	1.08				1.08	1.08	1.08				1.08	1.08	1.08			
Initial Bse:	0	78	10				4	38	2				5	3	1				2	9	1			
Added Vol:	0	0	0				0	0	30				30	0	0				0	0	0			
PasserByVol:	0	0	0				0	0	0				0	0	0				0	0	0			
Initial Fut:	0	78	10				4	38	32				35	3	1				2	9	1			
User Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00			
PHF Adj:	0.89	0.89	0.89				0.89	0.89	0.89				0.89	0.89	0.89				0.89	0.89	0.89			
PHF Volume:	0	87	11				5	42	36				40	4	1				2	10	1			
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Final Vol.:	0	87	11				5	42	36				40	4	1				2	10	1			
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx	xxxxx				4.1	xxxx	xxxxx				7.1	6.5	6.2				7.1	6.5	6.2			
FollowUpTim:	xxxxx	xxxx	xxxxx				2.2	xxxx	xxxxx				3.5	4.0	3.3				3.5	4.0	3.3			
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx	xxxxx				98	xxxx	xxxxx				169	169	61				166	181	93			
Potent Cap.:	xxxx	xxxx	xxxxx				1507	xxxx	xxxxx				800	728	1010				803	716	970			
Move Cap.:	xxxx	xxxx	xxxxx				1507	xxxx	xxxxx				789	726	1010				797	714	970			
Volume/Cap:	xxxx	xxxx	xxxx				0.00	xxxx	xxxx				0.05	0.01	0.00				0.00	0.01	0.00			
Level Of Service Module:																								
Queue:	xxxxx	xxxx	xxxxx				0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx									
Stopped Del:	xxxxx	xxxx	xxxxx				7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx									
LOS by Move:	*	*	*				A	*	*	*	*	*	*	*	*									
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx				xxxx	788	xxxxx				xxxx	746	xxxxx			
SharedQueue:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx	0.2	xxxxx				xxxxx	0.1	xxxxx			
Shrd StpDel:	xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx				xxxxx	9.8	xxxxx				xxxxx	9.9	xxxxx			
Shared LOS:	*	*	*				*	*	*				*	A	*				*	A	*			
ApproachDel:	xxxxxx						xxxxxx						9.8						9.9					
ApproachLOS:	*						*						A						A					

Desert Quartzite Solar Project
Near Term PM Peak Hour Conditions - with Peak Project Construction

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in	
# 1 SR-78/I-10 WB Ramps	A	9.2	0.000	A	9.2	0.000	+ 0.000	D/V
# 2 SR-78/I-10 EB Ramps	A	9.4	0.000	B	12.8	0.000	+ 3.364	D/V
# 3 SR-78/14th Avenue	A	9.9	0.000	D	31.9	0.000	+21.996	D/V
# 4 SR-78/16th Avenue	A	9.8	0.000	F	78.2	0.000	+68.418	D/V

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Desert Quartzite Solar Project
Near Term PM Peak Hour Conditions - with Peak Project Construction

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #1 SR-78/I-10 WB Ramps

****

Average Delay (sec/veh): 2.9 Worst Case Level Of Service: A[9.2]

****

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Channel				Include				Channel			
Lanes:	0 1	0	0	0	0	0	1	0 1	0	0	0	0 0	0	1	0	0 1
Volume Module: >> Count Date: 27 Jul 2011 << Adjusted to 2014																
Base Vol:	2	60	0	0	38	3	0	0	0	36	1	8				
Growth Adj:	1.08 1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08				
Initial Bse:	2	65	0	0	41	3	0	0	0	39	1	9				
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	2	65	0	0	41	3	0	0	0	39	1	9				
User Adj:	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	0.88 0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88				
PHF Volume:	2	74	0	0	47	4	0	0	0	44	1	10				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Final Vol.:	2	74	0	0	47	4	0	0	0	44	1	10				
Critical Gap Module:																
Critical Gp:	4.1 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2					
FollowUpTim:	2.2 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3					
Capacity Module:																
Cnflict Vol:	47 xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	127	125	74					
Potent Cap.:	1574 xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	872	769	994					
Move Cap.:	1574 xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	871	768	994					
Volume/Cap:	0.00 xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	0.00	0.01					
Level Of Service Module:																
Queue:	0.0 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	0.0					
Stopped Del:	7.3 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.7					
LOS by Move:	A	*	*	*	*	*	*	*	*	*	A					
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	868	xxxx	xxxxx					
SharedQueue:	0.0 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx					
Shrd StpDel:	7.3 xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.4	xxxx	xxxxx					
Shared LOS:	A	*	*	*	*	*	*	*	*	A	*	*				
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.2						
ApproachLOS:	*			*			*			A						

Desert Quartzite Solar Project
Near Term PM Peak Hour Conditions - with Peak Project Construction

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #2 SR-78/I-10 EB Ramps

****

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: B[12.8]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Channel			Include			Channel			Include		
Lanes:	0 0 1	0	1	0 1	0	0	0 1	0	1	0 0	0	0
Volume Module:												
Base Vol:	0	28	38	7	67	0	35	2	11	0	0	0
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	0	30	41	8	72	0	38	2	12	0	0	0
Added Vol:	0	0	810	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	30	851	8	72	0	38	2	12	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	0	36	1013	9	86	0	45	3	14	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	36	1013	9	86	0	45	3	14	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	36	xxxx	xxxxx	647	140	86	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1588	xxxx	xxxxx	439	755	978	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1588	xxxx	xxxxx	437	750	978	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	0.10	0.00	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	0.0	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	8.7	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	A	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	447	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	14.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	B	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			12.8			xxxxxx		
ApproachLOS:	*			*			B			*		

Desert Quartzite Solar Project
Near Term PM Peak Hour Conditions - with Peak Project Construction

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #3 SR-78/14th Avenue

****

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: D[31.9]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 0 1! 0 0			1 0 0 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	69	3	1	73	1	3	0	0	2	0	3
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	0	75	3	1	79	1	3	0	0	2	0	3
Added Vol:	0	810	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	885	3	1	79	1	3	0	0	2	0	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
PHF Volume:	0	1179	4	1	105	1	4	0	0	3	0	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	1179	4	1	105	1	4	0	0	3	0	4
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	xxxx	xxxxx	7.1	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1184	xxxx	xxxxx	1292	xxxx	xxxxx	1290	xxxx	1182
Potent Cap.:	xxxx	xxxx	xxxxx	597	xxxx	xxxxx	141	xxxx	xxxxx	142	xxxx	233
Move Cap.:	xxxx	xxxx	xxxxx	597	xxxx	xxxxx	138	xxxx	xxxxx	141	xxxx	233
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	0.03	xxxx	xxxx	0.02	xxxx	0.02
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	11.0	xxxx	xxxxx	31.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	*	D	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	185	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	25.2	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			31.9			25.2		
ApproachLOS:	*			*			D			D		

Desert Quartzite Solar Project
Near Term PM Peak Hour Conditions - with Peak Project Construction

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #4 SR-78/16th Avenue

****

Average Delay (sec/veh): 64.1 Worst Case Level Of Service: F[78.2]

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 0 1! 0 0			0 1 0 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	64	5	2	87	4	2	1	0	3	0	1
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	0	69	5	2	94	4	2	1	0	3	0	1
Added Vol:	0	0	0	0	0	0	810	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	69	5	2	94	4	812	1	0	3	0	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	0	72	6	2	98	5	846	1	0	3	0	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	72	6	2	98	5	846	1	0	3	0	1
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	xxxxx	7.1	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	78	xxxx	xxxxx	180	182	xxxxx	180	xxxx	75
Potent Cap.:	xxxx	xxxx	xxxxx	1534	xxxx	xxxxx	786	715	xxxxx	786	xxxx	992
Move Cap.:	xxxx	xxxx	xxxxx	1534	xxxx	xxxxx	784	714	xxxxx	784	xxxx	992
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	1.08	0.00	xxxx	0.00	xxxx	0.00
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	784	xxxx	xxxxx	xxxx	828	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	22.2	xxxx	xxxxx	xxxxx	0.0	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	78.2	xxxx	xxxxx	xxxxx	9.4	xxxxx
Shared LOS:	*	*	*	*	*	*	F	*	*	*	A	*
ApproachDel:	xxxxxx			xxxxxx			78.2			9.4		
ApproachLOS:	*			*			F			A		

APPENDIX E
OFF-SITE CONSTRUCTION PHASE TRIP ESTIMATES

Desert Quartzite Solar Project
Construction Emission Estimations
TABLE 1 OFF-SITE CONSTRUCTION PHASE TRIPS

TABLE 1 OFF-SITE CONSTRUCTION PHASE TRIPS - ESTIMATED CONSTRUCTION PHASE ONE-WAY TRIPS[1] By MONTH

CONSTRUCTION PHASE TRIPS	Dec 2016 1	Jan 2017 2	Feb 2017 3	Mar 2017 4	Apr 2017 5	May 2017 6	Jun 2017 7	Jul 2017 8	Aug 2017 9	Sept 2017 10	Oct 2017 11	Nov 2017 12	Dec 2017 13	Jan 2018 14	Feb 2018 15	Mar 2018 16	Apr 2018 17	May 2018 18	Jun 2018 19	Jul 2018 20	Aug 2018 21	Sept 2018 22	Oct 2018 23	Nov 2018 24	Dec 2018 25	Total Trips (One Way)
Activity 1: Move-On (Laydown, Construction Trailers, and Parking Area) (109 acres)																										
Worker Trips (Workers = 60)	2,520	2,520																					-			5,040
Material Delivery Trucks	920	920																								1,840
Aggregate Base	200	200																								400
Off-site Water Haul Trucks	560	560																								1,120
Sub-totals	4,200	4,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8,400
Activity 2, Site Grading (Site Preparations/Clearing/Grading) (3,756 Acres)																										
Worker Trips (Workers = 80)		3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360				-			60,480
Material Delivery Trucks		20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20							360
Off-site Water Haul Trucks		2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600	2,600							46,800
Sub-totals	-	5,980	5,980	5,980	5,980	5,980	5,980	5,980	5,980	5,980	5,980	5,980	5,980	5,980	5,980	5,980	5,980	5,980	5,980				-	-	-	107,640
Activity 3, Construction - Solar Array Structural Components																										
Worker Trips (Workers = 160)				6,720	6,720	6,720	6,720	6,720	6,720	6,720	6,720	6,720	6,720	6,720	6,720	6,720	6,720	6,720	6,720	6,720	6,720		-			120,960
Material Delivery Trucks				20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20					360
Off-site Water Haul Trucks				960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960					17,280
Sub-totals	-	-	-	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	7,700	-	-	-	-	138,600
Activity 4, Trenching - PCS Excavation, PCS Placement, UG Cabling Trenching (Underground Work) (200 acres disturbed)																										
Worker Trips (Workers = 80)					3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	3,360	-			60,480
Material Delivery Trucks					200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200				3,600
Off-site Water Haul Trucks					960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960				17,280
Sub-totals	-	-	-	-	4,520	4,520	4,520	4,520	4,520	4,520	4,520	4,520	4,520	4,520	4,520	4,520	4,520	4,520	4,520	4,520	4,520	4,520	-		-	81,360
Activity 5, Construction - Solar Module Installation																										
Worker Trips (Workers = 310)						13,020	13,020	13,020	13,020	13,020	13,020	13,020	13,020	13,020	13,020	13,020	13,020	13,020	13,020	13,020	13,020	13,020	13,020			234,360
Material Delivery Trucks (Trackers)						800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800			14,400
Off-site Water Haul Trucks						960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960	960			17,280
Sub-totals	-	-	-	-	-	14,780	14,780	14,780	14,780	14,780	14,780	14,780	14,780	14,780	14,780	14,780	14,780	14,780	14,780	14,780	14,780	14,780	14,780	-	-	266,040
Activity 6, Construction - Substation (7 acres)																										
Worker Trips (Workers = 60)																	2,520	2,520	2,520	2,520	2,520	2,520	-			15,120
Material Delivery Trucks																	480	480	480	480	480	480				2,880
Aggregate Base																	66	67	67	67	67	66				400
Concrete Delivery Trucks																	44	44	44	44	44	44				264
Off-site Water Haul Trucks																	960	960	960	960	960	960				5,760
Sub-totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,070	4,071	4,071	4,071	4,071	4,070	-	-	-	24,424
Activity 7, Construction - Gen-Tie (10 acres)																										
Worker Trips (Workers = 60)																	2,520	2,520	2,520	2,520	2,520	2,520	-			15,120
Material Delivery Trucks																	100	100	100	100	100	100				600
Concrete Delivery Trucks																	200	200	200	200	200	200				1,200
Off-site Water Haul Trucks																	960	960	960	960	960	960				5,760
Sub-totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,780	3,780	3,780	3,780	3,780	3,780	-	-	-	22,680
Activity 8, Construction (O&M Building) (Added)																										
Worker Trips (Workers = 60)																	2,520	2,520	2,520	2,520	2,520	2,520	-			15,120
Material Delivery Trucks																	160	160	160	160	160	160				960
Concrete Delivery Trucks																	6	7	7	7	7	6				40
Off-site Water Haul Trucks																	-	-	-	-	-	-				-
Sub-totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,686	2,687	2,687	2,687	2,687	2,686	-	-	-	16,120
Activity 9, Construction (Testing/Cleanup/Restoration) (Added)																										
Worker Trips (Workers = 60)																				2,520	2,520	2,520	2,520	2,520	2,520	15,120
Material Delivery Trucks																				80	80	80	80	80	80	480
Off-site Water Haul Trucks																				420	420	420	420	420	420	2,520
Sub-totals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		3,020	3,020	3,020	3,020	3,020	3,020	18,120
TOTALS	4,200	10,180	5,980	13,680	18,200	32,980	32,980	32,980	32,980	32,980	32,980	32,980	32,980	32,980	32,980	32,980	43,516	43,518	43,518	40,558	40,558	32,856	17,800	3,020	3,020	**683,384**

NOTES:

[1] Each trip to the Project site (i.e., worker or truck delivery) requires two, one-way trips (i.e., one round trip).

[2] All workers would arrive at the Project site by 7 am, thereby avoiding the AM peak traffic period; all workers are assumed to depart the site at 5 pm during the PM peak period.

[3] Material deliveries are expected to occur primarily during non-peak traffic periods (i.e., avoid 7-9 am and 4-6 pm periods).

[4] All water haul deliveries would occur during non-peak traffic periods.

[5] This table does not include fuel truck trips; see Table 1.1 below for fuel trucks per month.

TABLE 1.1 CONSTRUCTION ONE-WAY PHASE TRIPS TOTAL

	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017	Jul 2017	Aug 2017	Sept 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	Jul 2018	Aug 2018	Sept 2018	Oct 2018	Nov 2018	Dec 2018	**Totals**
Aggregate Base Delivery Trucks	200	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	66	67	67	67	67	66	-	-	-	**800**
Concrete Delivery Trucks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	250	251	251	251	251	250	-	-	-	**1,504**
Material Delivery Trucks	920	940	20	40	240	240	240	240	240	240	240	240	240	240	240	240	980	980	980	1,040	1,040	1,020	80	80	80	**11,080**
Tracker Deliveries Trucks	-	-	-	-	-	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	800	-	-	**14,400**
Water Haul Trucks	560	3,160	2,600	3,560	4,520	5,480	5,480	5,480	5,480	5,480	5,480	5,480	5,480	5,480	5,480	5,480	7,400	7,400	7,400	5,220	5,220	4,260	1,380	420	420	**113,800**
Worker Vehicles	2,520	5,880	3,360	10,080	13,440	26,460	26,460	26,460	26,460	26,460	26,460	26,460	26,460	26,460	26,460	26,460	34,020	34,020	34,020	33,180	33,180	26,460	15,540	2,520	2,520	**541,800**
Fuel Trucks	10	20	10	26	34	48	48	48	48	48	48	48	48	48	48	48	54	54	54	48	48	32	18	6	6	**948**
Total vehicle trips (Incl Water and Fuel)	4,210	10,200	5,990	13,706	18,234	33,028	33,028	33,028	33,028	33,028	33,028	33,028	33,028	33,028	33,028	33,028	43,570	43,572	43,572	40,606	40,606	32,888	17,818	3,026	3,026	**684,332**
UPDATED Vehicle Trips (No Water or Fuel)	3,640	7,020	3,380	10,120	13,680	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	36,116	36,118	36,118	35,338	35,338	28,596	16,420	2,600	2,600	**569,584**

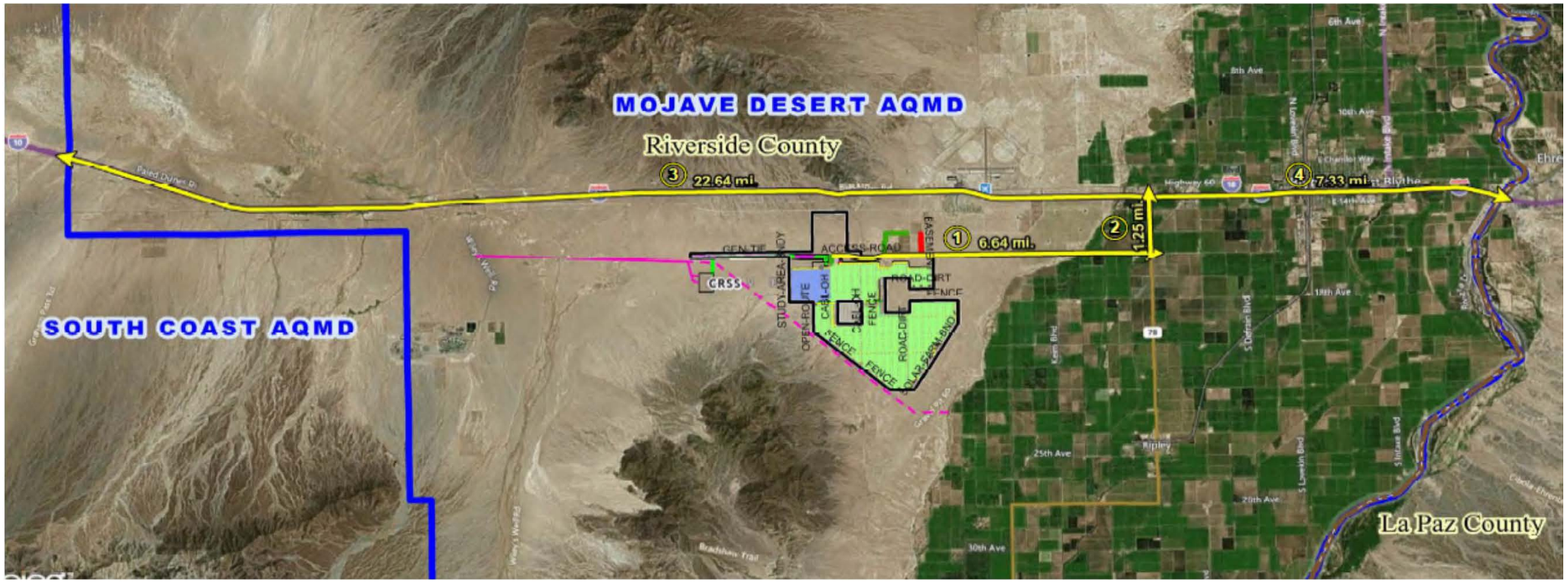
NOTES:

1. Assume the tank capacity for the fuel truck is 4000 gallon.
2. Number of fuel truck is calculated from total hours of construction equipment utilization, fuel tank truck capacity, and average fuel consumption.
3. Assume the average fuel consumption is 4 gallon per hour for each construction equipment.
4. Reference: http://www.epa.gov/cleandiesel/documents/420b10025.pdf

TABLE 1.2 TRIP DISTANCE (1 WAY; R/T = X2)

	Miles unpaved road, onsite laydown area to site entrance (assumption)	road, site entrance to paved road (eastbound 16th at Stephenson)	Miles paved road in MDAQMD area	Total one way distance (all in MDAQMD area), miles
Aggregate Base Delivery Trucks	0.1	5.64	7.36	13
Concrete Delivery Trucks	0.1	5.64	7.36	13
Material Delivery Trucks	0.1	5.64	24.86	30.5
Tracker Deliveries Trucks	0.1	5.64	24.86	30.5
Water Haul Trucks	0.1	5.64	4.36	10
Worker Vehicles	0.1	5.64	29.36	35
Fuel Trucks	0.1	5.64	4.36	10

All miles in MDAQMD



APPENDIX F
WORKER TRIP THRESHOLD LOS D COMPUTATION WORKSHEET

Desert Quartzite Solar Project
Near Term PM Peak Hour Conditions - with Peak Project Construction

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 SR-78/16th Avenue

Average Delay (sec/veh): 24.8 Worst Case Level Of Service: D[31.6]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 0 1! 0 0			0 1 0 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	0	64	5	2	87	4	2	1	0	3	0	1
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	0	69	5	2	94	4	2	1	0	3	0	1
Added Vol:	0	0	0	0	0	0	650	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	69	5	2	94	4	652	1	0	3	0	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	0	72	6	2	98	5	679	1	0	3	0	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	72	6	2	98	5	679	1	0	3	0	1
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	xxxxx	7.1	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	78	xxxx	xxxxx	180	182	xxxxx	180	xxxx	75
Potent Cap.:	xxxx	xxxx	xxxxx	1534	xxxx	xxxxx	786	715	xxxxx	786	xxxx	992
Move Cap.:	xxxx	xxxx	xxxxx	1534	xxxx	xxxxx	784	714	xxxxx	784	xxxx	992
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	0.87	0.00	xxxx	0.00	xxxx	0.00
Level Of Service Module:												
Queue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Stopped Del:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	784	xxxx	xxxxx	xxxx	828	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.8	xxxx	xxxxx	xxxxx	0.0	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	31.6	xxxx	xxxxx	xxxxx	9.4	xxxxx
Shared LOS:	*	*	*	*	*	*	D	*	*	*	A	*
ApproachDel:	xxxxxx			xxxxxx			31.6			9.4		
ApproachLOS:	*			*			D			A		