

**APPENDIX Q**  
*JVR Energy Park Project*  
*Local Mobility Analysis*







# JVR ENERGY PARK

## Local Mobility Analysis

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# 1 INTRODUCTION

The following Local Mobility Analysis (LMA) has been prepared to identify the traffic effects associated with the construction and daily operations of the JVR Energy Park.

## 1.1 PROJECT DESCRIPTION

The project site consists of approximately 1,356 acres in southeastern San Diego County, within the County's Mountain Empire Subregional Plan area. It is located south of Interstate 8, immediately east of the community of Jacumba Hot Springs, and just north of the U.S./Mexico international border. **Figure 1-1** depicts the project location in a regional context. The site is located entirely on private land and consists of 24 parcels, including right-of-way easements for Old Highway 80, SDG&E easements, and an easement for the San Diego and Arizona Eastern Railway. The proposed project includes a solar energy generation and storage facility. The proposed project also includes an on-site collector substation and a switchyard. The switchyard would be transferred to San Diego Gas & Electric (SDG&E) after construction. Overhead transmission lines would connect the switchyard to an existing SDG&E 138 kV transmission line adjacent to the site. In order to develop a solar facility on the Project site, discretionary actions from the County would be required, including a Major Use Permit (MUP). **Appendix A** contains the proposed project plot plans and **Appendix B** contains a detailed project description of the solar facility, including construction activities and anticipated durations.

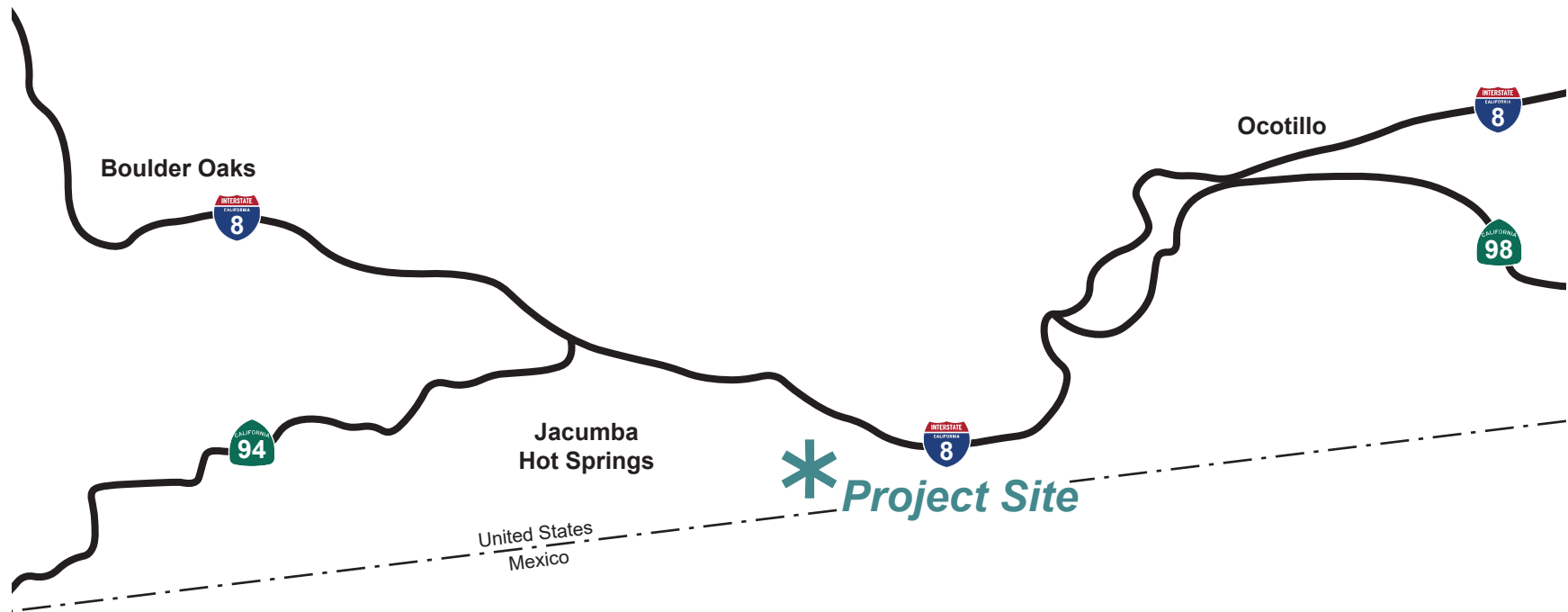
Access to the solar facility would be established through construction of six driveways at the following five locations:

- Access 1 – Full access driveway along Carrizo Gorge Road (east leg), approximately 1,000 feet southeast of the Interstate 8 interchange;
- Access 2 – Full access driveway along Carrizo Gorge Road (west leg), approximately 1,450 feet southeast of the Interstate 8 interchange;
- Access 3 – Full access driveway along Carrizo Gorge Road (east leg), approximately 2,100 feet southeast of the Interstate 8 interchange;
- Access 4 – Full access driveway along Carrizo Gorge Road (west leg), approximately 2,800 feet southeast of the Interstate 8 interchange; and
- Access 5 – Full access driveway along Old Highway 80 (north and south leg), approximately 1,200 feet east of Campo Street.

Construction of the project is anticipated to occur over a period of approximately 13 months. For purposes of this analysis, it is anticipated construction would finish end of 2021.



Figure 1-1 Regional Vicinity Map





## 1.2 ANALYSIS SCENARIOS

Three scenarios were analyzed as part of this LMA, listed below:

- **Existing (2019) Conditions:** Represents the traffic conditions of the existing street network. Traffic counts were collected in March 2019.
- **Existing (2019) Conditions Plus Construction Traffic:** Represents the traffic conditions on the existing street network during peak construction activities. Comparison of this scenario to Existing (2019) Conditions scenario determines construction effects associated with the project.
- **Existing (2019) Conditions Plus Daily Operations Traffic:** Represents the traffic conditions on the existing street network with the addition of the proposed project. Comparison of this scenario to Existing (2019) Conditions scenario determines direct project effects associated with the project.

Project decommissioning related trips are estimated to be similar to or less than the construction related trips for the Existing (2019) Conditions Plus Construction Traffic.



## 2 METHODOLOGY

The following section describes the methodology used to determine study intersections, analyze study area conditions and to determine whether adverse project effect are expected to occur.

### 2.1 STUDY AREA

The study area was determined based on likely traffic patterns during the construction of the project and the typical operations of facilities. It also reflects the main access routes to and from the project site, mainly providing access to/from Interstate 8.

**Table 2-1** Study Intersections

	Intersection	Traffic Control (a)	Jurisdiction (b)
1	I-8 Access Road & I-8 WB On/Off Ramp	OWSC	Caltrans
2	I-8 Access Road & I-8 EB On/Off Ramp	OWSC	Caltrans
3	I-8 Access Road & Carrizo Gorge Road	TWYC	County
4	Old Highway 80 & Carrizo Gorge Road	OWYC	County
5	Carrizo Gorge Road & Access 1	DNE	County
6	Carrizo Gorge Road & Access 2	DNE	County
7	Carrizo Gorge Road & Access 3	DNE	County
8	Carrizo Gorge Road & Access 4	DNE	County
9	Old Highway 80 & Access 5	DNE	County

- (a) OWSC = One-Way Stop Control;  
OWYC = One-Way Yield Control;  
TWYC = Two-Way Yield Control;  
DNE = Project Access Location - Does Not Exist currently.
- (b) County = County of San Diego;  
Caltrans = Caltrans District 11.

**Figure 2-1** illustrates the study area at the time the counts were collected.



Figure 2-1 Study Area





## 2.2 ANALYSIS PROCESS

The analysis process includes evaluating the operations at the intersections for the a.m. and p.m. peak periods. Intersection analyses were measured and quantified using Synchro traffic analysis software package. Analysis results are used to determine the project's consistency with County General Plan Mobility Element Policy M-2.1, which requires development projects to provide associated road improvements necessary to achieve a level of service of "D" or higher on all Mobility Element roads except for those where a failing level of service has been accepted by the County pursuant to the criteria outline in the General Plan.

### 2.2.1 ANALYSIS SOFTWARE

To analyze intersection operations, Synchro 10 (Trafficware), using the methodologies outlined in the 2000 *Highway Capacity Manual (HCM)*, was used for the analysis. Due to limitations of the 2010 HCM and 6<sup>th</sup> Edition HCM in analyzing yield-controlled intersections in which delay is not reported, HCM 2000 methodology is used across the entire study area for consistency.

### 2.2.2 UNSIGNALIZED INTERSECTIONS

The Highway Capacity Manual (*HCM*) published by the Transportation Research Board establishes procedures to evaluate highway facilities and rate their ability to process traffic volumes. The terminology "level of service" is used to provide a qualitative evaluation based on certain quantitative calculations, which are related to empirical values. The criteria for the various levels of service designations for intersections are given in **Table 2-2**.

Level of service (LOS) for intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and loss of travel time. Specifically, LOS criteria are stated in terms of the average control delay per vehicle for the peak 15-minute period within the hour analyzed. The average control delay includes initial deceleration delay, queue move-up time, final acceleration time, and stop delay.

LOS for unsignalized intersections is determined by the computed or measured control delay and is defined for each movement. At a one-way or two-way stop-controlled or yield-controlled intersection, the delay reported represents the worst movement (longest delay) of the intersection. However, for this analysis, the delay is reported for each stop-controlled movement.

The following list contains the assumptions used for the intersection analyses:

- Peak-hour factor (PHF) = Measured in field PHFs were used for the Existing (2019) Conditions and Existing (2019) Conditions Plus Daily Operations Traffic scenarios;
- 0.92 PHF was used for the Existing (2019) Conditions Plus Construction Traffic scenario since most of the traffic on the roadway network during the AM and PM peak hours is related to construction traffic scenario;
- Percent of heavy vehicle (PHV) = 2 percent for the Existing (2019) Conditions, Existing (2019) Conditions Plus Construction Traffic, and Existing (2019) Conditions Plus Daily Operations Traffic scenarios; and
- Passenger Car Equivalent (PCE) = 3.0 for Heavy Construction/Delivery Vehicles in the Existing (2019) Conditions Plus Construction Traffic scenario and Heavy Maintenance/Delivery Vehicles in the Existing (2019) Plus Daily Operations Traffic scenario. PCE was used in lieu of increasing the PHV.

The acceptable LOS standard for intersections in the County of San Diego is LOS D.



**Table 2-2 LOS Criteria for Intersections**

LOS	Control Delay (sec/veh)		Description
	Signalized Intersections (a)	Unsignalized Intersections (b)	
A	$\leq 10.0$	$\leq 10.0$	Operations with very low delay and most vehicles do not stop.
B	$> 10.0$ and $\leq 20.0$	$> 10.0$ and $\leq 15.0$	Operations with good progression but with some restricted movement.
C	$> 20.0$ and $\leq 35.0$	$> 15.0$ and $\leq 25.0$	Operations where a significant number of vehicles are stopping with some backup and light congestion.
D	$> 35.0$ and $\leq 55.0$	$> 25.0$ and $\leq 35.0$	Operations where congestion is noticeable, longer delays occur, and many vehicles stop. The proportion of vehicles not stopping declines
E	$> 55.0$ and $\leq 80.0$	$> 35.0$ and $\leq 50.0$	Operations where there is significant delay, extensive queuing, and poor progression.
F	$> 80.0$	$> 50.0$	Operations that is unacceptable to most drivers, when the arrival rates exceed the capacity of the intersection.

Notes:

(a) 2000 Highway Capacity Manual, Chapter 18, Page 6, Exhibit 18-4

(b) 2000 Highway Capacity Manual, Chapter 19, Page 2, Exhibit 19-1 and Chapter 20, Page 3, Exhibit 20-2.



## 3 EXISTING (2019) CONDITIONS

This section summarizes the existing roadway circulation network, daily and peak-hour traffic volumes, and operations at the study intersections.

### 3.1 ROAD NETWORK

The following provides a description of the existing street system as of March 2019, within the vicinity of the project area.

**Interstate 8 Access Road** functions as an interchange and provides access to I-8 and Carrizo Gorge Road. The 500' two-lane, undivided roadway has no posted speed and parking is restricted. There is a service station at the south end of the road. The intersection of Carrizo Gorge Road is controlled with yield signs and pavement markings on the east and west legs and the I-8 eastbound and westbound exit ramps are stop-controlled.

**Carrizo Gorge Road** is a two-lane, undivided county road that connects I-8 with Old Highway 80. The roadway is currently classified as a 2.2D Light Collector per the County's General Plan. There is no posted speed limit along this gently-curved road and on-pavement parking is restricted. The intersection of Old Highway 80 is controlled with yield signs and pavement marking on the north leg of Carrizo Gorge Road. The north leg has a large flair that allows for separate southbound left and right turn movements.

**Old Highway 80** is a two-lane, undivided county road that connects I-8 with Jacumba Hot Springs, within the project vicinity. The roadway is currently classified as a 2.2D Light Collector per the County's General Plan. The posted speed limit is 55 mph and on-pavement parking is restricted.

**I-8** is a four-lane freeway within the vicinity of the project site. There are currently interchanges at Carrizo Gorge Road and Old Highway 80.

**Figure 3-1** shows the existing geometrics of the study intersections within the study area.

### 3.2 TRAFFIC VOLUMES

Peak-Hour intersection turning movement counts were collected by National Data and Surveying Services (NDS) at the existing study intersections on Wednesday March 6, 2019. 24-Hour roadway segment volumes we collected by NDS adjacent to the future project access locations the same day. The 24-hour roadway segment volumes were utilized to develop the existing peak hour volumes and peak hour factors.

**Appendix C** contains the existing traffic volume data and calculations.

**Figure 3-2** illustrates the existing peak hour turning movement volumes at the study intersections.

### 3.3 INTERSECTION ANALYSIS

**Table 3-1** displays the intersection analysis for the study intersections under Existing (2019) Conditions. As shown in the table, all controlled intersection movements currently operate at LOS C or better during both the AM and PM peak periods. **Appendix D** contains the intersections LOS calculation worksheets.



Figure 3-1 Existing (2019) Conditions Intersection Geometrics

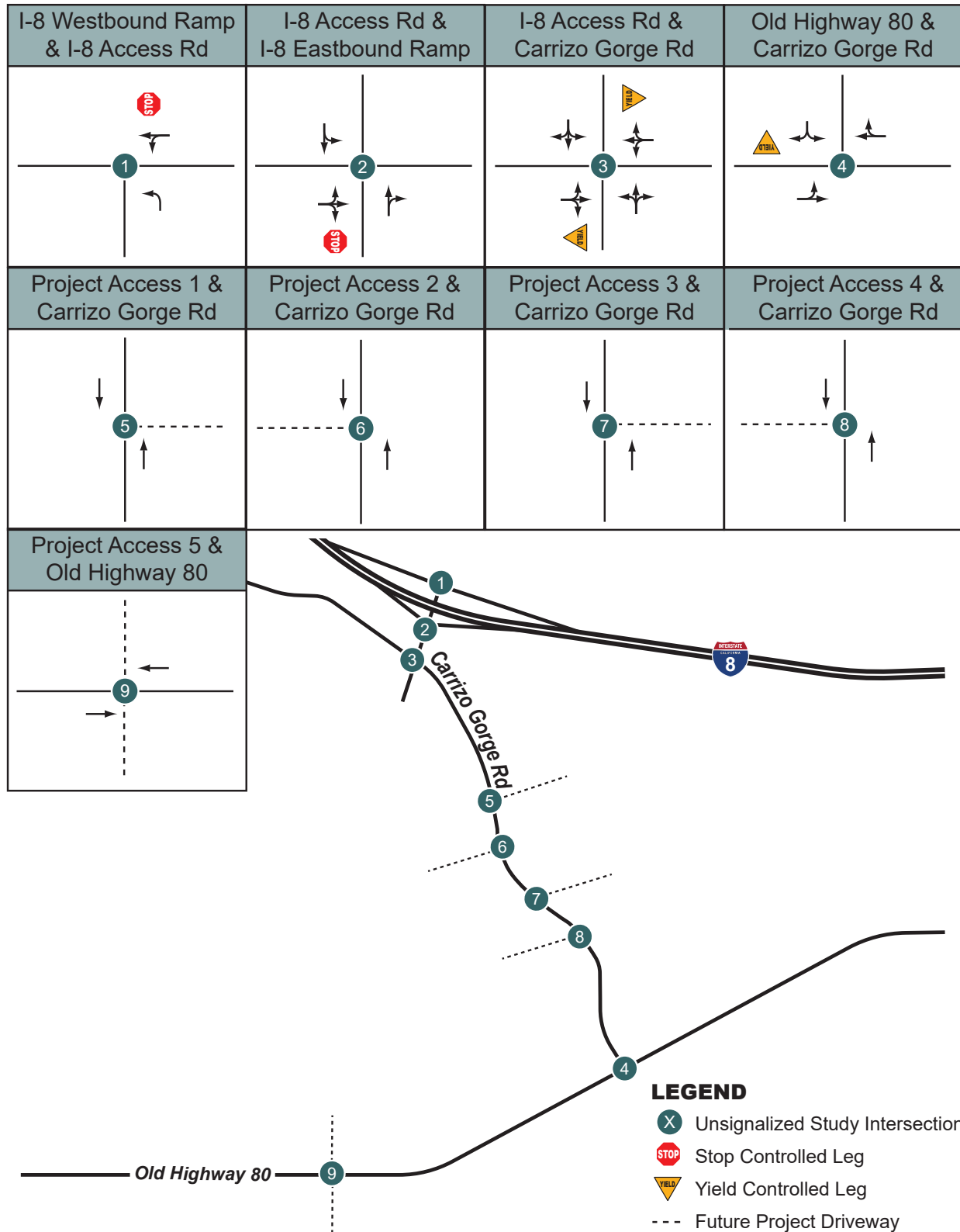
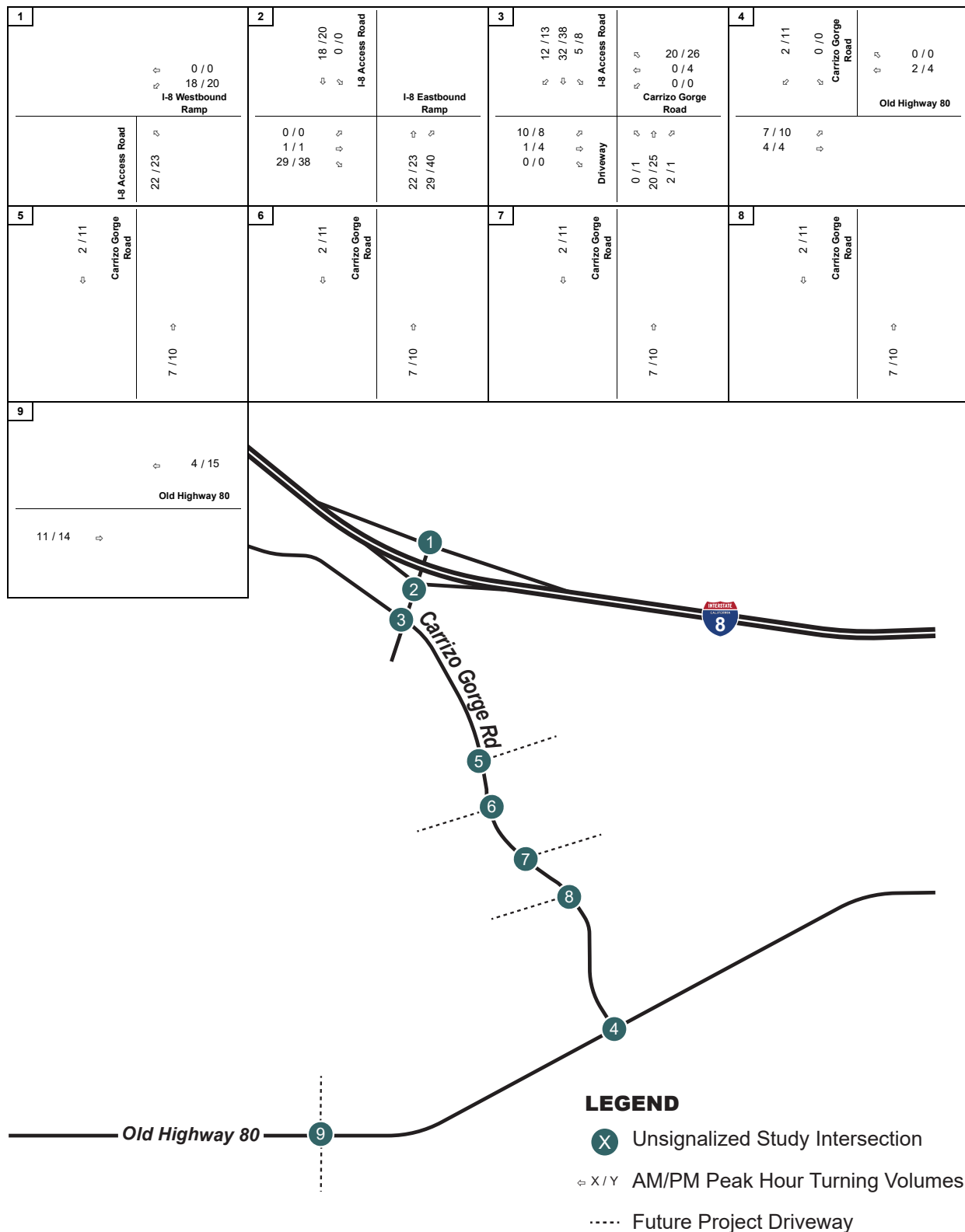




Figure 3-2 Existing (2019) Conditions Peak Hour Volumes





**TABLE 3-1**  
**EXISTING (2019) CONDITIONS**  
**INTERSECTION ANALYSIS SUMMARY**

INTERSECTION		TRAFFIC CONTROL	PEAK HOUR	EXISTING	
				DELAY (a)	LOS (b)
1	I-8 Access Road & I-8 WB On/Off Ramp	One-Way Stop	AM	9.1 (WB LT)	A
			PM	9.1 (WB LT)	A
2	I-8 Access Road & I-8 EB On/Off Ramp	One-Way Stop	AM	8.6 (EB LTR)	A
			PM	8.6 (EB LTR)	A
3	I-8 Access Road & Carrizo Gorge Road	Two-Way Yield	AM	9.5 (EB LTR)	A
				8.5 (WB LTR)	A
			PM	9.6 (EB LTR)	A
4	Old Highway 80 & Carrizo Gorge Road	One-Way Yield	AM	18.5 (SB LR)	C
				4.7 (EB LT)	A
			PM	19.3 (SB LR)	C
5	Carrizo Gorge Road & Access 1	One-Way Stop	AM	-	-
				-	-
			PM	-	-
6	Carrizo Gorge Road & Access 2	One-Way Stop	AM	-	-
				-	-
			PM	-	-
7	Carrizo Gorge Road & Access 3	One-Way Stop	AM	-	-
				-	-
			PM	-	-
8	Carrizo Gorge Road & Access 4	One-Way Stop	AM	-	-
				-	-
			PM	-	-
9	Old Highway 80 & Access 5	Two-Way Stop	AM	-	-
				-	-
				-	-
				-	-
			PM	-	-

Notes:

**Bold** values indicate intersections operating at LOS E or F.

(a) At a one-way/two-way stop-controlled/yield-controlled intersections, delay refers to individual controlled movements.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 10.0

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## 4 PROJECT TRAFFIC

The following section describes the trip generation, distribution and assignment related to the construction of the proposed project and its daily operations.

### 4.1 TRIP GENERATION

The trips generated by the construction of the proposed project and the daily operations were developed from information provided by the project applicant and end user such as number of workers required, schedules, and anticipated heavy delivery vehicles traveling to/from the site. It is conservatively estimated that during the peak construction of the project, up to 500 workers would be working across the entire project site and would arrive and depart between 6 AM – 4 PM. It is also anticipated that 30 heavy construction and/or delivery vehicles will travel to/from the project daily during construction. Based on preliminary construction schedules, approximately 462 workers and 22 trucks are anticipated for the construction of the solar facility, including the on-site collector substation, during peak construction operations. Approximately 38 workers and 8 trucks are anticipated for the construction of the switchyard during peak construction operations. Thus, the total number of workers on the entire project site would be 500 workers during peak construction.

Since current SANDAG and ITE Trip Generation documents do not contain information related to construction traffic, nor do they contain a land use that reflect the proposed daily operations of the subject site, a custom trip generation was necessary, to more accurately analyze the project-related effects.

For the Existing (2019) Conditions Plus Construction Traffic scenario, it is assumed that 65% of the workers (325) would arrive during the AM peak hour and depart during the PM peak hour. It is assumed that 30% of the 500 employees would carpool to/from the project site (15% reduction), which is conservative given the long distances between the project site and highly populated areas in San Diego County and Imperial County. Additionally, 15% of the worker traffic (64) is assumed to make an additional trip to/from the project site outside of the AM and PM peak hours. This accounts for workers leaving for lunch and additional miscellaneous trips that are to be expected. The 15% is expected to be conservative for a construction site in an undeveloped area since travel times would discourage these additional trips. A total of 30 heavy construction/delivery vehicles are anticipated to travel to/from the project site daily (22 for JVR construction and 8 for SDG&E Switchyard construction) and are spread out throughout the day (15% assumed during the peak hours). A Passenger Car Equivalent (PCE) of 3.0 is applied to all heavy vehicles. Based on the available information and the listed assumptions, it is estimated that the project would generate a total of 1,158 daily trips, with 320 (297 in, 23 out) trips during the a.m. peak hour and 320 (23 in, 297 out) during the p.m. peak hour, during peak construction operations and are broken down below.

- Solar Facility (including collector substation) – 1,036 daily trips, with 292 (270 in, 22 out) a.m. peak hour trips and 292 (22 in, 270 out) p.m. peak hour trips;
- Switchyard – 122 daily trips, with 28 (27 in, 1 out) a.m. peak hour trips and 28 (1 in, 27 out) p.m. peak hour trips.

After the construction operations are complete, the solar facility will generally be unmanned during typical operations. However, for purposes of the traffic analysis, it is projected that the daily operations of the solar facility would require 2 employees on site and approximately 2 heavy delivery/maintenance vehicles traveling to/from the project daily. The switchyard, which would be transferred to SDG&E after construction,



is not expected to generate traffic outside of occasional maintenance required. For the purposes of this analysis, the switchyard is not assumed to generate daily or peak hour trips.

For the Existing (2019) Conditions Plus Daily Operations Traffic scenario, it is assumed that workers would arrive during the AM peak hour and depart during the PM peak hour. No carpool reduction is assumed, and all workers are assumed to make an additional trip to/from the project site outside of the AM and PM peak hours for lunch and/or additional miscellaneous trips. A total of 2 heavy construction/delivery vehicles are assumed to travel to/from the project site daily and are split between the AM and PM peak hours. A PCE of 3.0 is also assumed for this scenario. Based on the available information and the listed assumptions, it is estimated that the project would generate a total of 20 daily trips, with 8 (5 in, 3 out) trips during the a.m. peak hour and 8 (3 in, 5 out) during the p.m. peak hour, during daily operations.

**Table 4-1** summarizes the trip generation for the proposed project during construction and daily operations. In the table, construction traffic is broken down between the solar facility (including collector substation) and the switchyard based on preliminary construction schedules. Refer to **Appendix B** for the planned construction activities and anticipated duration.



**TABLE 4-1  
TRIP GENERATION SUMMARY**

DescriptionUnitsTrip RateDaily Trips				AM Peak-Hour					PM Peak-Hour				
				% of ADT <sup>1</sup>	In:Out Ratio <sup>1</sup>	In	Out	Total	% of ADT <sup>1</sup>	In:Out Ratio <sup>1</sup>	In	Out	Total
JVR Solar Construction Operations													
Daily Workers	462 emp.	2.3 / emp	1,063	30%	9.42 : 0.58	300	19	319	30%	0.58 : 9.42	19	300	319
Carpool Reduction (15% reduction)	69 emp.	-2.3 / emp	-159	30%	9.42 : 0.58	-45	-3	-48	30%	0.58 : 9.42	-3	-45	-48
Heavy Construction/Delivery Vehicles*	22 trucks	2 / truck	44	15%	7.78 : 2.22	5	2	7	15%	2.22 : 7.78	2	5	7
Passenger Car Equivalent (PCE) <sup>2</sup>	22 trucks	6 / truck	132	15%	7.78 : 2.22	15	6	21	15%	2.22 : 7.78	6	15	21
Total JVR Solar Construction Operations Traffic1,036				27022292					22270292				
SDG&E Switchyard Construction Operations													
Daily Workers	38 emp.	2.3 / emp	87	30%	9.42 : 0.58	25	1	26	30%	0.58 : 9.42	1	25	26
Carpool Reduction (15% reduction)	6 emp.	-2.3 / emp	-13	30%	9.42 : 0.58	-4	0	-4	30%	0.58 : 9.42	0	-4	-4
Heavy Construction/Delivery Vehicles*	8 trucks	2 / truck	16	15%	7.78 : 2.22	2	0	2	15%	2.22 : 7.78	0	2	2
Passenger Car Equivalent (PCE) <sup>2</sup>	8 trucks	6 / truck	48	15%	7.78 : 2.22	6	0	6	15%	2.22 : 7.78	0	6	6
Total SDG&E Switchyard Construction Operations Traffic122				27128					12728				
Total Construction Operations													
Daily Workers	500 emp.	2.3 / emp	1,150	30%	9.42 : 0.58	325	20	345	30%	0.58 : 9.42	20	325	345
Carpool Reduction (15% reduction)	75 emp.	-2.3 / emp	-172	30%	9.42 : 0.58	-49	-3	-52	30%	0.58 : 9.42	-3	-49	-52
Heavy Construction/Delivery Vehicles*	30 trucks	2 / truck	60	15%	7.78 : 2.22	7	2	9	15%	2.22 : 7.78	2	7	9
Passenger Car Equivalent (PCE) <sup>2</sup>	30 trucks	6 / truck	180	15%	7.78 : 2.22	21	6	27	15%	2.22 : 7.78	6	21	27
Total Construction Operations Traffic1,158				29723320					23297320				
JVR Solar Daily Operations													
Daily Workers	2 emp.	4 / emp	8	25%	1.00 : 0.00	2	0	2	25%	0.00 : 1.00	0	2	2
Heavy Maintenance/Delivery Vehicles*	2 trucks	2 / truck	4	50%	5.00 : 5.00	1	1	2	50%	5.00 : 5.00	1	1	2
Passenger Car Equivalent (PCE) <sup>2</sup>	2 trucks	6 / truck	12	50%	5.00 : 5.00	3	3	6	50%	5.00 : 5.00	3	3	6
Total JVR Solar Daily Operations Traffic20				538					358				

Note:

1. Custom Trip Generation Rates based on peak construction operations and daily operations information provided by developer. Information includes anticipated number of daily workers, heavy vehicles and work schedules.

In:Out Ratio is the split of vehicles traveling inbound to/outbound from the project site.

2. Passenger Car Equivalent (PCE) of 3.0 is used for Heavy Construction/Delivery Vehicles and Heavy Maintenance/Delivery Vehicles.

\* Excluded from totals and shown for reference only.

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## 4.2 TRIP DISTRIBUTION

The project traffic distribution was based on the current network configuration, a review of the current traffic data and knowledge of the project area.

The following is the resulting general project traffic distribution assumed for this analysis for the Existing (2019) Plus Construction Traffic and Existing (2019) Plus Daily Operations scenarios:

- 65% to/from the west along Interstate 8 and using the Carrizo Gorge Road interchange
- 30% to/from the east along Interstate 8
  - 28% would use the Carrizo Gorge Road interchange
  - 2% would use the Old Highway 80 interchange
- 5% to/from the west along Old Highway 80

**Figure 4-1** shows the general project traffic distribution within the study area for the Existing (2019) Plus Construction Traffic and Existing (2019) Plus Daily Operations scenarios.

## 5 EXISTING (2019) CONDITIONS PLUS CONSTRUCTION TRAFFIC

This section provides a description of the Existing (2019) Conditions with the addition of the proposed project's construction traffic.

### 5.1 TRAFFIC VOLUMES

The proposed project is expected to generate a total of 1,158 daily trips, with 320 trips (297 in, 23 out) during the AM Peak, and 320 trips (23 in, 297 out) during the PM Peak. Existing (2019) Conditions Plus Construction Traffic volumes were determined by adding the construction traffic to the Existing (2019) Conditions volumes and are shown in **Figure 5-1**.

### 5.2 TRIP ASSIGNMENT

Based on the project's trip generation and trip distribution, project trips were assigned to the local roadway network.

**Figure 5-2** shows the total trip assignment for the proposed project under the Existing (2019) Plus Construction Traffic scenario at the study area intersections. **Figure 5-3** shows the trip assignment for the proposed project under the Existing (2019) Plus Daily Operations scenario at the study area intersections.



Figure 4-1 General Project Trip Distribution

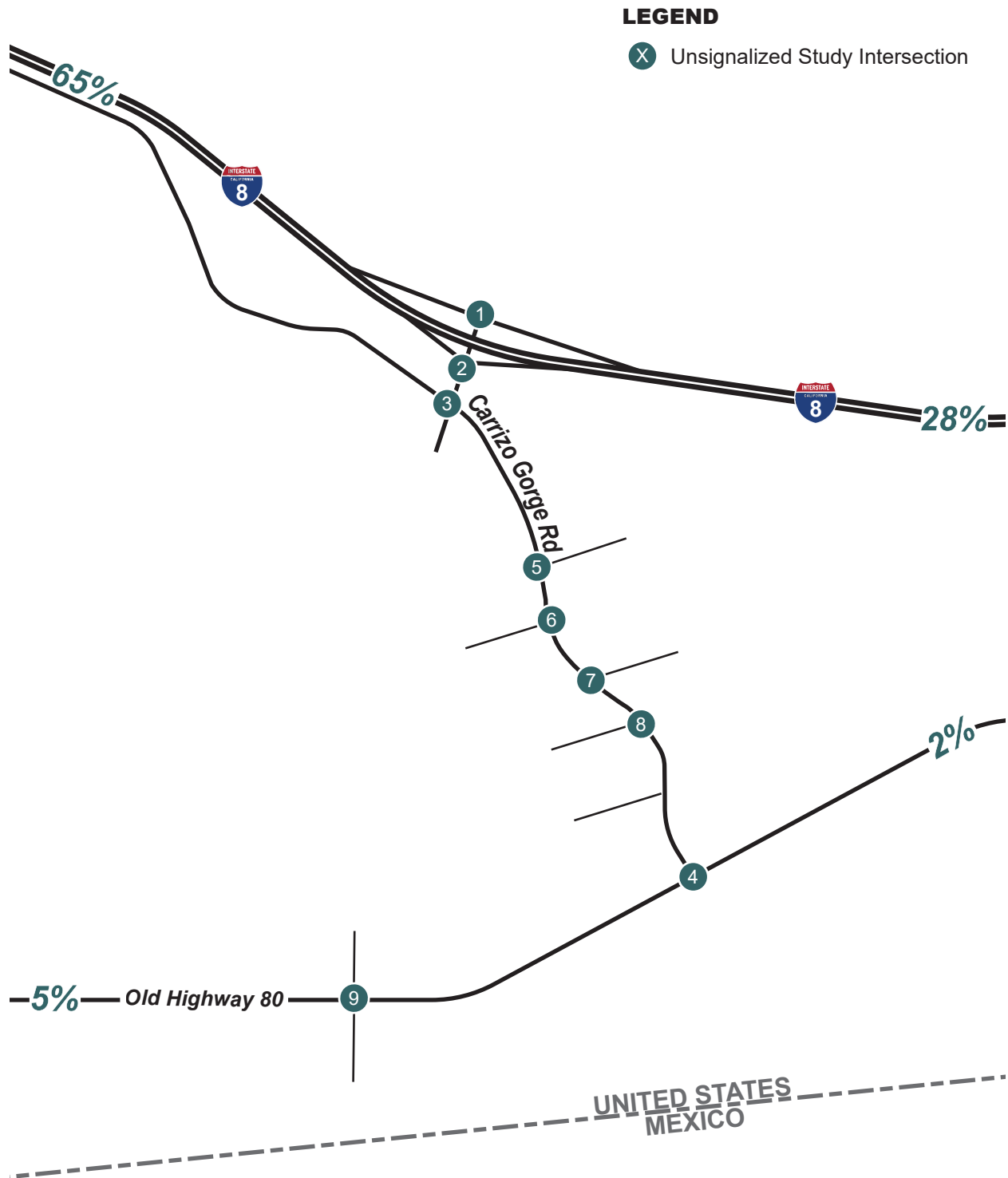




Figure 5-1 Trip Assignment for Existing (2019) Plus Construction Traffic

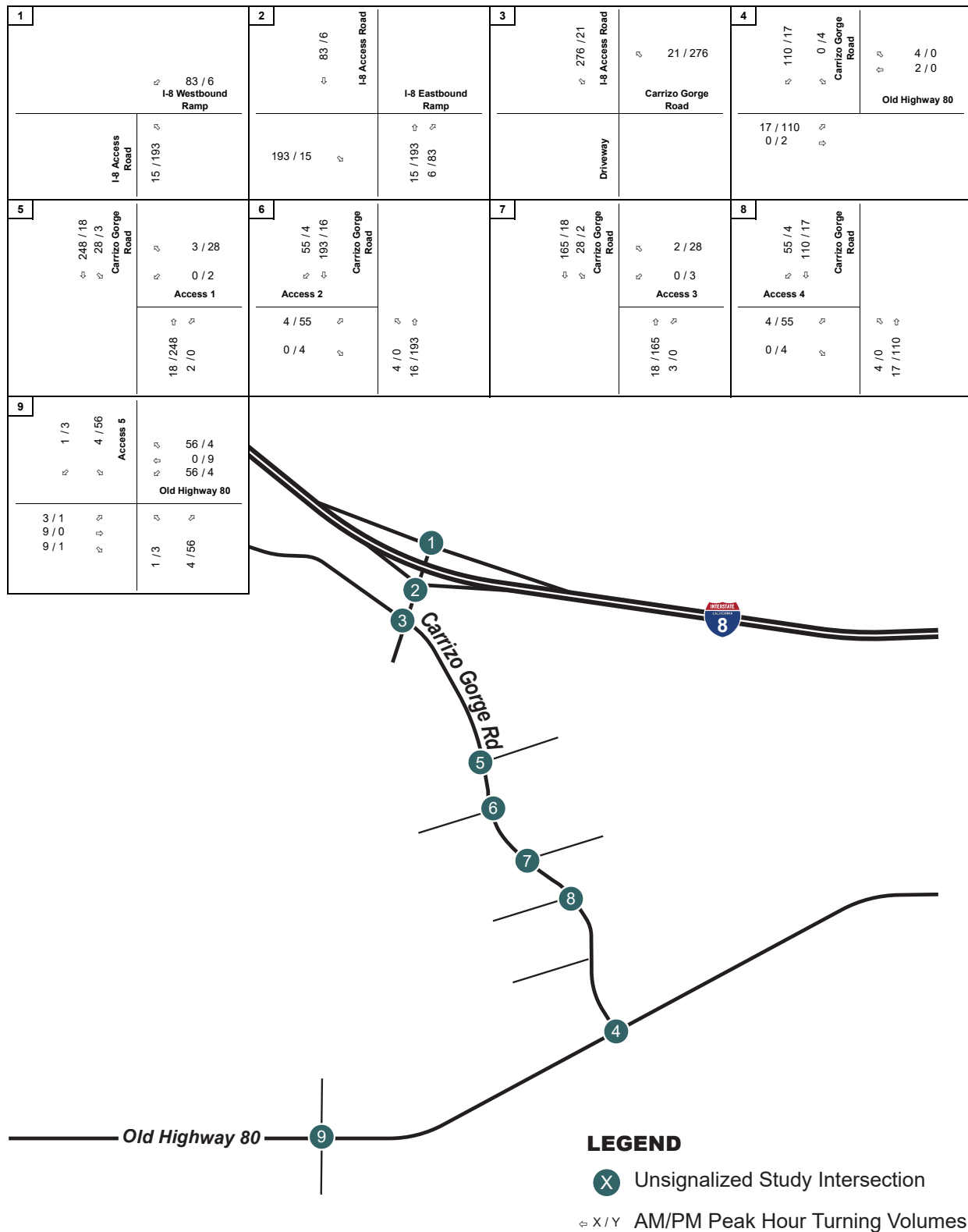




Figure 5-2 Trip Assignment for Existing (2019) Plus Daily Operations Traffic

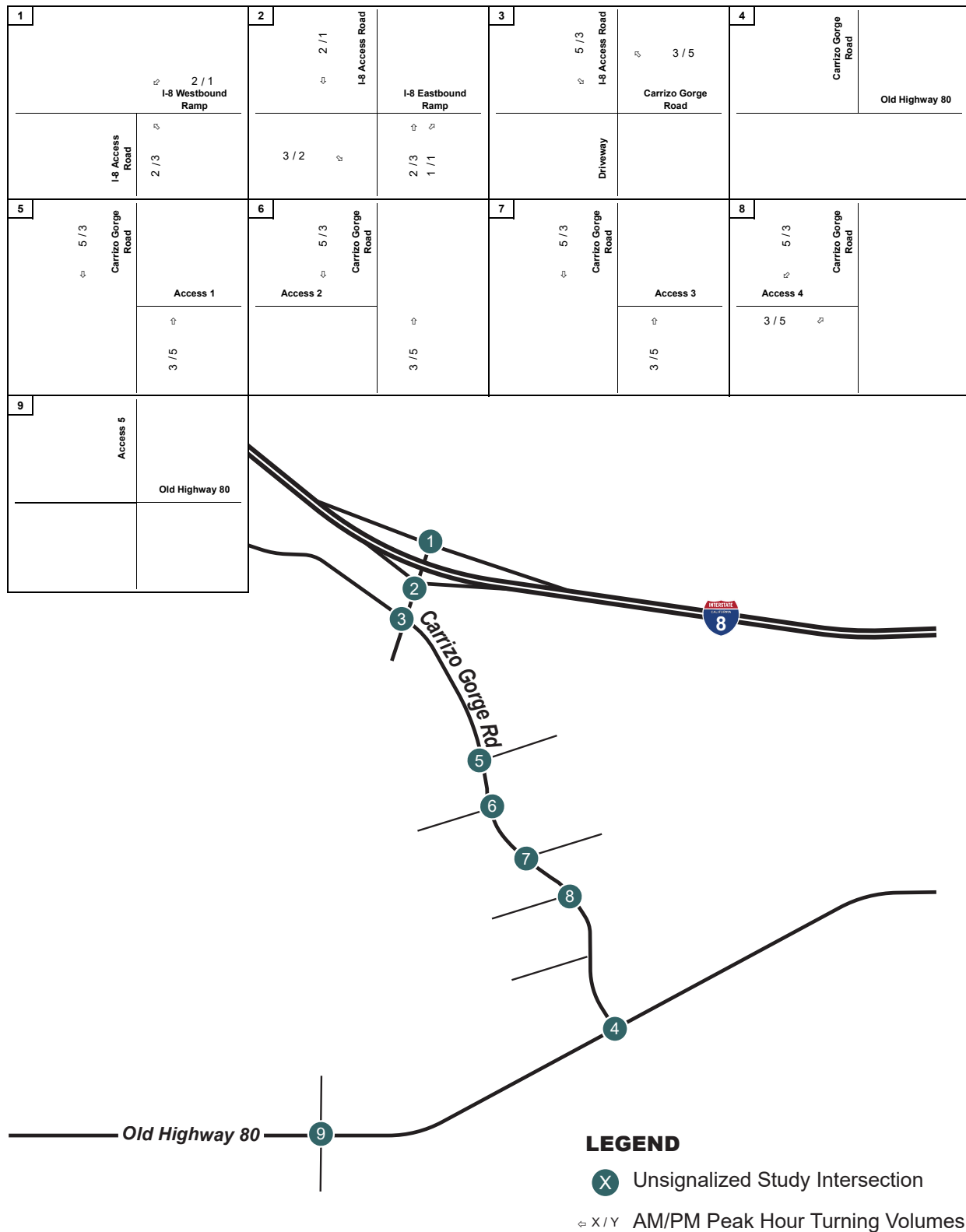
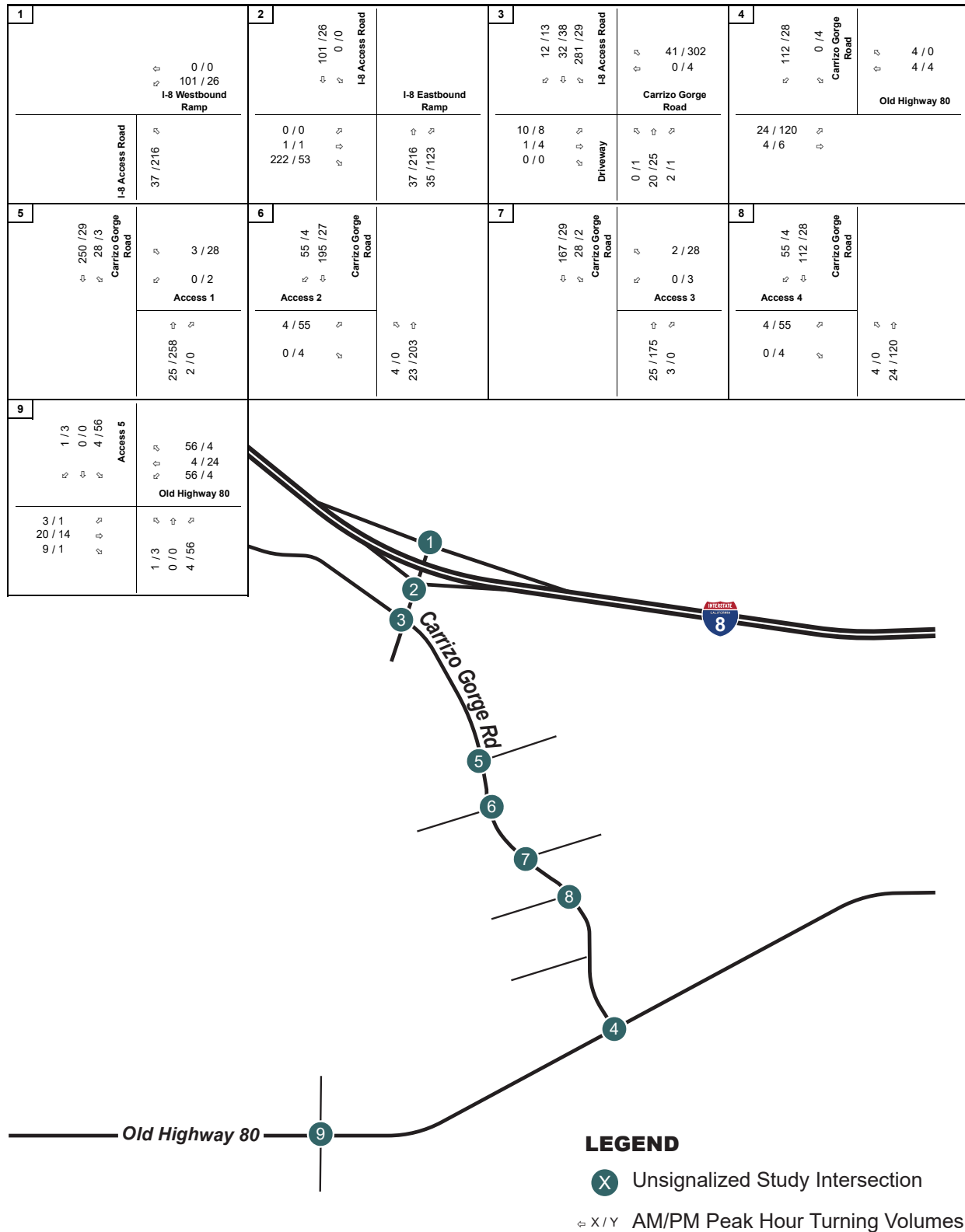




Figure 5-3 Existing (2019) Plus Construction Traffic Peak Hour Volumes





### 5.3 ROADWAY NETWORK CHANGES

No roadway network changes are planned as part of the construction of the proposed project, except for the construction of the following six driveways at five locations to provide access to the solar facility:

- Access 1 – Full access driveway along Carrizo Gorge Road (east leg), approximately 1,000 feet southeast of the Interstate 8 interchange;
- Access 2 – Full access driveway along Carrizo Gorge Road (west leg), approximately 1,450 feet southeast of the Interstate 8 interchange;
- Access 3 – Full access driveway along Carrizo Gorge Road (east leg), approximately 2,100 feet southeast of the Interstate 8 interchange;
- Access 4 – Full access driveway along Carrizo Gorge Road (west leg), approximately 2,800 feet southeast of the Interstate 8 interchange; and
- Access 5 – Full access driveway along Old Highway 80 (north and south leg), approximately 1,200 east of Campo Street.

### 5.4 INTERSECTION ANALYSIS

**Table 5-1** displays the intersection analysis for the study intersections under the Existing (2019) Conditions Plus Construction Traffic. As shown in the table, all controlled intersections movements would operate at LOS D or better during both the AM and PM peak periods with the addition of the proposed project construction traffic during peak construction. Decommissioning related trips are estimated to be similar to or less than the construction related trips described above.

**Appendix D** contains the intersections LOS calculation worksheets.



**TABLE 5-1**  
**EXISTING (2019) PLUS CONTRUCTION TRAFFIC**  
**INTERSECTION ANALYSIS SUMMARY**

INTERSECTION		PEAK HOUR	EXISTING BASELINE		EXISTING BASELINE PLUS PROJECT		Δ (c)	SIGNIFICANT?
			DELAY (a)	LOS (b)	DELAY (a)	LOS (b)		
1	I-8 Access Road & I-8 WB On/Off Ramp	AM	9.1 (WB LT)	A	9.6 (WB LT)	A	0.5	NO
		PM	9.1 (WB LT)	A	13.6 (WB LT)	B	4.5	NO
2	I-8 Access Road & I-8 EB On/Off Ramp	AM	8.6 (EB LTR)	A	10.1 (EB LTR)	B	1.5	NO
		PM	8.6 (EB LTR)	A	8.7 (EB LTR)	A	0.1	NO
3	I-8 Access Road & Carrizo Gorge Road	AM	9.5 (EB LTR)	A	18.3 (EB LTR)	C	8.8	NO
			8.5 (WB LTR)	A	8.6 (WB LTR)	A	0.1	NO
		PM	9.6 (EB LTR)	A	14.2 (EB LTR)	B	4.6	NO
			8.7 (WB LTR)	A	10.1 (WB LTR)	B	1.4	NO
4	Old Highway 80 & Carrizo Gorge Road	AM	18.5 (SB LR)	C	29.0 (SB LR)	D	10.5	NO
			4.7 (EB LT)	A	6.3 (EB LT)	A	1.6	NO
		PM	19.3 (SB LR)	C	8.7 (SB LR)	A	-	NO
			5.2 (EB LT)	A	7.1 (EB LT)	A	1.9	NO
5	Carrizo Gorge Road & Access 1	AM	-	-	0.9 (SB LT)	A	-	NO
			-	-	8.4 (WB LR)	A	-	NO
		PM	-	-	0.7 (SB LT)	A	-	NO
			-	-	10.0 (WB LR)	A	-	NO
6	Carrizo Gorge Road & Access 2	AM	-	-	1.1 (NB LT)	A	-	NO
			-	-	10.1 (EB LR)	B	-	NO
		PM	-	-	0.0 (NB LT)	A	-	NO
			-	-	10.2 (EB LR)	B	-	NO
7	Carrizo Gorge Road & Access 3	AM	-	-	1.2 (SB LT)	A	-	NO
			-	-	8.4 (WB LR)	A	-	NO
		PM	-	-	0.5 (SB LT)	A	-	NO
			-	-	9.4 (WB LR)	A	-	NO
8	Carrizo Gorge Road & Access 4	AM	-	-	1.0 (NB LT)	A	-	NO
			-	-	9.5 (EB LR)	A	-	NO
		PM	-	-	0.0 (NB LT)	A	-	NO
			-	-	9.6 (EB LR)	A	-	NO
9	Old Highway 80 & Access 5	AM	-	-	8.7 (NB LTR)	A	-	NO
			-	-	9.6 (SB LTR)	A	-	
			-	-	0.6 (EB LTR)	A	-	
			-	-	3.7 (WB LTR)	A	-	
		PM	-	-	8.6 (NB LTR)	A	-	NO
			-	-	9.8 (SB LTR)	A	-	
			-	-	0.4 (EB LTR)	A	-	
			-	-	0.9 (WB LTR)	A	-	

Notes:

**Bold** values indicate intersections operating at LOS E or F. **Bold and shaded** values indicate project significant impact.

(a) At a one-way/two-way stop-controlled/yield-controlled intersections, delay refers to individual controlled movements.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 10.0

(c) Change in delay due to addition of project traffic

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## 6 EXISTING (2019) CONDITIONS PLUS DAILY OPERATIONS TRAFFIC

This section provides a description of the Existing (2019) Conditions with the addition of the proposed project's daily operations traffic.

### 6.1 TRAFFIC VOLUMES

The proposed project is expected to generate 20 daily trips, with 8 trips (5 in, 3 out) during the AM Peak, and 8 trips (3 in, 5 out) during the PM Peak. Existing (2019) Conditions Plus Project volumes were determined by adding the project traffic to the Existing (2019) Conditions volumes and are shown in **Figure 6-1**.

### 6.2 ROADWAY NETWORK CHANGES

No roadway network changes are planned as part of the construction of the proposed project, except for the construction of the following six driveways at five locations to provide access to the solar facility:

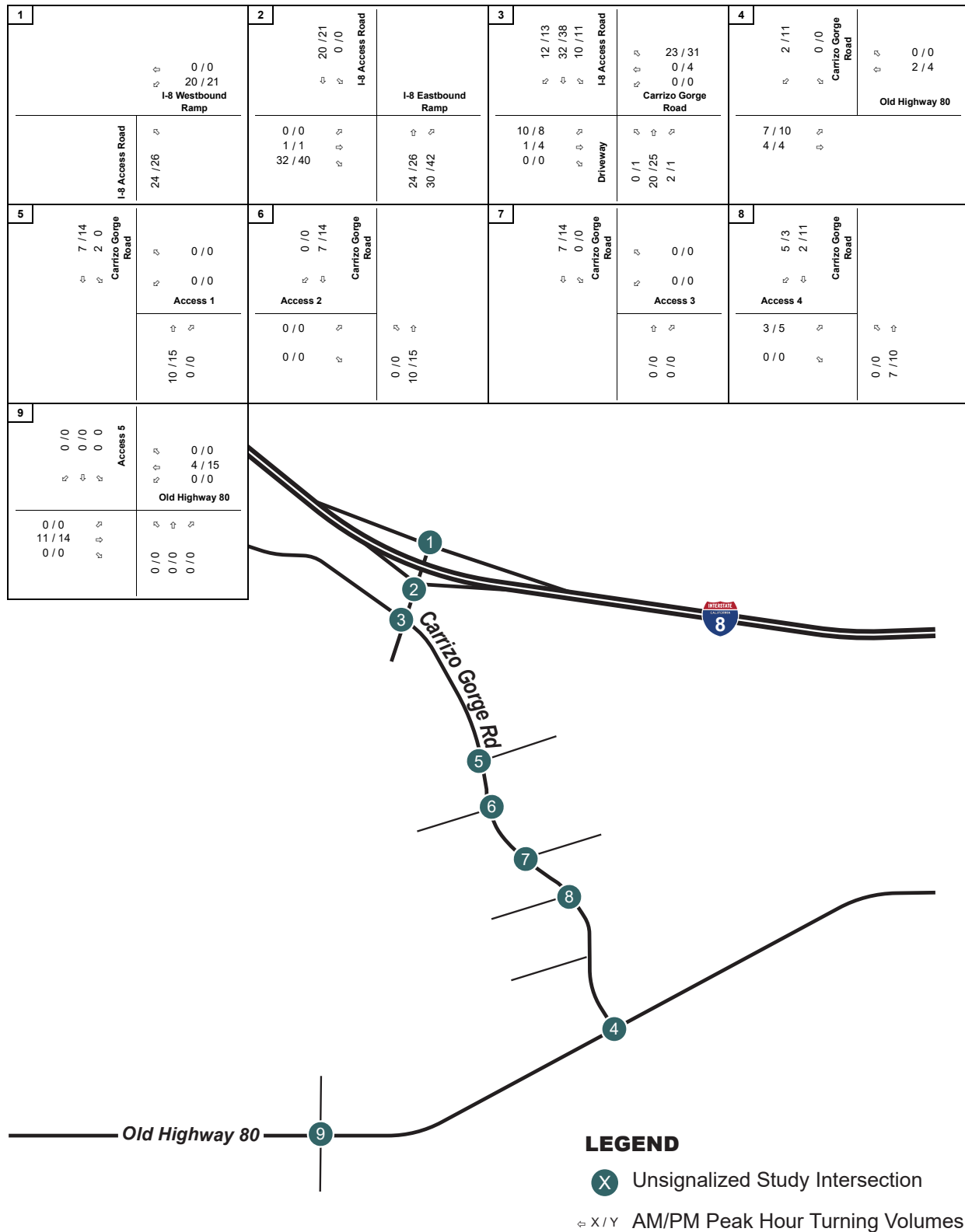
- Access 1 – Full access driveway along Carrizo Gorge Road (east leg), approximately 1,000 feet southeast of the Interstate 8 interchange;
- Access 2 – Full access driveway along Carrizo Gorge Road (west leg), approximately 1,450 feet southeast of the Interstate 8 interchange;
- Access 3 – Full access driveway along Carrizo Gorge Road (east leg), approximately 2,100 feet southeast of the Interstate 8 interchange;
- Access 4 – Full access driveway along Carrizo Gorge Road (west leg), approximately 2,800 feet southeast of the Interstate 8 interchange; and
- Access 5 – Full access driveway along Old Highway 80 (north and south leg), approximately 1,200 feet east of Campo Street.

### 6.3 INTERSECTION ANALYSIS

**Table 6-1** displays the intersection analysis for the study intersections under the Existing (2019) Conditions Plus Daily Operations Traffic. As shown in the table, all controlled intersections movements would continue to operate at LOS C or better during both the AM and PM peak periods with the addition of the proposed project daily operations traffic. **Appendix D** contains the intersections LOS calculation worksheets.



Figure 6-1 Existing (2019) Plus Daily Operations Traffic Peak Hour Volumes





**TABLE 6-1**  
**EXISTING (2019) PLUS DAILY OPERATIONS TRAFFIC**  
**INTERSECTION ANALYSIS SUMMARY**

INTERSECTION		PEAK HOUR	EXISTING BASELINE		EXISTING BASELINE PLUS PROJECT		Δ (c)      SIGNIFICANT?	
			DELAY (a)	LOS (b)	DELAY (a)	LOS (b)		
1	I-8 Access Road & I-8 WB On/Off Ramp	AM	9.1 (WB LT)	A	9.1 (WB LT)	A	0.0	NO
		PM	9.1 (WB LT)	A	9.1 (WB LT)	A	0.0	NO
2	I-8 Access Road & I-8 EB On/Off Ramp	AM	8.6 (EB LTR)	A	8.6 (EB LTR)	A	0.0	NO
		PM	8.6 (EB LTR)	A	8.6 (EB LTR)	A	0.0	NO
3	I-8 Access Road & Carrizo Gorge Road	AM	9.5 (EB LTR)	A	9.6 (EB LTR)	A	0.1	NO
			8.5 (WB LTR)	A	8.6 (WB LTR)	A	0.1	NO
		PM	9.6 (EB LTR)	A	9.7 (EB LTR)	A	0.1	NO
			8.7 (WB LTR)	A	8.8 (WB LTR)	A	0.1	NO
4	Old Highway 80 & Carrizo Gorge Road	AM	18.5 (SB LR)	C	18.5 (SB LR)	C	0.0	NO
			4.7 (EB LT)	A	5.0 (EB LT)	A	0.3	NO
		PM	19.3 (SB LR)	C	19.3 (SB LR)	C	0	NO
			5.2 (EB LT)	A	5.2 (EB LT)	A	0.0	NO
5	Carrizo Gorge Road & Access 1	AM	-	-	0.0 (SB LT)	A	-	NO
			-	-	0.0 (WB LR)	A	-	
		PM	-	-	0.0 (SB LT)	A	-	NO
			-	-	0.0 (WB LR)	A	-	
6	Carrizo Gorge Road & Access 2	AM	-	-	0.0 (NB LT)	A	-	NO
			-	-	0.0 (EB LR)	B	-	
		PM	-	-	0.0 (NB LT)	A	-	NO
			-	-	0.0 (EB LR)	B	-	
7	Carrizo Gorge Road & Access 3	AM	-	-	0.0 (SB LT)	A	-	NO
			-	-	0.0 (WB LR)	A	-	
		PM	-	-	0.0 (SB LT)	A	-	NO
			-	-	0.0 (WB LR)	A	-	
8	Carrizo Gorge Road & Access 4	AM	-	-	0.0 (NB LT)	A	-	NO
			-	-	8.6 (EB LR)	A	-	
		PM	-	-	0.0 (NB LT)	A	-	NO
			-	-	8.7 (EB LR)	A	-	
9	Old Highway 80 & Access 5	AM	-	-	0.0 (NB LTR)	A	-	NO
			-	-	0.0 (SB LTR)	A	-	
			-	-	0.0 (EB LTR)	A	-	
			-	-	0.0 (WB LTR)	A	-	
		PM	-	-	0.0 (NB LTR)	A	-	NO
			-	-	0.0 (SB LTR)	A	-	
			-	-	0.0 (EB LTR)	A	-	
			-	-	0.0 (WB LTR)	A	-	

Notes:

**Bold** values indicate intersections operating at LOS E or F. **Bold and shaded** values indicate project significant impact.

(a) At a one-way/two-way stop-controlled/yield-controlled intersections, delay refers to individual controlled movements.

(b) LOS calculations are based on the methodology outlined in the *2000 Highway Capacity Manual* and performed using Synchro 10.0

(c) Change in delay due to addition of project traffic

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## 7 CONCLUSIONS AND RECOMMENDATIONS

This section summarizes the results of the traffic analysis and subsequent recommendations to the access driveway locations of the proposed project.

### 7.1 ANALYSIS SUMMARY

The development of the proposed project and resulting combined peak construction traffic generation of approximately 1,158 daily trips, 320 (297 in, 23 out) trips during the a.m. peak hour and 320 (23 in, 297 out) during the p.m. peak hour, are not expected to cause any significant traffic effects to the study area. The switchyard would generate a portion of these total project trips: 122 daily trips, with 28 (27 in, 1 out) a.m. peak hour trips and 28 (1 in, 27 out) p.m. peak hour trips. Therefore, the switchyard component of the project would not cause any individual significant traffic effects to the study area.

The daily operations of the proposed project and resulting traffic generation of approximately 20 daily trips, 8 (5 in, 3 out) trips during the a.m. peak hour and 8 (3 in, 5 out) during the p.m. peak hour, are not expected to cause any significant traffic effects to the study area. Since the switchyard is not expected to generate traffic outside of occasional maintenance required, it would not cause any traffic effects to the study area.



## 7.2 PROJECT ACCESS RECOMMENDATIONS

The development of the proposed project will require the following improvements:

- Carrizo Gorge Road & Access 1
  - Construct a full access driveway, per County of San Diego standards, approximately 1,000 feet southeast of the Interstate 8 interchange;
  - Provide northbound shared through/right-turn lane;
  - Provide southbound shared left-turn/through lane; and
  - Provide westbound shared left/right-turn lane.
- Carrizo Gorge Road & Access 2
  - Construct a full access driveway, per County of San Diego standards, approximately 1,450 feet southeast of the Interstate 8 interchange;
  - Provide northbound shared left-turn/through lane;
  - Provide southbound shared through/right-turn lane; and
  - Provide eastbound shared left/right-turn lane.
- Carrizo Gorge Road & Access 3
  - Construct a full access driveway, per County of San Diego standards, approximately 2,100 feet southeast of the Interstate 8 interchange;
  - Provide northbound shared through/right-turn lane;
  - Provide southbound shared left-turn/through lane; and
  - Provide westbound shared left/right-turn lane.
- Carrizo Gorge Road & Access 4
  - Construct a full access driveway, per County of San Diego standards, approximately 2,800 feet southeast of the Interstate 8 interchange;
  - Provide northbound shared left-turn/through lane;
  - Provide southbound shared through/right-turn lane; and
  - Provide eastbound shared left/right-turn lane.
- Old Highway 80 & Access 5
  - Construct two (2) full access driveways, per County of San Diego standards, approximately 1,200 feet east of Campo Street;
  - Provide northbound shared left/through/right-turn lane;
  - Provide southbound shared left/through/right-turn lane;
  - Provide eastbound shared left/through/right-turn lane; and
  - Provide westbound shared left/through/right-turn lane.



## APPENDICES

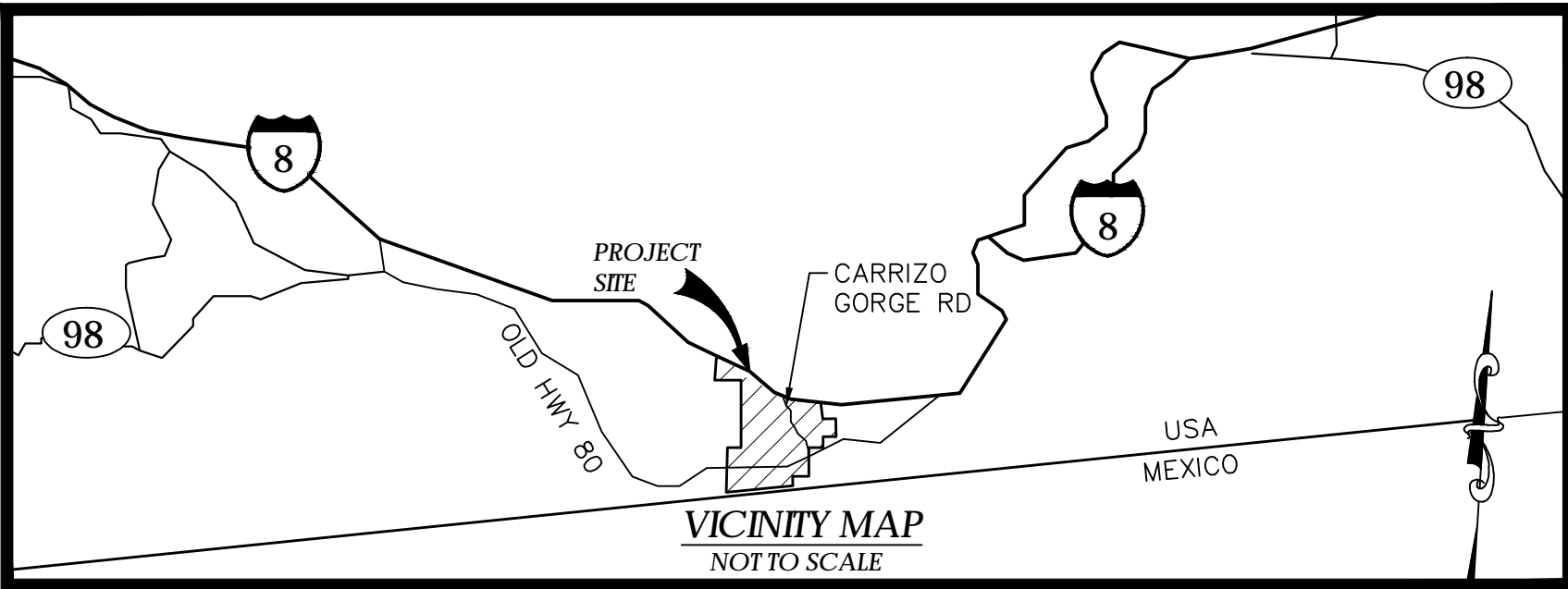


## APPENDIX A

### PROJECT PLOT PLANS



MAJOR USE PERMIT  
FOR  
JVR ENERGY PARK  
COUNTY OF SAN DIEGO, CA  
PDS2018-MUP-18-022



BayWa r.e.  
Solar Projects LLC

17901 Von Karman Ave, Suite 1050  
Irvine, CA 92614  
Phone: 949.398.3915 | Fax: 949.398.3914  
www.baywa-re.us

Kimley»Horn

© 2018 KIMLEY-HORN AND ASSOCIATES, INC.  
765 THE CITY DRIVE, SUITE 200, ORANGE, CA 92668  
PHONE: 714.939.1030 FAX: 714.938.9488  
WWW.KIMLEY-HORN.COM



SITE INFORMATION  
JVR ENERGY PARK

PROJECT MANAGER  
GEORGE GUNNOE  
832.303.2477

PROJECT ENGINEER  
AKHILA KRISHNAN  
949.771.2976

NO.	ISSUE	DATE
1	MUP - 1ST SUBMITTAL	11/01/2018
2	MUP - 2ND SUBMITTAL	10/17/2019
3	COVER SHEET UPDATE	12/3/2019

PROJECT NUMBER	KHA -194083001
DRAWN BY	CK
REVIEWED BY	WC
APPROVED BY	DB

CLIENT SIGNATURE

MAJOR USE PERMIT

COVER SHEET

DRAWING  
NUMBER 001

SHEET SIZE: ARCH D - 24" x 36"

GENERIC ZONING SETBACKS

PER COUNTY OF SAN DIEGO, PLANNING & DEVELOPMENT SERVICES, SETBACKS FOR SOLAR PHOTOVOLTAIC PANELS DOCUMENT; TO BE EVALUATED DURING MUP APPLICATION PROCESS.

FRONT: 3 FT  
EXTERIOR SIDE: 3 FT  
INTERIOR SIDE: 3 FT  
REAR: 3 FT

SURVEY NOTE

COORDINATE SYSTEM: REFERENCE ALTA  
DATUM: REFERENCE ALTA  
ZONE: REFERENCE ALTA  
GEOID: REFERENCE ALTA  
VERTICAL DATUM: REFERENCE ALTA  
ORIGINATING BENCHMARK: REFERENCE ALTA

BENCHMARK NOTE

ELEVATIONS FOR THIS SURVEY ARE BASED UPON NGS BENCHMARK "M1252" PID DCO157, BEING A VERTICAL CONTROL DISC AS DESCRIBED PER THE NGS DATASHEET.

ELEVATION: 2872.21 FEET  
DATUM: NAVD88

BASIS OF BEARINGS NOTE

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM 83, ZONE 6, NAD83, EPOCH 2010.00, AS DETERMINED LOCALLY BY A LINE BETWEEN CONTINUOUS OPERATING REFERENCE STATIONS (CORS) "P066" AND "POTR" BEING NORTH 89°37'30" WEST AS DERIVED FROM GEODETIC VALUES PUBLISHED BY THE NATIONAL GEODETIC SURVEY (NGS), AND MEETS ALL THE REQUIREMENTS OF THE CALIFORNIA PUBLIC RESOURCES CODE.

ZONING

EXISTING ZONE	APN
S-80 (MAJOR USE PERMIT REQUIRED)	660-150-07
	660-150-08
	660-150-10
	660-150-16
	660-150-21
	660-140-06
S-88 (LIMITED USES AFTER ADOPTION OF SPECIFIC PLAN)	660-140-08
	REMAINING APN LISTING
RL-40 - RURAL LANDS	661-010-02

ASSESSOR PARCEL NUMBERS

614-110-04	660-150-07	660-150-17	660-020-05	661-010-15
614-100-20	660-150-08	660-150-18	660-020-06	661-010-26
614-100-21	660-150-10	660-150-21	661-060-12	661-010-27
660-170-09	660-150-14	660-140-06	661-060-22	661-010-30
660-150-04	660-150-16	660-140-08	661-010-02	

PROJECT TEAM

DEVELOPER  
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GEORGE GUNNOE  
17901 VON KARMAN AVE, SUITE 1050  
IRVINE, CA 92614  
(949) 398-3915

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DUDEK  
DAVID HOCHART  
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(760) 415-2864

GEOTECHNICAL  
NINYO & MOORE GEOTECHNICAL &  
ENVIRONMENTAL SCIENCES CONSULTANTS  
NISSA MORTON  
5710 RUFFIN ROAD  
SAN DIEGO, CA 92123  
(658) 576-1000

NOTES

- GROSS (PROPERTY) AREA: 1,355.84 ACRES
- MUP BOUNDARY ("DEVELOPED") AREA: 643± ACRES
- FENCED AREA (INCLUDES PROJECT COLLECTOR SUBSTATION AND SWITCHYARD): 574.84± ACRES
- GENERAL PLAN: PUBLIC AGENCY LANDS, VILLAGE RESIDENTIAL (VR-2), RURAL COMMERCIAL
- REGIONAL CATEGORY: VILLAGE AND RURAL
- TOPOGRAPHIC SOURCE: KIMLEY-HORN FIELD SURVEY COMPLETED 8/8/2018 (SEE SURVEY NOTE, LEFT)
- ASSOCIATED REQUESTS: NONE
- WATER DISTRICT: JACUMBA COMMUNITY SERVICE DISTRICT
- FIRE DISTRICT: SAN DIEGO COUNTY FIRE AUTHORITY
- THE APPROVAL OF THIS MAJOR USE PERMIT (MUP) AUTHORIZES THE FOLLOWING: CONSTRUCTION, OPERATION, AND MAINTENANCE OF A PHOTOVOLTAIC (PV) SOLAR FARM PURSUANT TO SECTION 6952 OF THE SAN DIEGO COUNTY ZONING ORDINANCE.
- THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL OF THIS PLAN DOES NOT CONSTITUTE AN APPROVAL TO PERFORM ANY GRADING SHOWN HEREON AND AGREES TO OBTAIN VALID GRADING PERMISSIONS BEFORE COMMENCING SUCH ACTIVITY.
- ALL SOLAR EQUIPMENT STRUCTURES TO BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIAL (CONCRETE, BLOCK, METAL) OR SIMILAR AND PAINTED EARTH TONE COLORS AS EXPLICITLY REQUIRED BY THE CONDITIONS OF APPROVAL.
- LIGHTING FOR MAINTENANCE AND SECURITY PURPOSES ONLY. SHIELDED LIGHTING LOCATED AT ENTRANCE GATES AND INVERTER/TRANSFORMER PADS AND SHALL CONFORM TO COUNTY OF SAN DIEGO OUTDOOR LIGHTING REQUIREMENTS.
- PHASING - PROJECT MAY BE IMPLEMENTED IN SEVERAL PHASES WITHOUT REGARD TO SEQUENCE.
- ALL DISTURBED AREAS SHALL BE COVERED WITH ORGANIC MULCH OR APPROVED EQUAL TO REDUCE DUST, SEEDED, AND WATERED REGULARLY DURING CONSTRUCTION.
- SEE PRELIMINARY GRADING PLANS FOR PROPOSED GRADING.
- SEE EROSION AND SEDIMENT CONTROL PLANS FOR PRELIMINARY LAYOUT OF TEMPORARY BEST MANAGEMENT PRACTICES, LAYDOWN, STAGING, AND CONSTRUCTION MANAGEMENT AREAS.
- SITE ACCESS GATE(S) TO BE EQUIPPED WITH FIRE DEPARTMENT APPROVED STROBE LIGHT ACTIVATION AND KNOX KEY-OPERATED SWITCH.
- SOLAR RELATED FACILITIES (PANELS, RACKING, ELECTRICAL CONNECTIONS, INVERTER/TRANSFORMER PADS, SWITCHGEAR, MET STATION, FENCING AND INTERNAL ACCESS, ETC.) SHOWN ON THE PLOT PLAN MAY BE RELOCATED, RECONFIGURED, AND/OR RESIZED WITHIN THE SOLAR FACILITY DEVELOPMENT AREA WITH THE ADMINISTRATIVE APPROVAL OF THE DIRECTOR OF PDS WHEN FOUND IN CONFORMANCE WITH THE INTENT AND CONDITIONS OF PERMITS APPROVAL.
- INVERTER/TRANSFORMER LOCATIONS CAN BE RELOCATED/RECONFIGURED WITHOUT REQUIREMENT OF MINOR DEVIATION. THE INVERTER/TRANSFORMER MUST COMPLY WITH THE NOISE ORDINANCE AND MUST BE ELEVATED 1' ABOVE FLOOD ELEVATION.
- THE 20' FIRE ACCESS DRIVE WIDTHS MAY BE REDUCED ADMINISTRATELY WITH THE APPROVAL OF THE COUNTY AND FIRE AUTHORITY HAVING JURISDICTION OVER THE PROJECT.
- A SYSTEM IDENTIFICATION SIGN SHALL BE LOCATED AT ALL GATE ENTRANCES. SIGN SHALL BE 12" X 18" MIN. SIGN SHALL LIST NAME OF SITE AND CONTACT INFORMATION AS PROVIDED BY SDGE.
- PRIVATE PROPERTY/NO TRESPASSING AND HIGH VOLTAGE SIGNS SHALL BE LOCATED AT ALL GATE ENTRANCES AND EVERY 100' MINIMUM ON FENCE. THE SIGN SHALL BE 10" X 14" MISCELLANEOUS INTERIOR DIRECTIONAL AND SAFETY SIGNAGE AND PERMITTED.
- LIGHTING ORDINANCE COMPLIANCE: IN ORDER TO COMPLY WITH THE COUNTY LIGHTING ORDINANCE 59.101 ET SEQ. AND ZONING ORDINANCE SECTIONS 6322, 6324, AND 6326, THE ONSITE LIGHTING SHALL COMPLY WITH THE APPROVED PLOT PLAN(S), SPECIFIC PERMIT CONDITIONS AND APPROVED BUILDING PLANS ASSOCIATED WITH THIS PERMIT. ALL LIGHT FIXTURES SHALL BE DESIGNED AND ADJUSTED TO REFLECT LIGHT DOWNWARD, AWAY FROM ANY ROAD OR STREET, AND AWAY FROM ADJOINING PREMISES, AND SHALL OTHERWISE CONFORM TO THE COUNTY LIGHTING ORDINANCE 59.101 ET SEQ. AND ZONING ORDINANCE SECTIONS 6322, AND 6324. THE PROPERTY OWNER AND PERMITTEE SHALL CONFORM TO THE APPROVED PLOT PLAN(S), SPECIFIC PERMIT CONDITIONS, AND APPROVED BUILDING PLANS ASSOCIATED WITH THIS PERMIT AS THEY PERTAIN TO LIGHTING. NO ADDITIONAL LIGHTING IS PERMITTED. IF THE PERMITTEE OR PROPERTY OWNER CHOOSES TO CHANGE THE SITE DESIGN IN ANY WAY, THEY MUST OBTAIN APPROVAL FROM THE COUNTY FOR A MINOR DEVIATION OR A MODIFICATION PURSUANT TO THE COUNTY OF SAN DIEGO ZONING ORDINANCE.
- METEOROLOGICAL (MET) STATIONS SHALL BE LOCATED ADJACENT TO THE INVERTER/EQUIPMENT PADS AS SHOWN ON THE PLANS.

ABBREVIATIONS

APN	ASSESSOR'S PARCEL NUMBER
CL	CENTERLINE
(E)	EXISTING
EOP	EDGE OF PAVEMENT
MIN	MINIMUM
NTS	NOT TO SCALE
(P)	PROPOSED
PL	PROPERTY LINE
ROW	RIGHT-OF-WAY
TBD	TO BE DETERMINED
TYP	TYPICAL
VAR	VARIES

ON-SITE STRUCTURES	APPROX. FLOOR AREA (SF)
(E) TO REMAIN	0
(E) TO BE REMOVED	47,000
(P) BATTERY STORAGE CONTAINERS	75,124
(P) INVERTER SKID	7,859
(P) SUBSTATION CONTROL BUILDING	527

SITE WORK DESCRIPTION	ACREAGE
FENCED SWITCHYARD AREA	3.05
SWITCHYARD AREA BEYOND FENCING	1.73
TOTAL SWITCHYARD EASEMENT AREA	4.78
FENCED SWITCHYARD AREA	3.05
FENCED PV ARRAY FIELD	571.24
FENCED PROJECT SUBSTATION	0.55
TOTAL FENCED PV SITE	574.84
LANDSCAPED AREA	5.39
PUBLIC DRIVEWAYS AND ACCESS TO PV ARRAY FIELD ONLY	0.75
UTILITY DRIVEWAYS TO SUBSTATION, SWITCHYARD, AND TOWERS	2.23
GRADING (BEYOND ABOVE)	4.90
ADDITIONAL MUP BOUNDARY AREA	53.37
NET DEVELOPED	643.21

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
001	COVER SHEET
002	TITLE REPORT
100	OVERALL PLOT PLAN
101	ENLARGED PLOT PLAN
102	ENLARGED PLOT PLAN
103	ENLARGED PLOT PLAN
104	ENLARGED PLOT PLAN
201	DETAILS
202	DETAILS
203	DETAILS
204	DETAILS
300	AVIATION COMPATIBILITY PLAN
301	AVIATION COMPATIBILITY PROFILE
400	BEST MANAGEMENT PRACTICES
500	OVERALL CONCEPTUAL LANDSCAPE PLAN
501	CONCEPTUAL LANDSCAPE ENLARGEMENT A AND SECTIONS
502	CONCEPTUAL LANDSCAPE ENLARGEMENT B AND SECTIONS
503	CONCEPTUAL LANDSCAPE ENLARGEMENT C AND SECTIONS
504	CONCEPTUAL LANDSCAPE ENLARGEMENT D AND SECTIONS

LEGEND

---	PROPERTY LINE
----	MUP BOUNDARY
----	CENTER LINE
----	SETBACK LINE
-----	EASEMENT LINE
-----W-----	EXISTING WATER LINE
-----OH-----	EXISTING OVERHEAD ELECTRIC
-----X-----	PROPOSED SITE PERIMETER FENCE. SEE SHEET 202, DETAIL 1
-----O-----O-----O-----O-----O-----	PROPOSED SUBSTATION FENCE
-----	PROPOSED LANDSCAPE BUFFER
-----	PROPOSED ALL WEATHER ACCESS DRIVE.
-----	EXISTING STRUCTURES
-----	PROPOSED PAVED ACCESS DRIVE. PAVED IMPROVEMENTS SHOULD BE COORDINATED WITH THE ADJACENT LANDOWNER UNLESS EXPLICIT RIGHTS ARE HELD TO MAKE SUCH IMPROVEMENTS. SEE SHEET 201, DETAIL 2
-----	EXISTING SDG&E TRANSMISSION TOWER. SEE SHEET 203, DETAIL 2
-----	WELL TO REMAIN
-----	WELL TO BE DECOMMISSIONED
-----	PROPOSED WATER TANK
-----	PROPOSED METEOROLOGICAL STATION. SEE SHEET 203, DETAIL 1
-----	30'-FT WIDE FUEL MODIFICATION ZONE NO ELECTRICAL EQUIPMENT PERMITTED
-----	SUBJECT TO INUNDATION BY THE CALCULATED 100-YEAR FLOOD (ABOVE 6-INCHES IN DEPTH)
-----	DRAINAGE FEATURES
-----	50' DRAINAGE FEATURE BUFFER

BORDER SETBACK DESCRIPTION	ENCROACHMENT ACREAGE
APPROXIMATE ENCROACHMENT OF PROPOSED FENCED SITE AREA INTO 90' COUNTY SETBACK, WHICH BEGINS 60' FROM THE USA-MEXICO BORDER ALONG THE NORTH EDGE OF THE ROOSEVELT PUBLIC RESERVE SETBACK	1.3±
APPROXIMATE ENCROACHMENT OF PROPOSED FENCED SITE AREA INTO 60' ROOSEVELT PUBLIC RESERVE SETBACK, WHICH BEGINS AT THE USA-MEXICO BORDER	0



LEGAL DESCRIPTION PER TITLE REPORT

P.T.R. NO. 01180-286185

THE LAND REFERED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF SAN DIEGO UNINCORPORATED AND DESCRIBED AS FOLLOWS:

THE NORTHWEST QUARTER; AND THE NORTH HALF OF THE SOUTHWEST QUARTER OF SECTION 32 IN TOWNSHIP 17 SOUTH, RANGE 8 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPTING THAT PORTION THEREOF CONVEYED BY WILLIAM M. RUBY AND PEARL RUBY TO THE SAN DIEGO AND ARIZONA RAILWAY COMPANY, A CORPORATION, BY THAT CERTAIN DEED DATED JANUARY 4, 1918, AND RECORDED JANUARY 18, 1918 IN OF DEEDS, WHICH SAID DEED WAS RE-RECORDED JANUARY 25, 1918 IN OF DEEDS.

ALSO EXCEPTING ALL THAT PORTION LYING NORTHERLY OF THE SOUTHERLY BOUNDARY OF STATE HIGHWAY XI-SD-8 AS DESCRIBED IN THAT CERTAIN FINAL ORDER OF CONDEMNATION RECORDED NOVEMBER 19, 1965 AS INSTRUMENT NO. 210946 OF OFFICIAL RECORDS.

APN: 614-100-20

P.T.R. NO. 01180-286186

THE LAND REFERED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF SAN DIEGO UNINCORPORATED AND DESCRIBED AS FOLLOWS:

THE SOUTHEAST QUARTER OF SECTION 32, TOWNSHIP 17 SOUTH, RANGE 8 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF; AND LOT 1(NE QUARTER OF NORTHEAST QUARTER) OF SECTION 5; AND LOT 4 (NORTHWEST QUARTER OF NORTHWEST QUARTER); AND THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 4, IN TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPT FROM SAID SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 32 AND FROM SAID LOT 4 IN SECTION 4 THOSE PORTIONS LYING NORTHEASTERLY AND NORTHERLY OF THE SOUTHWESTERLY AND SOUTHERLY LINES OF STATE HIGHWAY XI-SD-8 AS DESCRIBED IN THAT CERTAIN FINAL ORDER OF CONDEMNATION RECORDED NOVEMBER 19, 1965 AS FILE NO. 210946 OF OFFICIAL RECORDS.

ALSO EXCEPTING THEREFROM THAT PORTION LYING WITHIN 102 FOOT STRIP OF LAND DESCRIBED IN DEED TO THE COUNTY OF SAN DIEGO RECORDED MARCH 3, 1967 AS FILE NO. 29320 OF OFFICIAL RECORD KNOWN AS ROAD SURVEY NO. 635-66.

APN: 614-100-21, 660-020-06, 661-010-15, 661-010-26

P.T.R. NO. 01180-286187

THE LAND REFERED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF SAN DIEGO UNINCORPORATED AND DESCRIBED AS FOLLOWS:

THAT PORTION OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 33, TOWNSHIP 17 SOUTH, RANGE 8 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF, LYING SOUTHWESTERLY OF THE SOUTHWESTERLY BOUNDARY OF STATE HIGHWAY XI-SD-8 AS DESCRIBED IN THAT CERTAIN FINAL ORDER OF CONDEMNATION RECORDED NOVEMBER 19, 1965 AS FILE NO. 210946 OF OFFICIAL RECORDS.

APN: 614-110-04

P.T.R. NO. 01180-286190

THE LAND REFERED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF SAN DIEGO UNINCORPORATED AND DESCRIBED AS FOLLOWS:

THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 8 IN TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPTING FROM SAID THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER THAT PORTION THEREOF CONVEYED BY BESSIE FOSTER, A WIDOW TO JOHN. A EUBANK BY DEED DATED JULY 29, 1921 AND RECORDED IN BOOK 857 PAGE 184 OF DEEDS DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 8, TOWNSHIP 18 SOUTH, RANGE 8 EAST; THENCE RUNNING IN AN EASTERLY DIRECTION ALONG THE COUNTY HIGHWAY, A DISTANCE OF 417.42 FEET; THENCE SOUTH AT RIGHT ANGLES TO SAID COUNTY HIGHWAY, A DISTANCE OF 417.42 FEET; THENCE IN A WESTERLY DIRECTION A DISTANCE OF 417.42 FEET, THENCE NORTH, A DISTANCE OF 417.42 FEET TO PLACE OF BEGINNING.

ALSO EXCEPTING THEREFROM ANY PORTION, IF ANY, LYING NORTH OF THE CENTER LINE OF THE STATE HIGHWAY AS THE SAME IS CONSTRUCTED ACROSS THE PROPERTY.

APN: 660-150-04

P.T.R. NO. 01180-286191

THE LAND REFERED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF SAN DIEGO UNINCORPORATED AND DESCRIBED AS FOLLOWS:

LOTS 5, 6 AND 7 IN SECTION 8 IN TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO BASE AND MERIDIAN IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPTING FROM LOT 7 THAT PORTION THEREOF DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT OF THE WEST LINE 380 FEET NORTH OF THE

SOUTHWEST CORNER; THENCE EAST 200 FEET PARALLEL WITH THE NORTH LINE; THENCE NORTH PARALLEL WITH THE WEST LINE TO THE NORTH LINE; THENCE WEST TO THE NORTHWEST CORNER; THENCE SOUTH TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM THE SOUTHERLY 60 FEET.

APN: 660-150-07, 660-150-08, 660-150-10

P.T.R. NO. 01180-286196

THE LAND REFERED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF SAN DIEGO UNINCORPORATED AND DESCRIBED AS FOLLOWS:

THE NORTHEAST QUARTER; AND THE NORTHEAST OF THE NORTHWEST QUARTER OF SECTION 8 IN TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THOSE PORTIONS LYING WITH THE RAILWAY RIGHT OF WAY OF THE SAN DIEGO AND ARIZONA EASTERN RAILWAY COMPANY.

APN: 660-150-14, 660-150-17, 660-150-18

P.T.R. NO. 01180-286197

THE LAND REFERED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF SAN DIEGO UNINCORPORATED AND DESCRIBED AS FOLLOWS:

LOT 35 IN BLOCK 1 OF JACUMBA, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 1707, FILED IN THE OFFICE OF THE COUNTY REORDERED OF SAN DIEGO COUNTY, MARCH 10, 1953.

APN: 660-170-09

P.T.R. NO. 01180-286200

THE LAND REFERED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF SAN DIEGO UNINCORPORATED AND DESCRIBED AS FOLLOWS:

PARCEL A: THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION 4 AND THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 5, ALL IN TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

PARCEL B: LOT 2 AND THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER AND THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 5, TOWNSHIP, 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA ACCORDING TO OFFICIAL PLAT THEREOF: \*SEE SURVEYORS NOTE 15\*

EXCEPTING THAT PORTION THEREOF INCLUDED WITHIN THE 200 FOOT STRIP OF LAND CONVEYED BY MRS. ANNA M. ANTHONY TO SAN DIEGO AND ARIZONA RAILWAY COMPANY, A CORPORATION, BY DEED DATED MAY 24, 1917, RECORDED IN BOOK 722 PAGE 309 OF DEEDS.

ALSO EXCEPTING THAT PORTION OF SAID SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 32, LYING NORTHERLY OF THE SOUTHERLY BOUNDARY OF STATE HIGHWAY XI-SD-8 AS DESCRIBED IN THAT CERTAIN FINAL ORDER OF CONDEMNATION RECORDED NOVEMBER 19 1965 AS FILE NO. 210946 OF OFFICIAL RECORDS.

PARCEL C: THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO BASE OF MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPTING THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 5, THAT PORTION THEREOF CONVEYED BY ELIZABETH ESBURY, EXECUTRIX AND LORENE M. MAYER C. M. GIFFORD AND ARTHUR A. HENDERSON, EXECUTORS OF THE LAST WILL AND TESTAMENT OF SMITH HARRIS ESBURY, DECEASED, ET AL, TO THE SAN DIEGO AND ARIZONA RAILWAY COMPANY, A CORPORATION BY DEED DATED AUGUST 1917 AND RECORDED IN BOOK 744, PAGE 393 OF DEEDS.

APN: 660-020-05

P.T.R. NO. 01180-286201

THE LAND REFERED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF SAN DIEGO UNINCORPORATED AND DESCRIBED AS FOLLOWS:

PARCEL A: THAT PORTION OF LOT 3 (THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER) OF SECTION 4, TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF, LYING SOUTHWEST OF THE SOUTHWESTERLY LINE OF STATE HIGHWAY XI-SD8 AS DESCRIBED IN THAT CERTAIN FINAL ORDER OF CONDEMNATION RECORDED NOVEMBER 19, 1965 AS INSTRUMENT NO. OF OFFICIAL RECORDS.

PARCEL B: THE EAST HALF OF THE SOUTHWEST QUARTER; THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER; AND THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 4 IN TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPTING THAT PORTION OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER LYING WITHIN THE BOUNDARY OF STATE HIGHWAY XI-SD-8 AS DESCRIBED IN THAT CERTAIN FINAL ORDER OF CONDEMNATION RECORDED NOVEMBER 19, 1965 AS DOCUMENT NO. 210946 OF OFFICIAL RECORDS.

ALSO EXCEPTING THAT PORTION OF SAID SOUTHEAST QUARTER OF THE NORTHWEST QUARTER LYING NORTHEASTERLY OF THE LOCATION AND NORTHWESTERLY PROLONGATION OF THE SOUTHWESTERLY BOUNDARY OF THE 102 FOOT STRIP OF LAND DESCRIBED IN DEED TO THE COUNTY OF SAN DIEGO RECORDED MARCH 3, 1967 AS DOCUMENT NO. 29320 OF OFFICIAL RECORDS, KNOWN AS ROAD SURVEY NO.L 635-66.

ALSO EXCEPTING FORM SAID NORTHWEST QUARTER OF THE SOUTHEAST QUARTER THAT PORTION LYING WITHIN SAID 102 FOOT STRIP OF LAND DESCRIBED IN DEED TO THE COUNTY OF SAND DIEGO RECORDED MARCH 3, 1967 AS DOCUMENT NO. 29320 OF OFFICIAL RECORDS, KNOWN AS ROAD SURVEY NO. 635-66.

ALSO EXCEPTING THEREFROM THAT PORTION OF SAID LAND AS DESCRIBED IN A DEED TO BAHJASHALLAL. A WIDOW RECORDED DECEMBER 5, 2011 AS INSTRUMENT NO. 2011-0649937 OF OFFICIAL RECORDS.

PARCEL C: THOSE PORTIONS OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER AND OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 4, TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF, DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST SOUTHEASTERLY CORNER OF THE LAND DESCRIBED IN PARCEL 6-8 IN FINAL ORDER OF CONDEMNATION RECORDED NOVEMBER 19, 1965 AS FILE NO. 210946 OF OFFICIAL RECORDS, BEING A POINT DISTANT NORTH 17°55'25" WEST, 858.01 FEET FROM A ROCK MOUND MARKING THE SOUTHEAST CORNER OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 4, SAID ROCK MOUND BEING AT COORDINATES Y EQUALS 169,423.87 FEET AND X EQUALS 2,029,052.61 FEET; THENCE NORTH 81°025'00" WEST, 1700 FEET TO THE TRUE POINT OF BEGINNING; THENCE SOUTH 8°34'00" WEST, 120.00 FEET; THENCE NORTH 81°26'00" WEST, 231.28 FEET; THENCE ALONG A TANGENT CURVE TO THE RIGHT HAVING A RADIUS OF 4350 FEET, THROUGH AN ANGLE OF 8°46'51" A DISTANCE OF 666.66 FEET; THENCE SOUTH 37°10'03" WEST, 73.73 FEET; THENCE FROM A TANGENT THAT BEARS, SOUTH 52°49'57" EAST, ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 530 FEET, THROUGH AN ANGLE OF 22°48'41", A DISTANCE OF 211.01 FEET TO THE NORTHEASTERLY LINE OF A COUNTY ROAD, 60 FEET WIDE, DESCRIBED IN DEED TO THE COUNTY OF SAND DIEGO RECORDED JANUARY 17, 1935 IN BOOK 371, PAGE 218 OF OFFICIAL RECORDS OF SAID COUNTY, ALSO KNOWN AS CARRIZO GORGE ROAD AND BEING A POINT IN THE NORTHWESTERLY BOUNDARY OF THE 102 FOOT STRIP OF LAND DESCRIBED IN DEED TO THE COUNTY OF SAND DIEGO, RECORDED MARCH 3, 1967 AS DOCUMENT NO. 29320 OF OFFICIAL RECORDS; THENCE ALONG SAID NORTHWESTERLY BOUNDARY NORTHEASTERLY 11 FEET TO THE MOST NORTHERLY CORNER OF SAID 102 FOOT STRIP; THENCE SOUTHEASTERLY ALONG THE NORTHEASTERLY BOUNDARY OF SAID STRIP TO THE WESTERLY LINE OF SAID SOUTHWEST QUARTER OF THE NORTHEAST QUARTER; THENCE SOUTHERLY ALONG SAID WESTERLY LINE TO THE SOUTHWEST CORNER THEREOF; THENCE EASTERLY ALONG THE SOUTHERLY LINE OF SAID SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHEAST CORNER THEREOF; THENCE NORTHERLY ALONG THE AST LINE OF SAID SOUTHWEST QUARTER OF THE NORTHEAST QUARTER TO THE SOUTHERLY BOUNDARY OF SAID PARCEL 6-8; THENCE ALONG SAID SOUTHERLY BOUNDARY NORTH 81°26" WEST THE TRUE POINT OF BEGINNING.

EXCEPTING THAT PORTION LYING WITHIN SAID 102 FOOT STRIP OF LAND DESCRIBED IN THE DEED TO THE COUNTY OF SAND DIEGO RECORDED MARCH 3, 1967 AS FILE NO. OF OFFICIAL RECORDS, KNOWN AS ROAD SURVEY NO 635-66

ALSO EXCEPTING THEREFROM THAT PORTION OF SAID LAND IN A DEED TO REAGAN SHALLAL, A SINGLE MAN RECORDED MARCH 16, 2012 AS INSTRUMENT NO. 2012-0156124 OF OFFICIAL RECORDS.

APO: 661-010-30

P.T.R. NO. 01180-286202

THE LAND REFERED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF SAN DIEGO UNINCORPORATED AND DESCRIBED AS FOLLOWS:

PARCEL A: THE WEST HALF OF TH ENORTHWEST QUARTER OF SECTION 9, TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

APN: 661-060-12

P.T.R. NO. 01180-286203

THE LAND REFERED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF SAN DIEGO UNINCORPORATED AND DESCRIBED AS FOLLOWS:

LOT A: LOT 8 OF SECTION 9, TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO BASE AND MERIDIAN IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA ACCORDING TO OFFICIAL PLAT THEREOF.

LOTB: THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 9, TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO BASE AND MERIDIAN IN THE THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPT THAT PORTION OF SAID NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 9 LYING WITHIN A STRIP OF LAND 400.00 FEET WIDE, LYING 200.00 FEET ON EACH SIDE OF THE FOLLOWING CENTER LINE:

COMMENCING AT THE NORTHEAST CORNER OF SAID NORTHWEST QUARTER OF THE SOUTHWEST QUARTER, THENCE SOUTH 01°33'54" WEST, 793.87 FEET TO THE TRUE POINT OF BEGINNING, SAID POINT BEING ON THE WESTERLY PORTION OF THE CENTER LINE OF THE JACUMBA AIRPORT RUNWAY, THENCE ALONG SAID WESTERLY PROLONGATION OF CENTER LINE SOUTH 83°00'24" WEST, 939.81 FEET. THE SIDE LINE OF SAID STRIP ARE TO BE LENGTHENED OR SHORTENED TO TERMINATE ON THE EASTERLY LINE OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 9 ON THE EAST AND LINE PERPENDICULAR TO SAID CENTER LINE ON THE WEST

APN: 661-060-22

P.T.R. NO. 01180-286204

THE LAND REFERED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF SAN DIEGO UNINCORPORATED AND DESCRIBED AS FOLLOWS:

THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 4, TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THAT PORTION DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF THE SOUTHEAST QUARTER OF SECTION 4, THENCE SOUTH 52°8 FEET THENCE WEST 165 FEET TO THE TRUE POINT OF BEGINNING; THENCE SOUTH 264 FEET, THENCE WEST 82.5 FEET; THENCE NORTH 264 FEET, THENCE EAST 82.5 FEET TO THE TRUE POINT OF BEGINNING.

APN: 661-010-02

P.T.R. NO. 18000480409

THE LAND REFERED TO HEREIN IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF SAN DIEGO UNINCORPORATED AND DESCRIBED AS FOLLOWS:

PARCEL 1: THE WEST 200 FEET ON THE NORTH 200 FEET THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 8, TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO GOVERNMENT SURVEY AND SUPPLEMENTAL PLAT APPROVED APRIL 4, 1914.

PARCEL 2: THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 8, TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO GOVERNMENT SURVEY AND SUPPLEMENTAL PLAT APPROVED APRIL 4, 1914.

EXCEPTING THEREFROM THAT PORTION OF SAID IN A GRANT DEED TO THE COUNTY OF SAN DIEGO RECORDED APRIL 19, 1984 AS FILE NO. 84-144067 OF OFFICIAL RECORDS AND DESCRIBED AS FOLLOWS:

THE NORTHERLY 1007.50 FEET OF THE WESTERLY 900.00 FEET OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 8, TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO UNITED STATES GOVERNMENT SURVEY APPROVED APRIL 4, 1914.

PARCEL 3: THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 8, TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO GOVERNMENT SURVEY AND SUPPLEMENTAL PLAT APPROVED APRIL 4, 1914.

EXCEPTING THEREFROM THE WEST 200 FEET OF THE NORTH 200 FEET THE NORTHWEST QUARTER OF SOUTHEAST QUARTER OF SECTION 8, TOWNSHIP 18 SOUTH, RANGE 8 EAST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO GOVERNMENT SURVEY AND SUPPLEMENTAL PLAT APPROVED ON APRIL 4, 1914.

ALSO EXCEPTING THEREFROM THAT PORTION OF SAID IN A GRANT DEED TO THE JACUMBA COMMUNITY SERVICES DISTRICT RECORDED FEBRUARY 1, 1990 AS FILE NO. 90-058157 OF OFFICIAL RECORDS AND DESCRIBED AS FOLLOWS:

THAT PORTION OF THE SOUTHEAST ¼ OF SAID FRACTIONAL SECTION 8, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO GOVERNMENT SURVEY AND SUPPLEMENTAL PLAT APPROVED APRIL 4, 1914. DESCRIBED AS FOLLOWS:

COMMENCING AT THE EAST ½ CORNER OF SAID SECTION 8, THENCE NORTH 89°49'03" WEST ALONG THE EAST AND WEST ½ LINE OF SAID SECTION 8 A DISTANCE OF 1390.00 FEET TO THE TRUE POINT OF BEGINNING; THENCE SOUTH 00°10'57" WEST 240.000 FEET; THENCE SOUTH 89°49'03" EAST 10.00 FEET; THENCE SOUTH 00°10'57" WEST 30.00 FEET; THENCE NORTH 89°49'03" WEST 30.00 FEET; THENCE NORTH 000 10°57" EAST 30.00 FEET; THENCE SOUTH 89°49'03" EAST 10.00 FEET; THENCE NORTH 00°10'57" EAST 240.00 FEET TO THE EAST AND WEST ½ LINE OF SAID SECTION 8, THENCE SOUTH 89°49'03" EAST 10.00 FEET TO THE TRUE POINT OF BEGINNING.

EXCEPTING THEREFROM THAT PORTION LYING NORTHERLY OF THE SOUTHERLY RIGHT OF WAY OF OLD HIGHWAY 80, 100 FEET WIDE, AS SHOWN ON MISCELLANEOUS MAP NO. 116, COUNTY OF SAN DIEGO RECORDS.

ALSO EXCEPTING THEREFROM A ROUTE DESCRIBED AS FOLLOWS:

COMMENCING AT SAID TRUE POINT OF BEGINNING; THENCE SOUTH 00°10'57" WEST 240.00 FEET; THENCE NORTH 89°49'03 WEST 10.00 FEET; THENCE NORTH 00°10'57" EAST 240.00 FEET TO THE EAST AND WEST ½ LINE OF SAID SECTION 8; THENCE SOUTH 89°49'00" EAST 10.000 FEET TO SAID TRUE POINT OF BEGINNING.

APN: 660-140-06, 660-140-08, 660-150-06, 660-150-21



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SITE INFORMATION  
JVR ENERGY PARK

PROJECT MANAGER  
GEORGE GUNNOE  
832.303.2477

PROJECT ENGINEER  
AKHILA KRISHNAN  
949.771.2976

NO.	ISSUE	DATE
1	MUP - 1ST SUBMITTAL	11/01/2018
2	MUP - 2ND SUBMITTAL	10/17/2019
3	COVER SHEET UPDATE	12/3/2019

PROJECT NUMBER	KHA-194083001
DRAWN BY	CK
REVIEWED BY	WC
APPROVED BY	DB
CLIENT SIGNATURE	

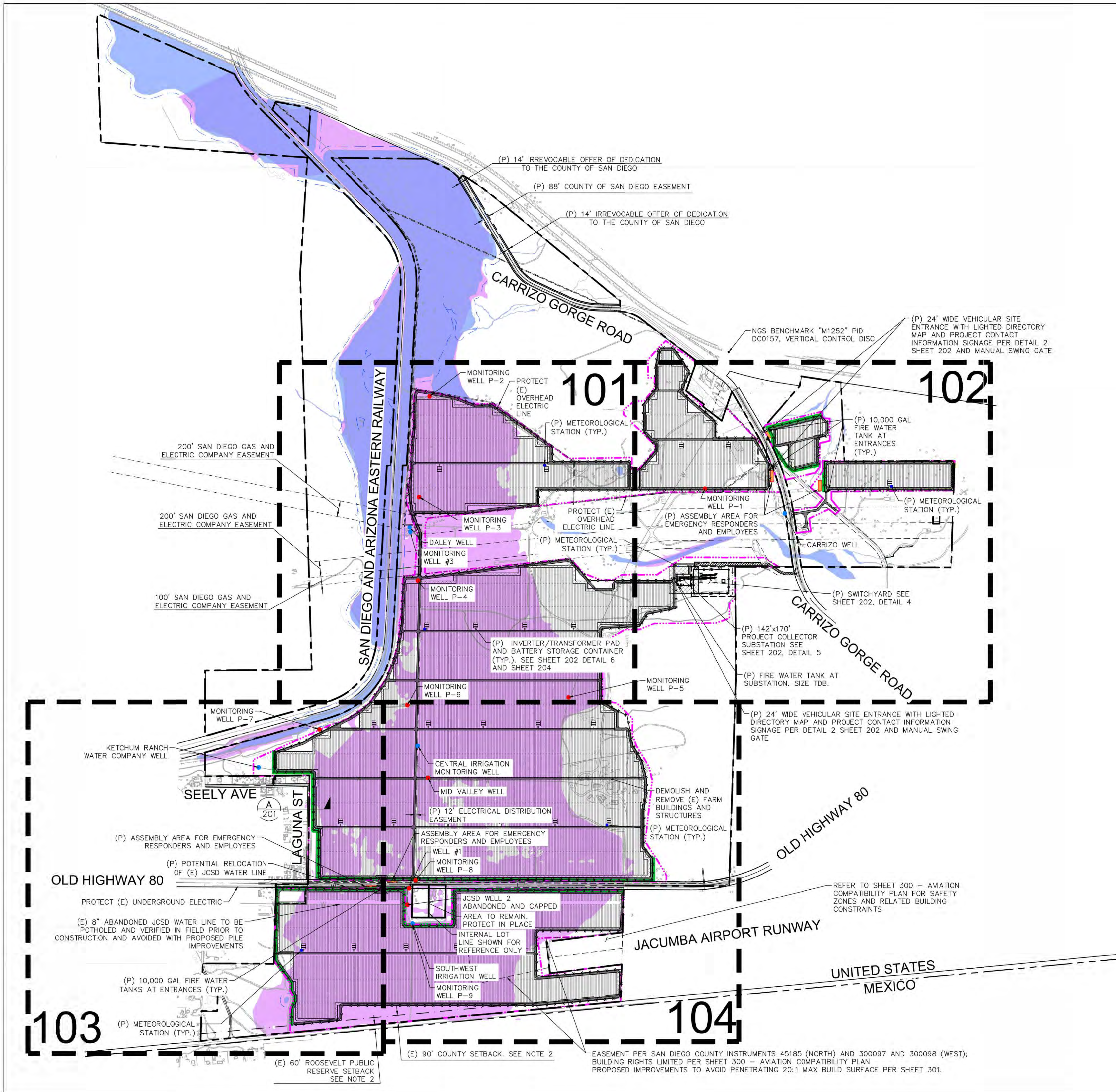
MAJOR USE PERMIT

TITLE REPORT

DRAWING  
NUMBER 002

SHEET SIZE: ARCH D - 24" x 36"



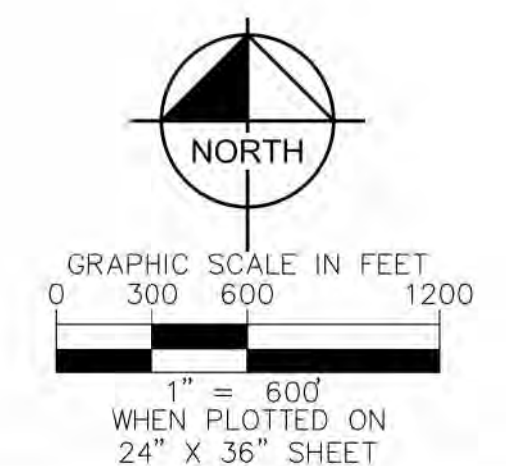


## LEGEND

	PROPERTY LINE
	MUP BOUNDARY
	CENTER LINE
	SETBACK LINE
	EASEMENT LINE
	EXISTING WATER LINE
	EXISTING OVERHEAD ELECTRIC
	PROPOSED SITE PERIMETER FENCE. SEE SHEET 202, DETAIL 1
	PROPOSED SUBSTATION FENCE
	PROPOSED LANDSCAPE BUFFER
	PROPOSED ALL WEATHER ACCESS DRIVE. SEE SHEET 201, DETAIL 1 AND 6
	EXISTING STRUCTURES
	PROPOSED PAVED ACCESS DRIVE. PAVED IMPROVEMENTS SHOULD BE COORDINATED WITH THE ADJACENT LANDOWNER UNLESS EXPLICIT RIGHTS ARE HELD TO MAKE SUCH IMPROVEMENTS. SEE SHEET 201, DETAIL 2 AND 4
	EXISTING SD&E TRANSMISSION TOWER. SEE SHEET 203, DETAIL 2
	WELL TO REMAIN
	WELL TO BE DECOMMISSIONED
	PROPOSED WATER TANK
	PROPOSED METEOROLOGICAL STATION. SEE SHEET 203, DETAIL 1
	30'-FT WIDE FUEL MODIFICATION ZONE NO ELECTRICAL EQUIPMENT PERMITTED
	SUBJECT TO INUNDATION BY THE CALCULATED 100-YEAR FLOOD (ABOVE 6-INCH DEPTH)
	DRAINAGE FEATURES
	50' DRAINAGE FEATURE BUFFER

## NOTES

- SURVEY INFORMATION PREPARED BY KIMLEY-HORN AND ASSOCIATES DATED AUGUST 2018; PENDING ALTA COMPLETION.
- SETBACKS  
A. 60' "ROOSEVELT" PUBLIC RESERVE SETBACK PER "COUNTY OF SAN DIEGO, CALIFORNIA BOARD OF SUPERVISORS POLICY NUMBER I-111"  
A.1. ~1.3± ACRES OF ENCROACHMENT INTO 90'-WIDE SD COUNTY SETBACK ~0.10% OF GROSS (PROPERTY) AREA; ~0.25% OF FENCED AREA.  
B. 90' COUNTY SETBACK PER "COUNTY OF SAN DIEGO, CALIFORNIA BOARD OF SUPERVISORS POLICY NUMBER I-111"  
C. FRONT, REAR, AND SIDE BUILDING COUNTY SETBACKS PER SAN DIEGO COUNTY "SETBACKS FOR SOLAR PHOTOVOLTAIC PANELS" DATED 01/30/18. REQUIRES A MINIMUM 3' SETBACK FROM PROPERTY LINE TO GROUND-MOUNTED PV SOLAR ARRAYS.
- BIOLOGICAL RESOURCE DELINEATION PROVIDED BY DUDEK ENVIRONMENTAL ON AUGUST 30TH 2018.
- 15'-WIDE PROPOSED LANDSCAPE BUFFER, REFER TO CONCEPTUAL LANDSCAPE PLANS, SHEETS 500-504.
- RUNWAY SAFETY ZONES DELINEATED PER AVIATION COMPATIBILITY PLAN. SEE SHEET 300.
- ELECTRICAL LAYOUT SHOWN AS PROVIDED BY BAYWA R.E. SOLAR PROJECTS, LLC DATED OCTOBER 09, 2018.
- ALL PROPOSED ACCESS DRIVES SHALL BE CONSTRUCTED PER DETAIL 2 ON SHEET 201, UNLESS OTHERWISE NOTED ON PLANS.



## SITE INFORMATION

JVR ENERGY PARK

**PROJECT MANAGER**  
GEORGE GUNNOE  
832.303.2477

**PROJECT ENGINEER**  
AKHILA KRISHNAN  
949.771.2976

NO.	ISSUE	DATE
1	MUP - 1ST SUBMITTAL	11/01/2018
2	MUP - 2ND SUBMITTAL	10/17/2019
3	COVER SHEET UPDATE	12/3/2019

PROJECT NUMBER	KHA-194083001
DRAWN BY	CK
REVIEWED BY	WC
APPROVED BY	DB

CLIENT SIGNATURE

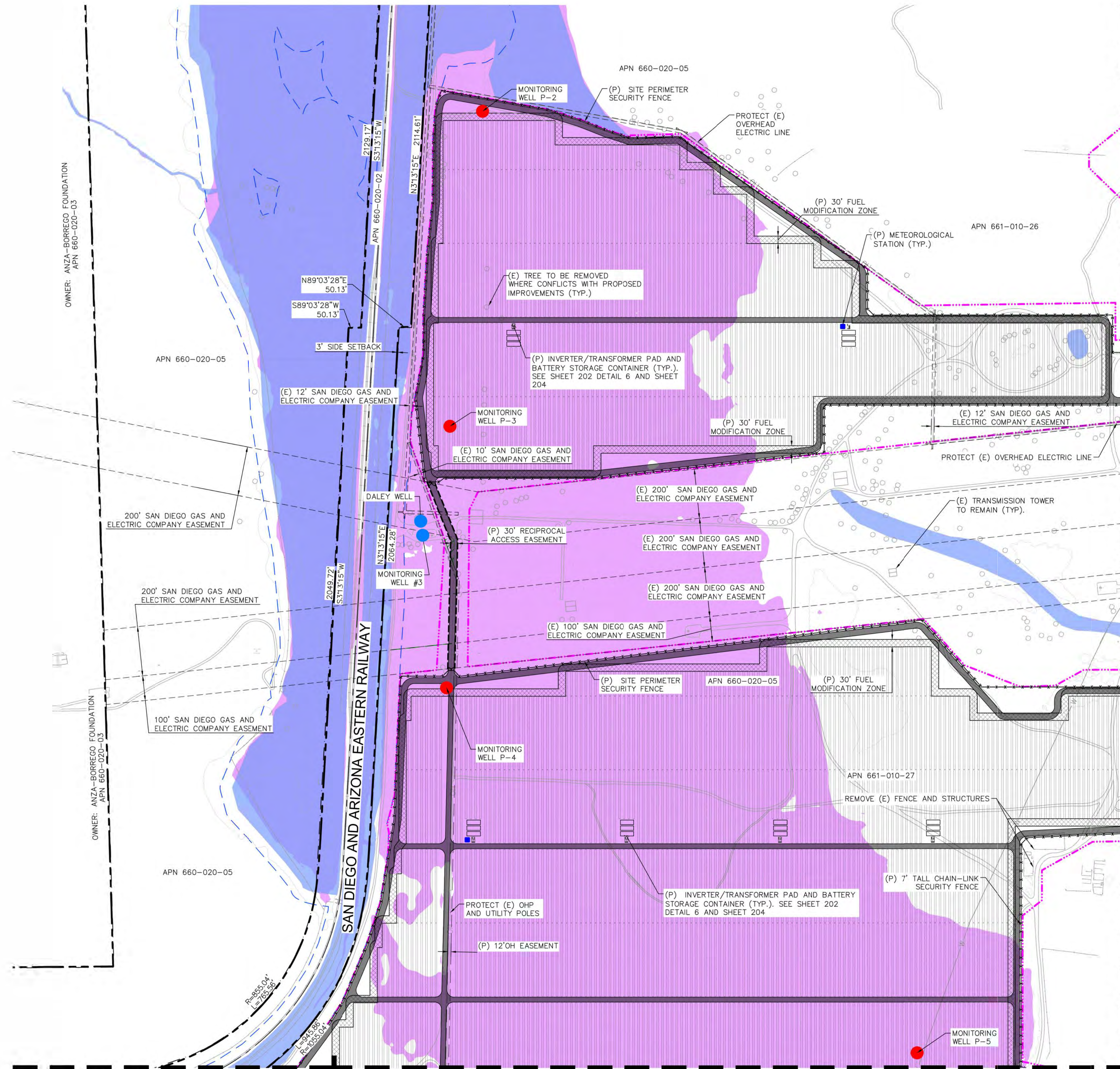
MAJOR USE PERMIT

OVERALL PLOT PLAN

DRAWING  
NUMBER 100

SHEET SIZE: ARCH D - 24" x 36"



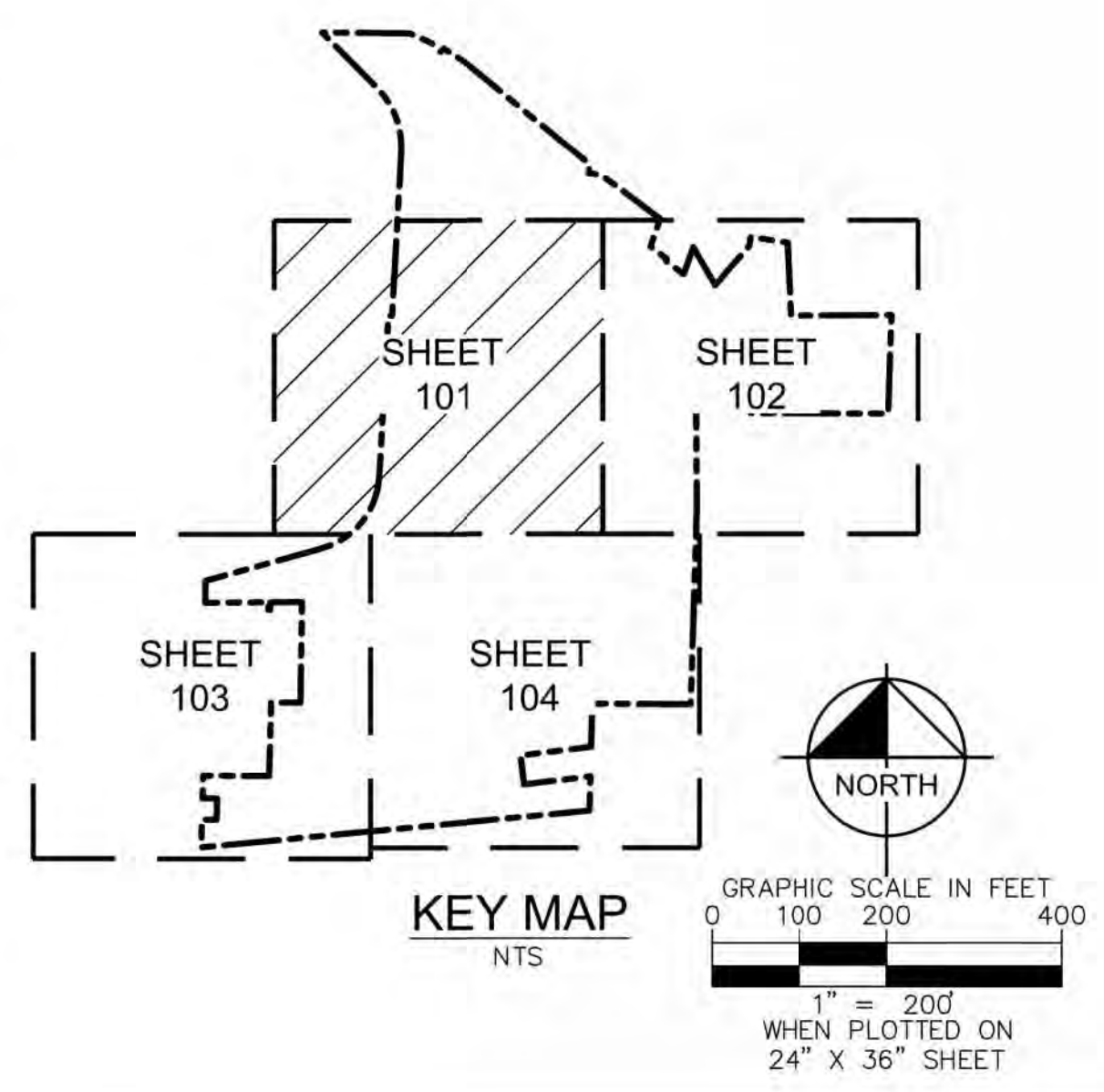


LEGEND

- PROPERTY LINE
- MUP BOUNDARY
- CENTER LINE
- SETBACK LINE
- EASEMENT LINE
- EXISTING WATER LINE
- EXISTING OVERHEAD ELECTRIC
- PROPOSED SITE PERIMETER FENCE. SEE SHEET 202, DETAIL 1
- PROPOSED SUBSTATION FENCE
- PROPOSED LANDSCAPE BUFFER
- PROPOSED ALL WEATHER ACCESS DRIVE. SEE SHEET 201, DETAIL 1 AND 6
- EXISTING STRUCTURES
- PROPOSED PAVED ACCESS DRIVE. PAVED IMPROVEMENTS SHOULD BE COORDINATED WITH THE ADJACENT LANDOWNER UNLESS EXPLICIT RIGHTS ARE HELD TO MAKE SUCH IMPROVEMENTS. SEE SHEET 201, DETAIL 2 AND 4
- EXISTING SDG&E TRANSMISSION TOWER. SEE SHEET 203, DETAIL 2
- WELL TO REMAIN
- WELL TO BE DECOMMISSIONED
- PROPOSED WATER TANK
- PROPOSED METEOROLOGICAL STATION. SEE SHEET 203, DETAIL 1
- 30'-FT WIDE FUEL MODIFICATION ZONE NO ELECTRICAL EQUIPMENT PERMITTED
- SUBJECT TO INUNDATION BY THE CALCULATED 100-YEAR FLOOD (ABOVE 6-INCH DEPTH)
- DRAINAGE FEATURES
- 50' DRAINAGE FEATURE BUFFER

NOTES

- SURVEY INFORMATION PREPARED BY KIMLEY-HORN AND ASSOCIATES DATED AUGUST 2018; PENDING ALTA COMPLETION.
- SETBACKS
  - A. 60' "ROOSEVELT" PUBLIC RESERVE SETBACK PER "COUNTY OF SAN DIEGO, CALIFORNIA BOARD OF SUPERVISORS POLICY NUMBER I-111"
  - A.1. ~1.3± ACRES OF ENCROACHMENT INTO 90'-WIDE SD COUNTY SETBACK ~0.10% OF GROSS (PROPERTY) AREA; ~0.25% OF FENCED AREA.
  - B. 90' COUNTY SETBACK PER "COUNTY OF SAN DIEGO, CALIFORNIA BOARD OF SUPERVISORS POLICY NUMBER I-111"
  - C. FRONT, REAR, AND SIDE BUILDING COUNTY SETBACKS PER SAN DIEGO COUNTY "SETBACKS FOR SOLAR PHOTOVOLTAIC PANELS" DATED 01/30/18. REQUIRES A MINIMUM 3' SETBACK FROM PROPERTY LINE TO GROUND-MOUNTED PV SOLAR ARRAYS.
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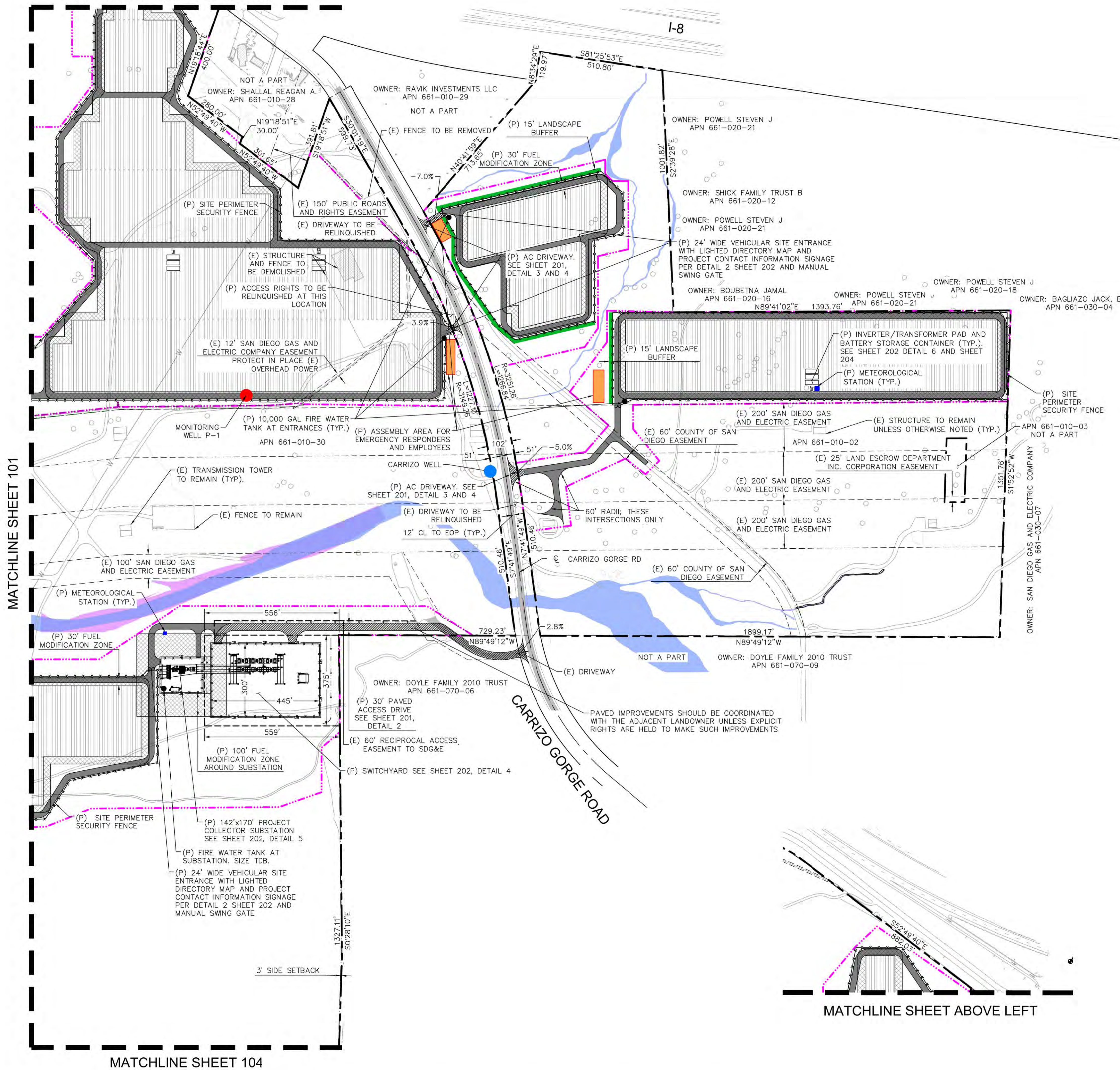
CLIENT SIGNATURE: \_\_\_\_\_

**MAJOR USE PERMIT**  
**ENLARGED PLOT PLAN**

DRAWING NUMBER: 101  
SHEET SIZE: ARCH D - 24" x 36"

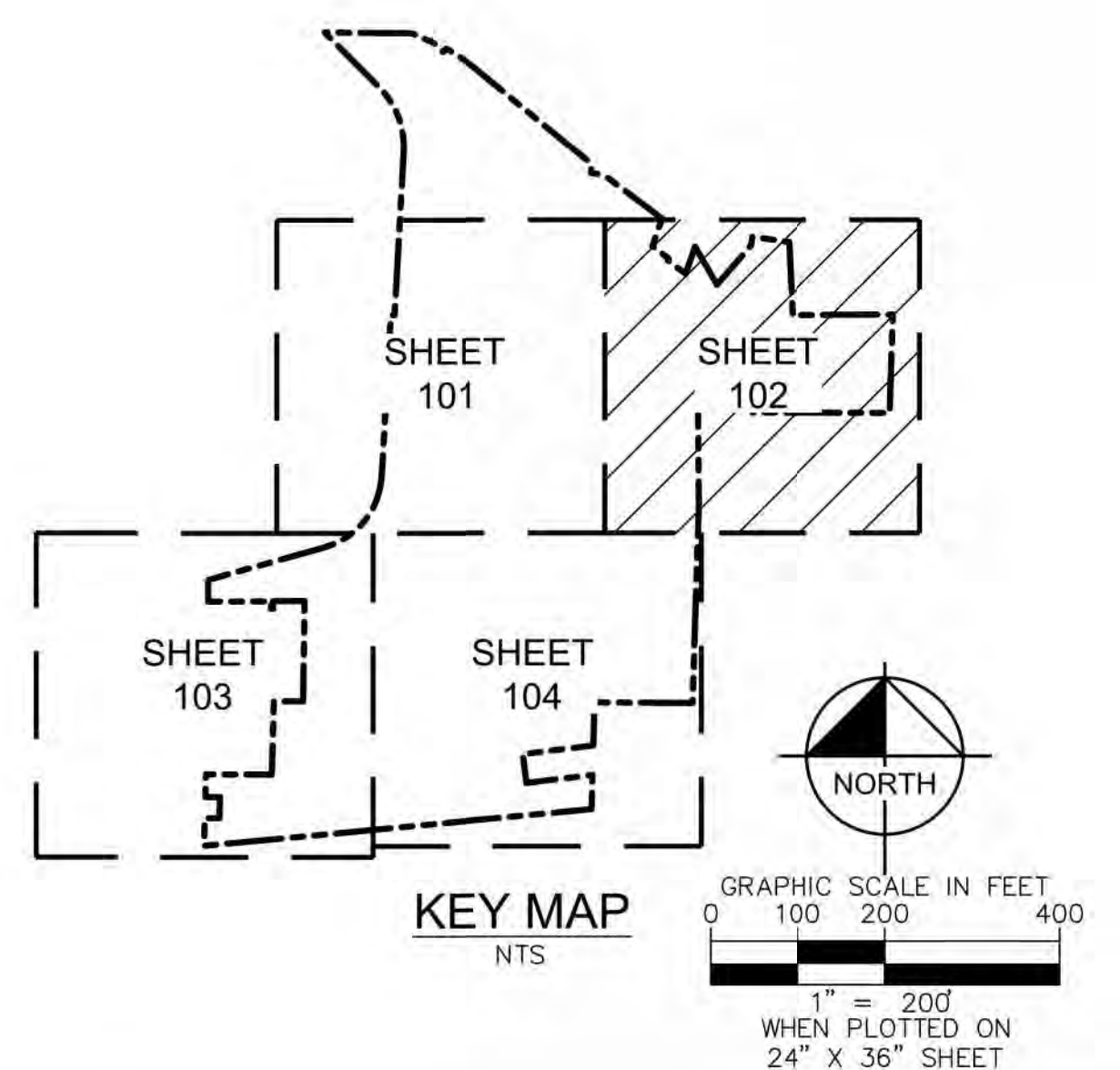


## MATCHLINE SHEET 101



	PROPERTY LINE
	MUP BOUNDARY
	CENTER LINE
	SETBACK LINE
	EASEMENT LINE
	EXISTING WATER LINE
	EXISTING OVERHEAD ELECTRIC
	PROPOSED SITE PERIMETER FENCE. SEE SHEET 202, DETAIL 1
	PROPOSED SUBSTATION FENCE
	PROPOSED LANDSCAPE BUFFER
	PROPOSED ALL WEATHER ACCESS DRIVE. SEE SHEET 201, DETAIL 1 AND 6
	EXISTING STRUCTURES
	PROPOSED PAVED ACCESS DRIVE. PAVED IMPROVEMENTS SHOULD BE COORDINATED WITH THE ADJACENT LANDOWNOR UNLESS EXPLICIT RIGHTS ARE HELD TO MAKE SUCH IMPROVEMENTS. SEE SHEET 201, DETAIL 2 AND 4
	EXISTING SDG&E TRANSMISSION TOWER. SEE SHEET 203, DETAIL 2
	WELL TO REMAIN
	WELL TO BE DECOMMISSIONED
	PROPOSED WATER TANK
	PROPOSED METEOROLOGICAL STATION. SEE SHEET 203, DETAIL 1
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	SUBJECT TO INUNDATION BY THE CALCULATED 100-YEAR FLOOD (ABOVE 6-INCH DEPTH)
	DRAINAGE FEATURES
	50' DRAINAGE FEATURE BUFFER

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  - a.  $\approx 1.3\pm$  ACRES OF ENCRoACHMENT INTO 90'-WIDE SD COUNTY SETBACK  $\approx 0.10\%$  OF GROSS (PROPERTY) AREA;  $\approx 0.25\%$  OF FENCED AREA.
  - B. 90' COUNTY SETBACK PER "COUNTY OF SAN DIEGO, CALIFORNIA BOARD OF SUPERVISORS POLICY NUMBER 1-11"
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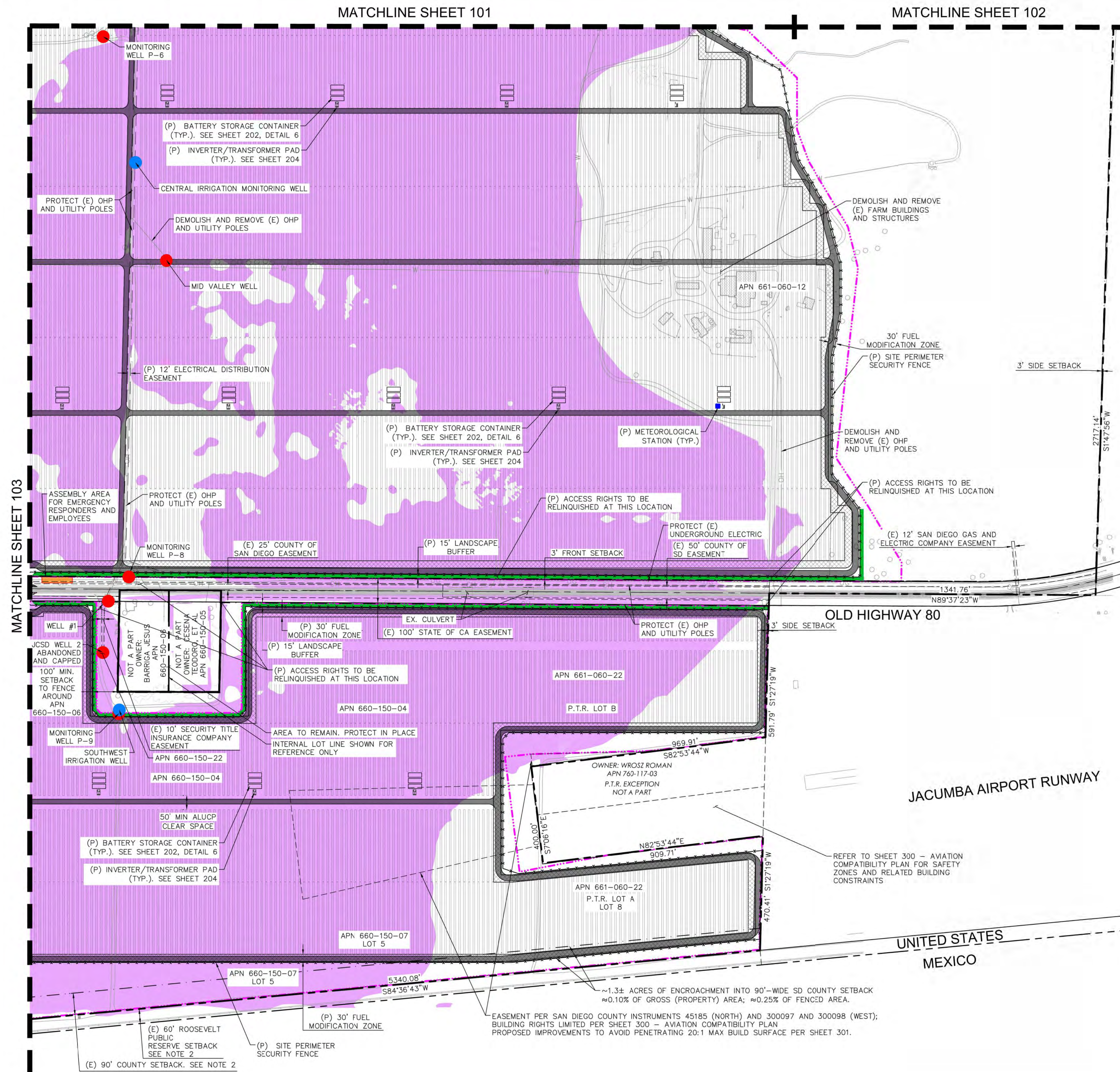


SHEET SIZE: ARCH D - 24" x 36"







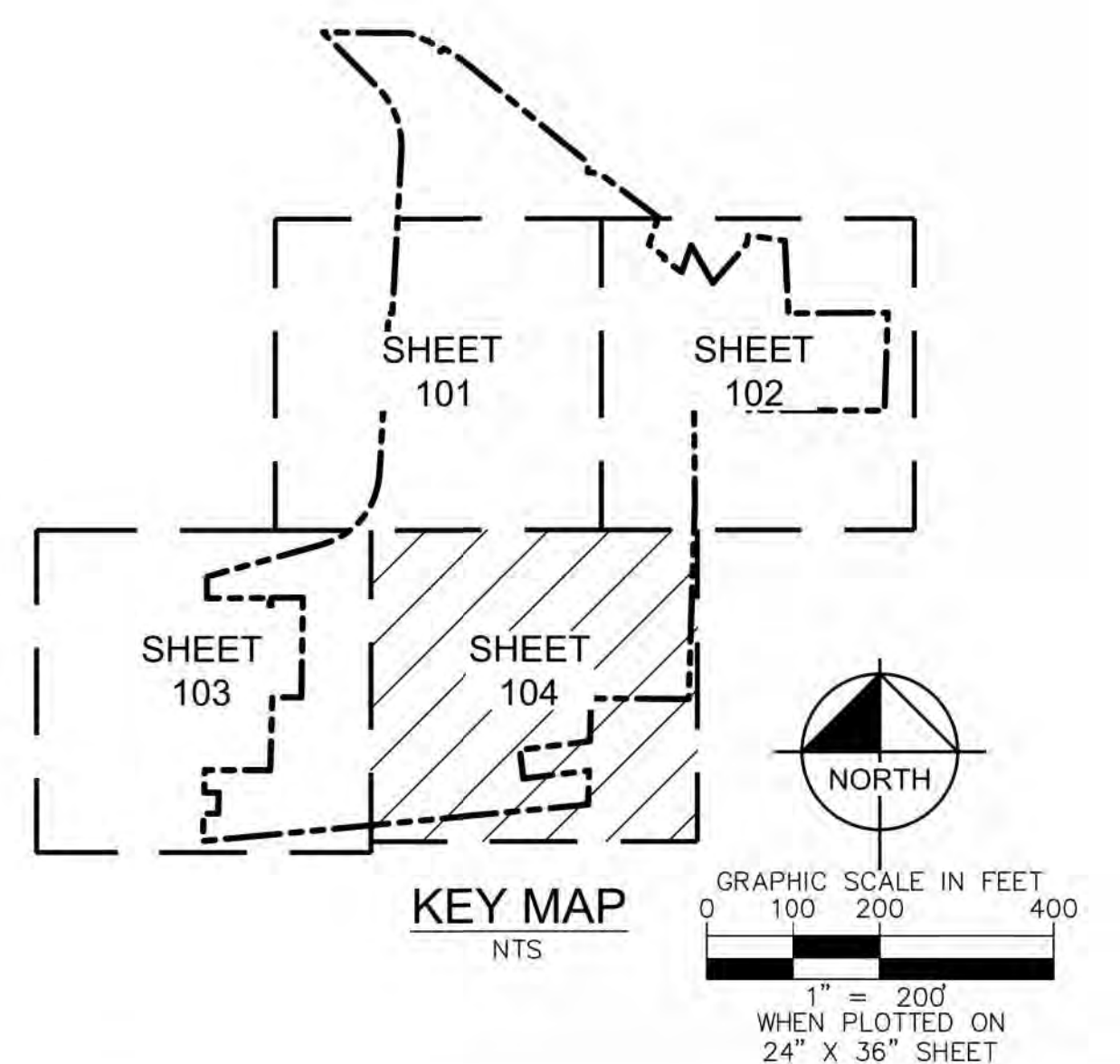


## LEGEND

	PROPERTY LINE
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	CENTER LINE
	SETBACK LINE
	EASEMENT LINE
	EXISTING WATER LINE
	EXISTING OVERHEAD ELECTRIC
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## SITE INFORMATION

JVR ENERGY PARK

## PROJECT MANAGER

GEORGE GUNNOE  
832.303.2477

## PROJECT ENGINEER

AKHILA KRISHNAN  
949.771.2976

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CLIENT SIGNATURE

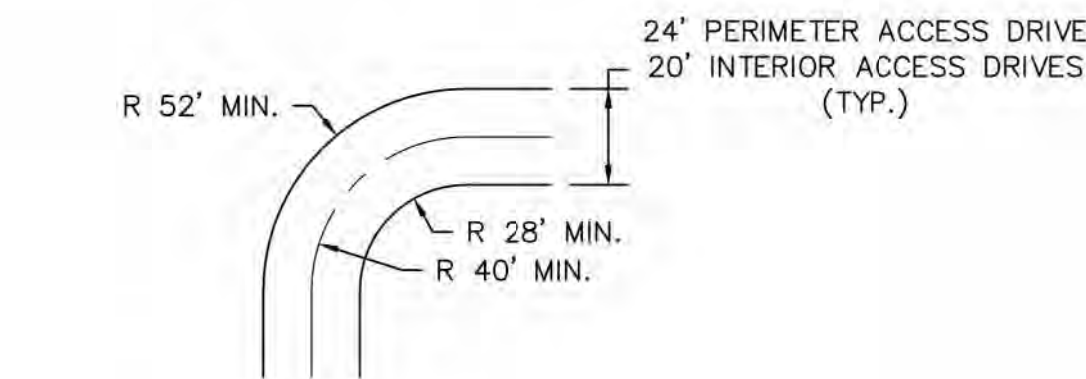
## MAJOR USE PERMIT

## ENLARGED PLOT PLAN

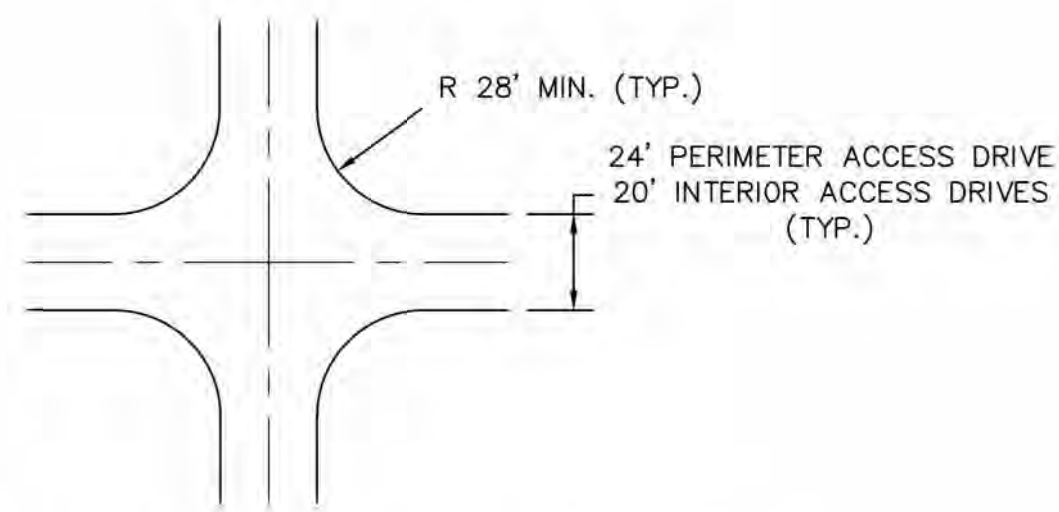
DRAWING  
NUMBER 104

SHEET SIZE: ARCH D - 24" x 36"

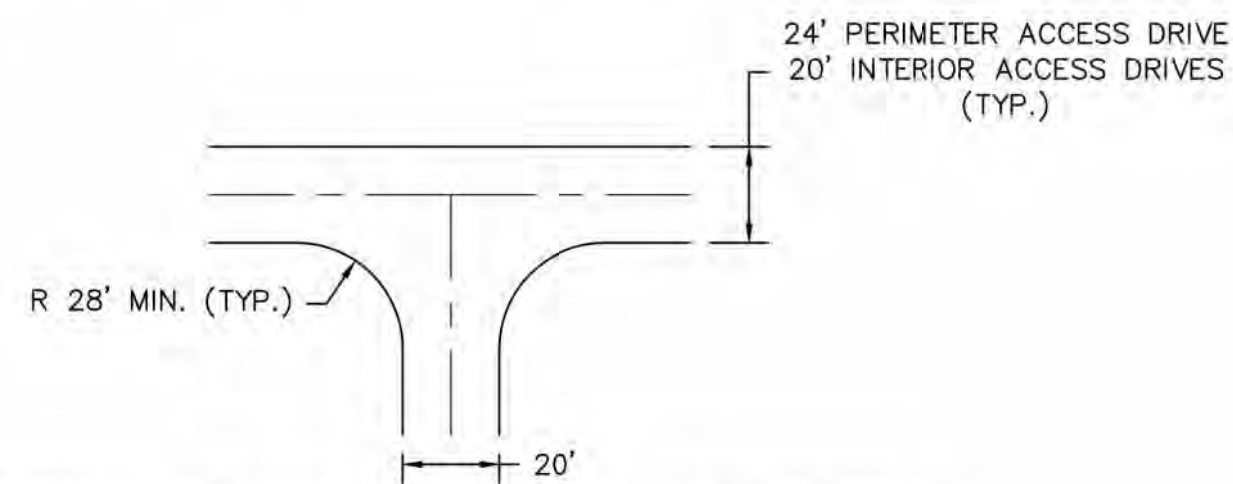




TYPICAL SITE ACCESS DRIVE 90° TURN  
N.T.S.



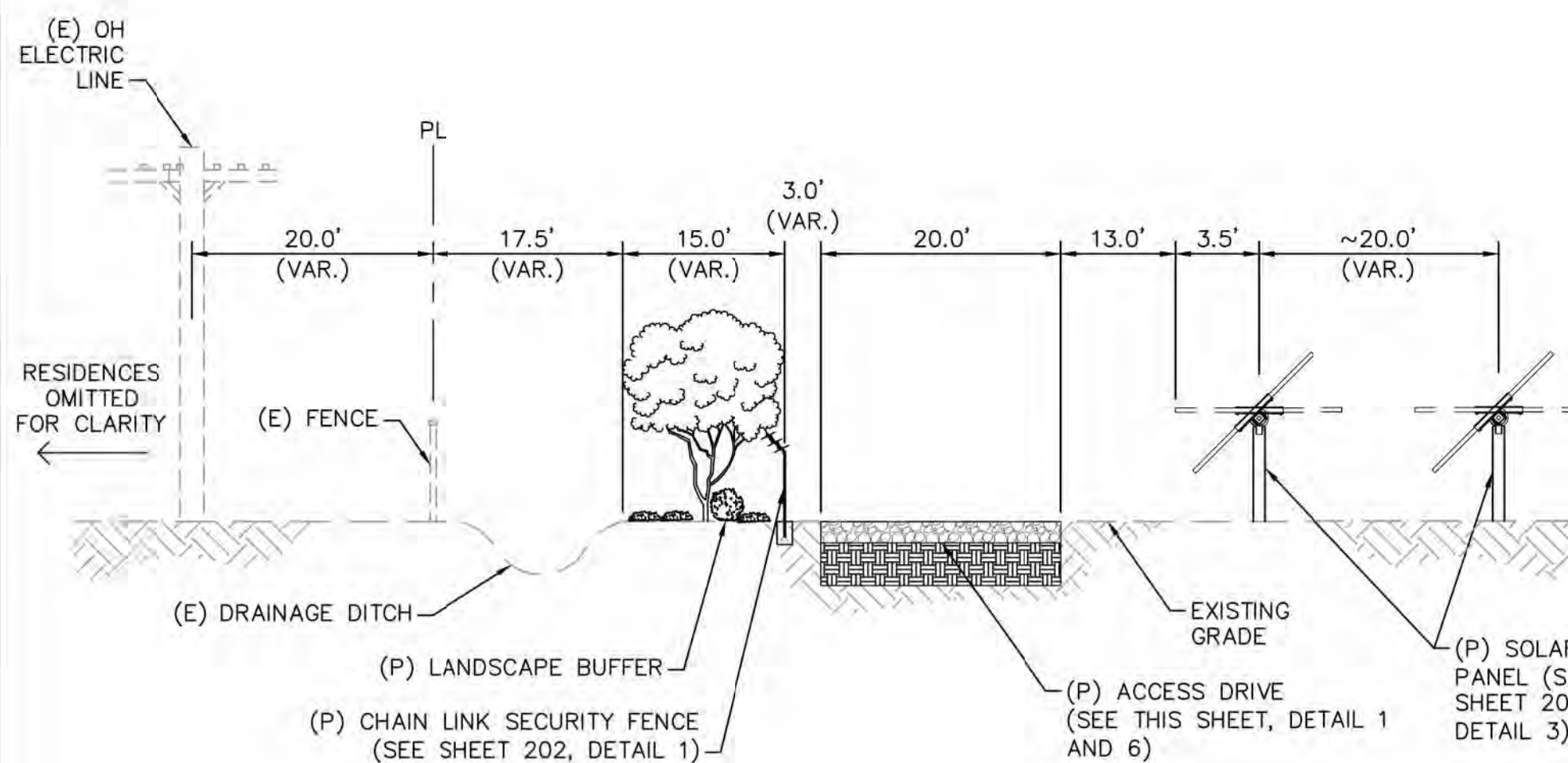
TYPICAL SITE ACCESS DRIVE 4-WAY INTERSECTION  
N.T.S.



TYPICAL SITE ACCESS DRIVE "T" - INTERSECTION  
N.T.S.

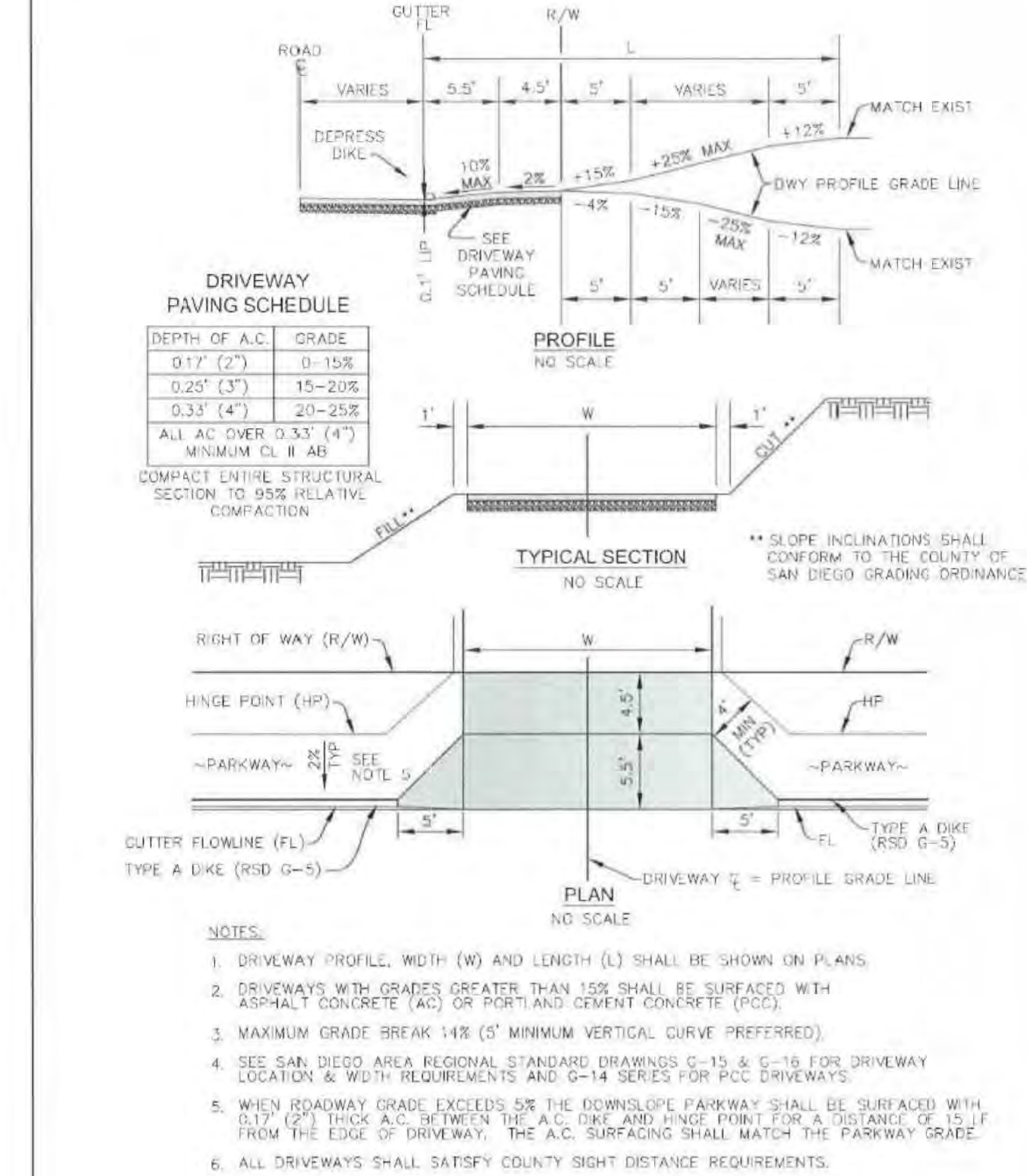
6 ONSITE ACCESS DRIVE INTERSECTIONS

SCALE: NTS



5 CROSS SECTION "A"

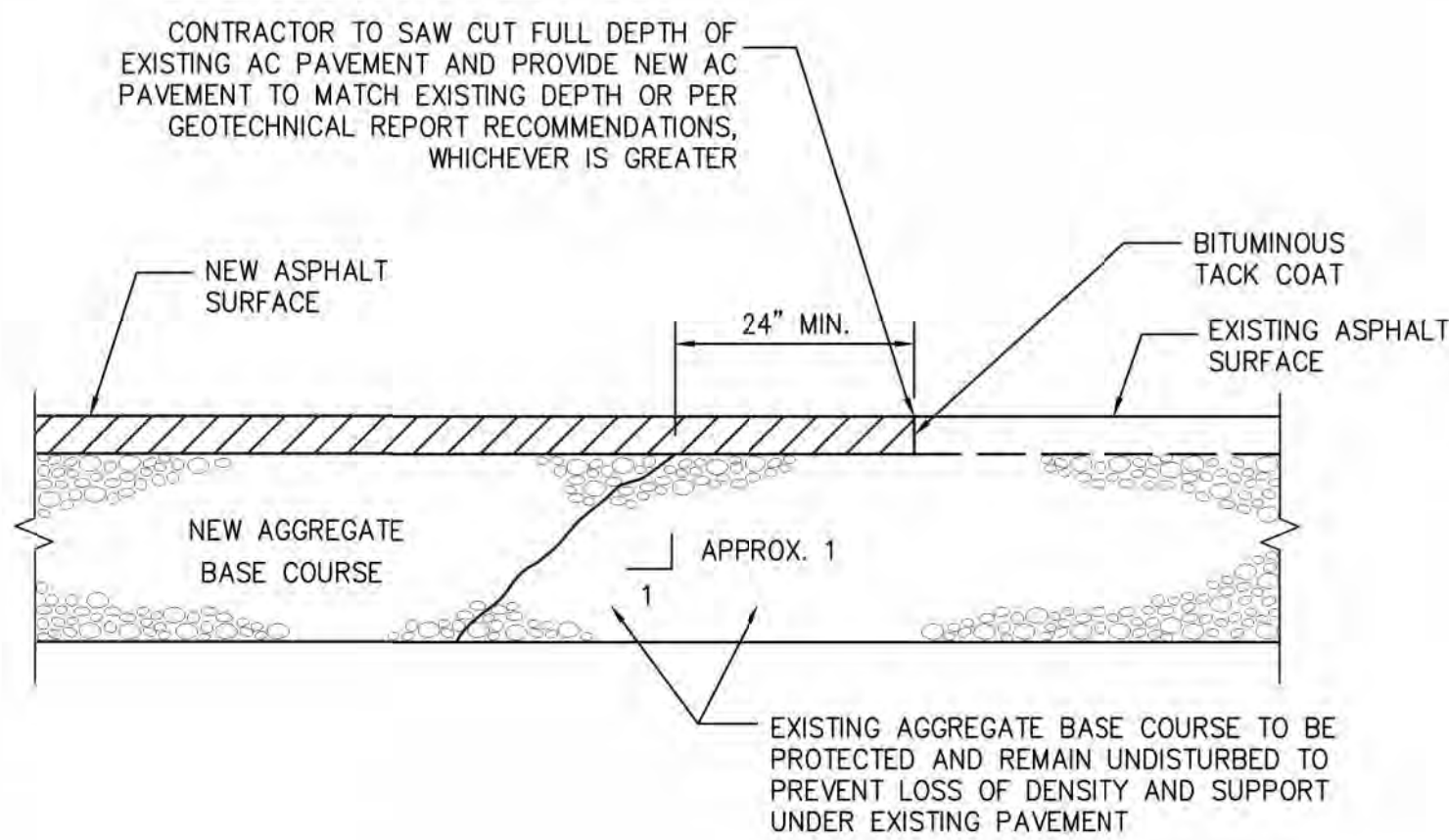
SCALE: NTS



DESIGNED BY: JSM	CHECKED BY: JSM	SAN DIEGO COUNTY DESIGN STANDARD	REVISIONS: APPROVED: DATE
RECOMMENDED BY: JEFF S. MOODY, P.E.	APPROVED BY: COUNTY ENGINEER	ASPHALT CONCRETE DRIVEWAY	REV: JSM 10/2012
MAMAD FAKHROUDINE, P.E.	DATE: 10/15/12	DRAWING NUMBER	DS-07
R.C.E. NO. 44520, EXP. 3/31/2014			

4 ASPHALT CONCRETE DRIVEWAY

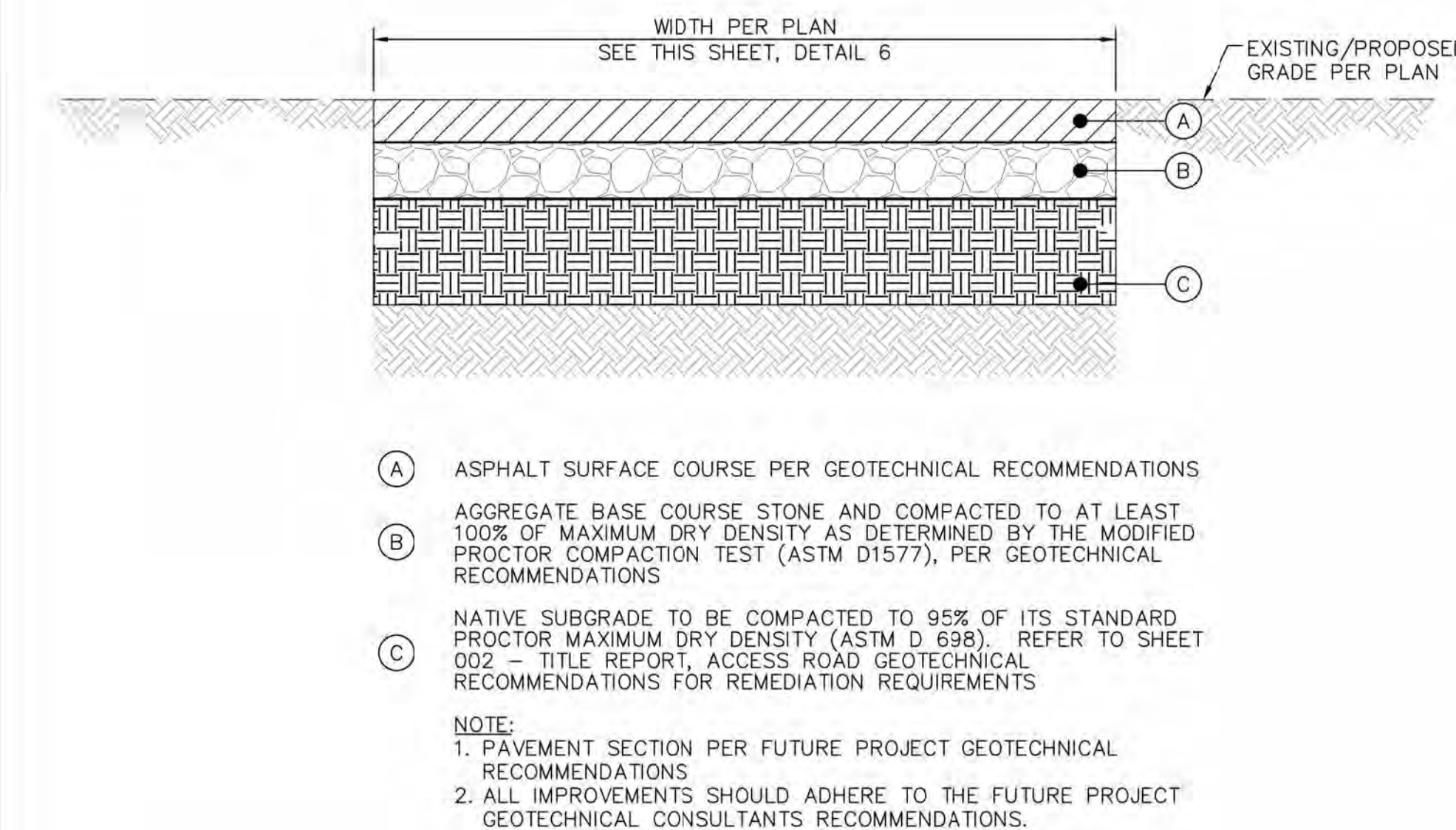
SCALE: NTS



NOTE:  
1. ALL IMPROVEMENTS SHOULD ADHERE TO THE GEOTECHNICAL CONSULTANT'S RECOMMENDATIONS.

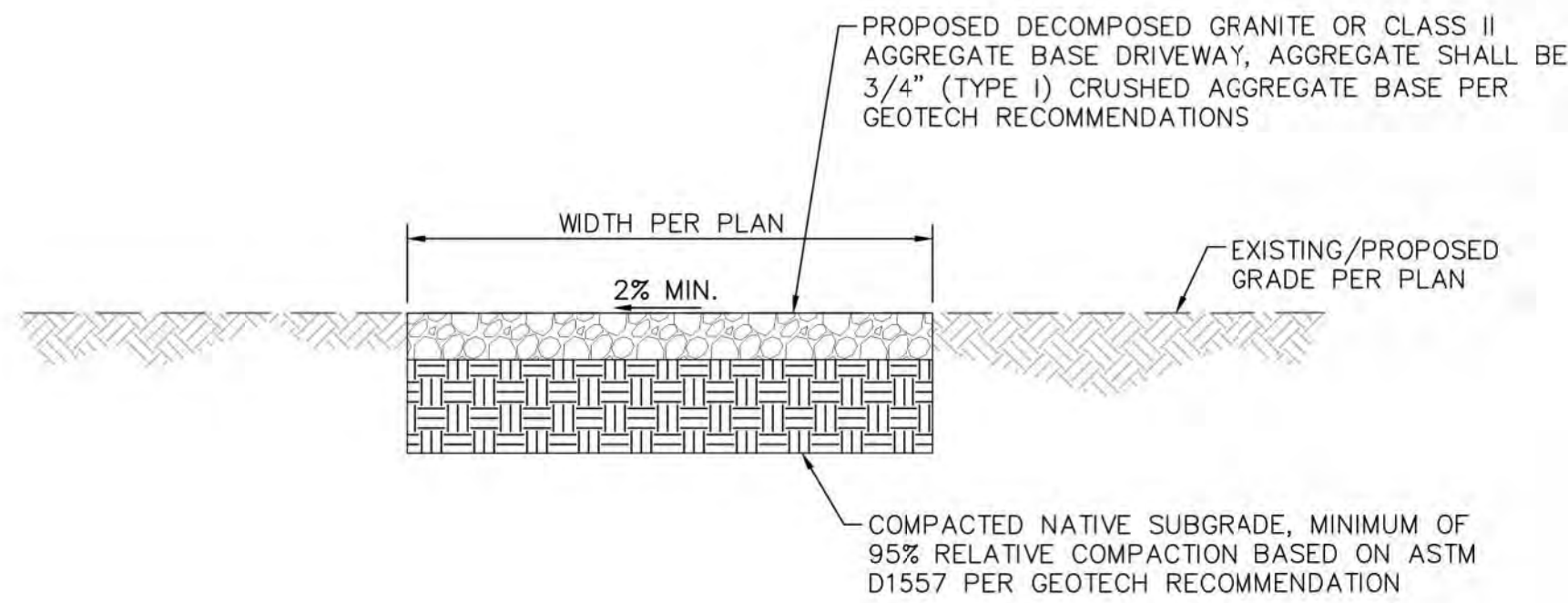
3 SAWCUT AND JOIN

SCALE: NTS



2 AC PAVEMENT SECTION

SCALE: NTS



NOTES:  
1. EXISTING VEGETATION AND OTHER DELETERIOUS MATERIAL SHOULD BE STRIPPED AND REMOVED FROM PROPOSED DRIVEWAYS. EXPOSED SURFACES SHOULD BE FREE OF MOUNDS AND DEPRESSIONS WHICH COULD PREVENT UNIFORM COMPACTION.  
2. AGGREGATE BASE SHOULD NOT BE PLACED WHEN THE SUBGRADE MATERIALS ARE WET OR FROZEN.  
3. SCARIFICATION, MOISTURE CONDITIONING AND COMPACTION OF THE SUBGRADE SOILS ARE NOT REQUIRED IF ROCK OR CEMENTED MATERIALS ARE ENCOUNTERED AT THE SUBGRADE ELEVATION.  
4. ALL IMPROVEMENTS SHOULD ADHERE TO THE GEOTECHNICAL CONSULTANTS RECOMMENDATIONS.  
5. ROAD SHALL SUPPORT FIRE APPARATUS IMPOSED BEARING LOADS OF AT LEAST 75,000 LBS.

1 AGGREGATE DRIVEWAY BASE

SCALE: NTS



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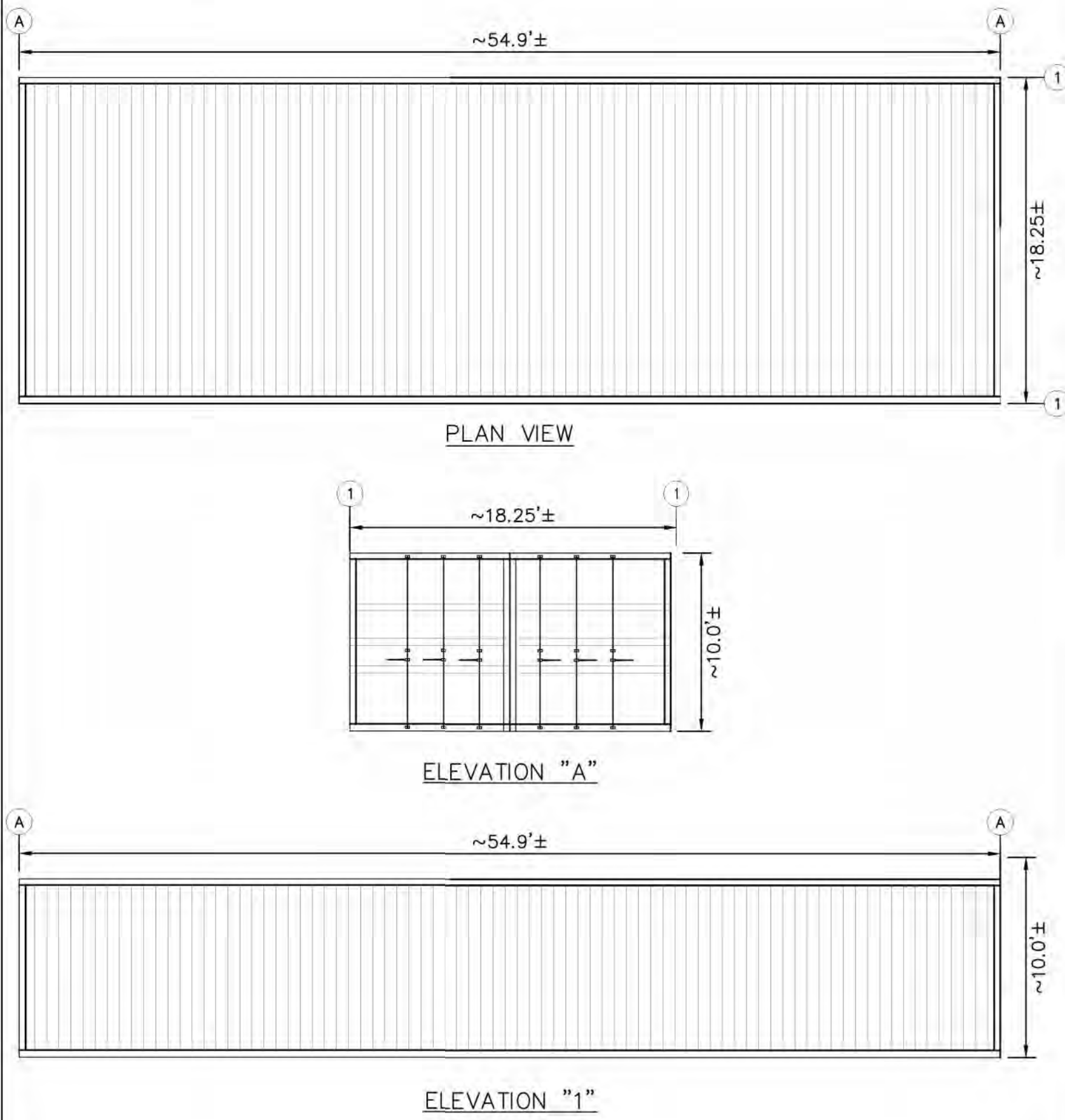
MAJOR USE PERMIT

DETAILS

DRAWING  
NUMBER 201

SHEET SIZE: ARCH D - 24" x 36"





NOTE:  
1. STORAGE CONTAINERS TO BE MADE OF CORRUGATED STEEL. COLOR TO BE EARTH-TONE.

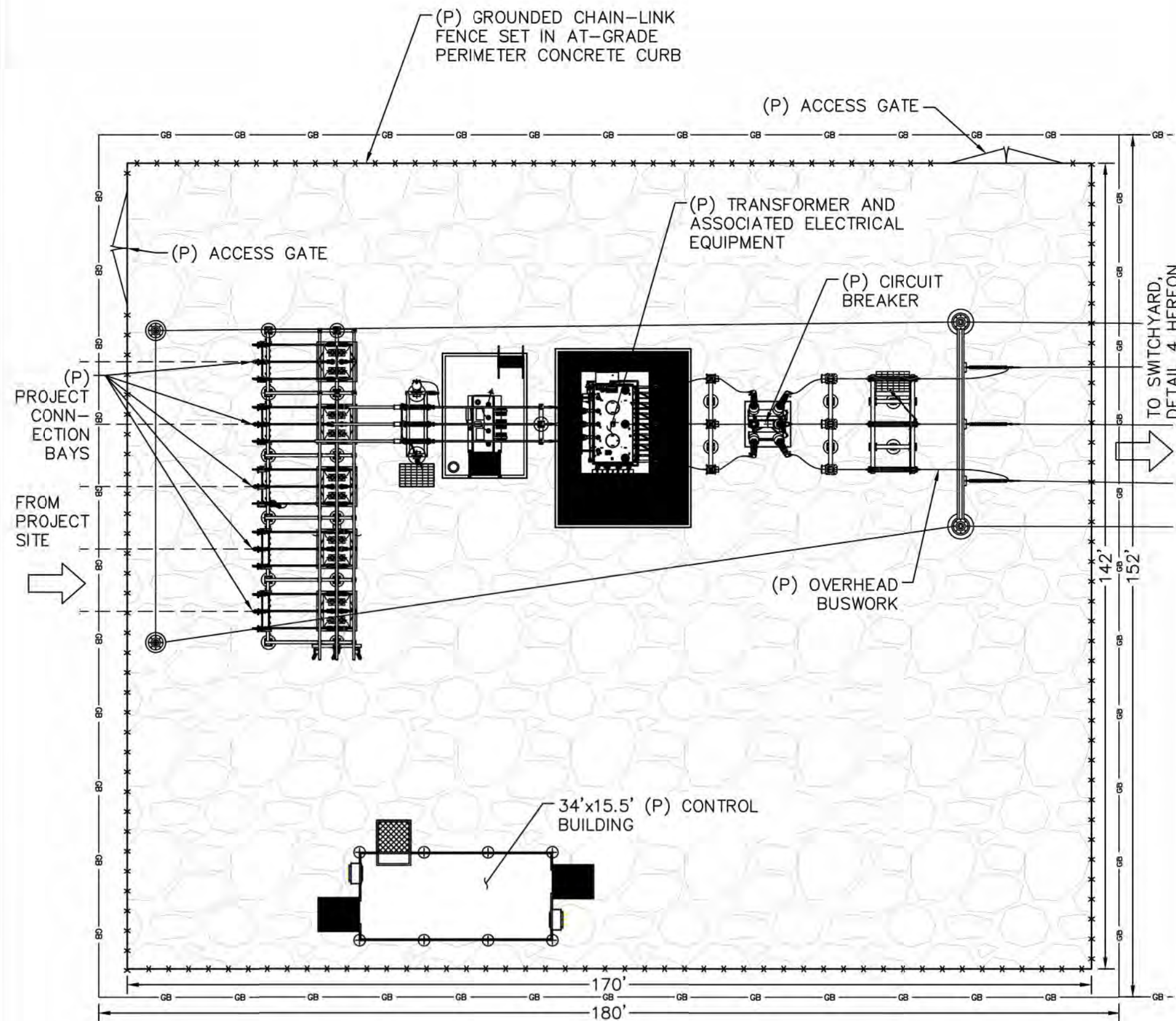
6 BATTERY STORAGE CONTAINERS

SCALE: NTS

5 COLLECTOR SUBSTATION (SCHEMATIC)

NOTE:  
1. SUBSTATION PAD GRADING AND SURFACING TO BE FURTHER DETAILED DURING FINAL DESIGN.

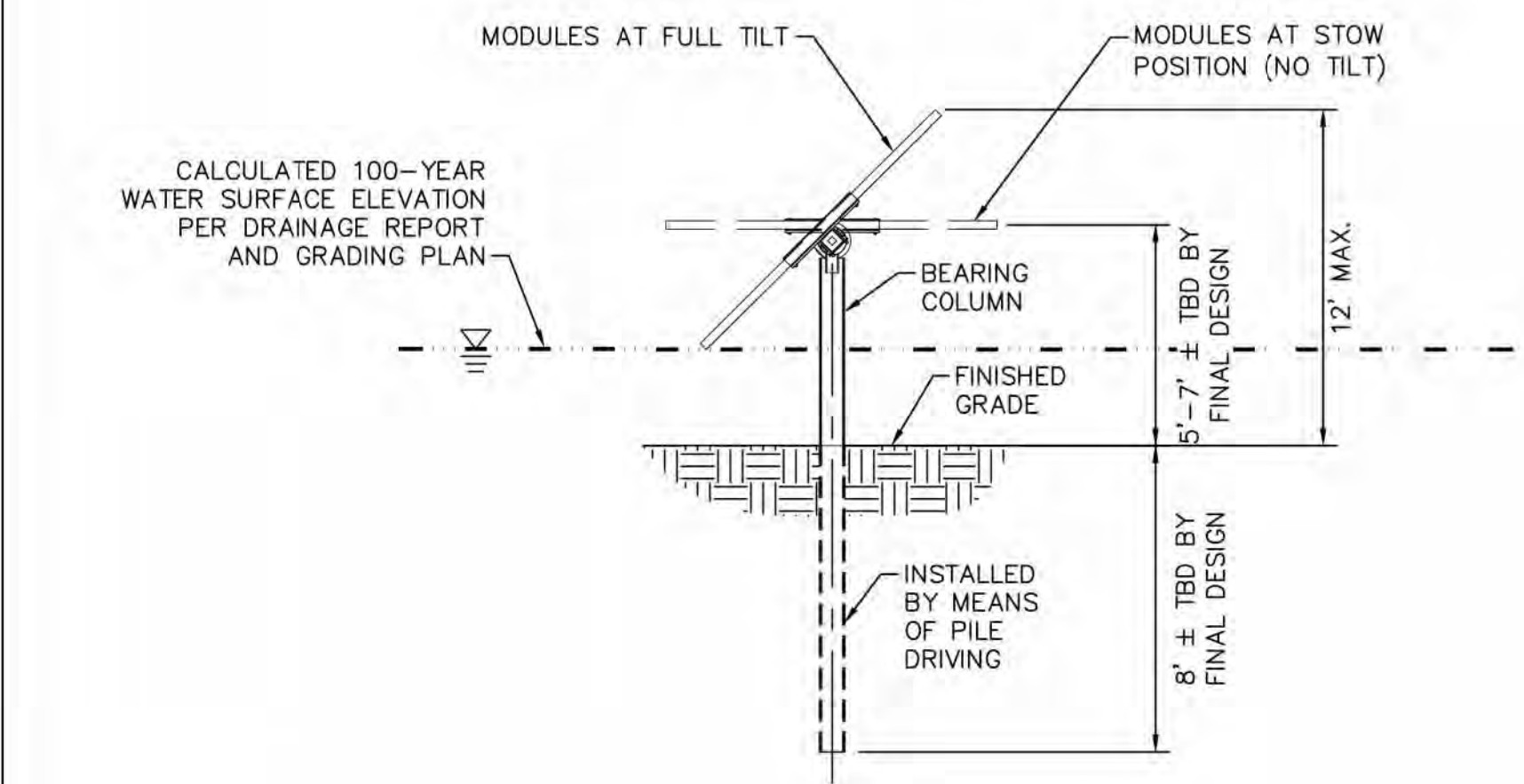
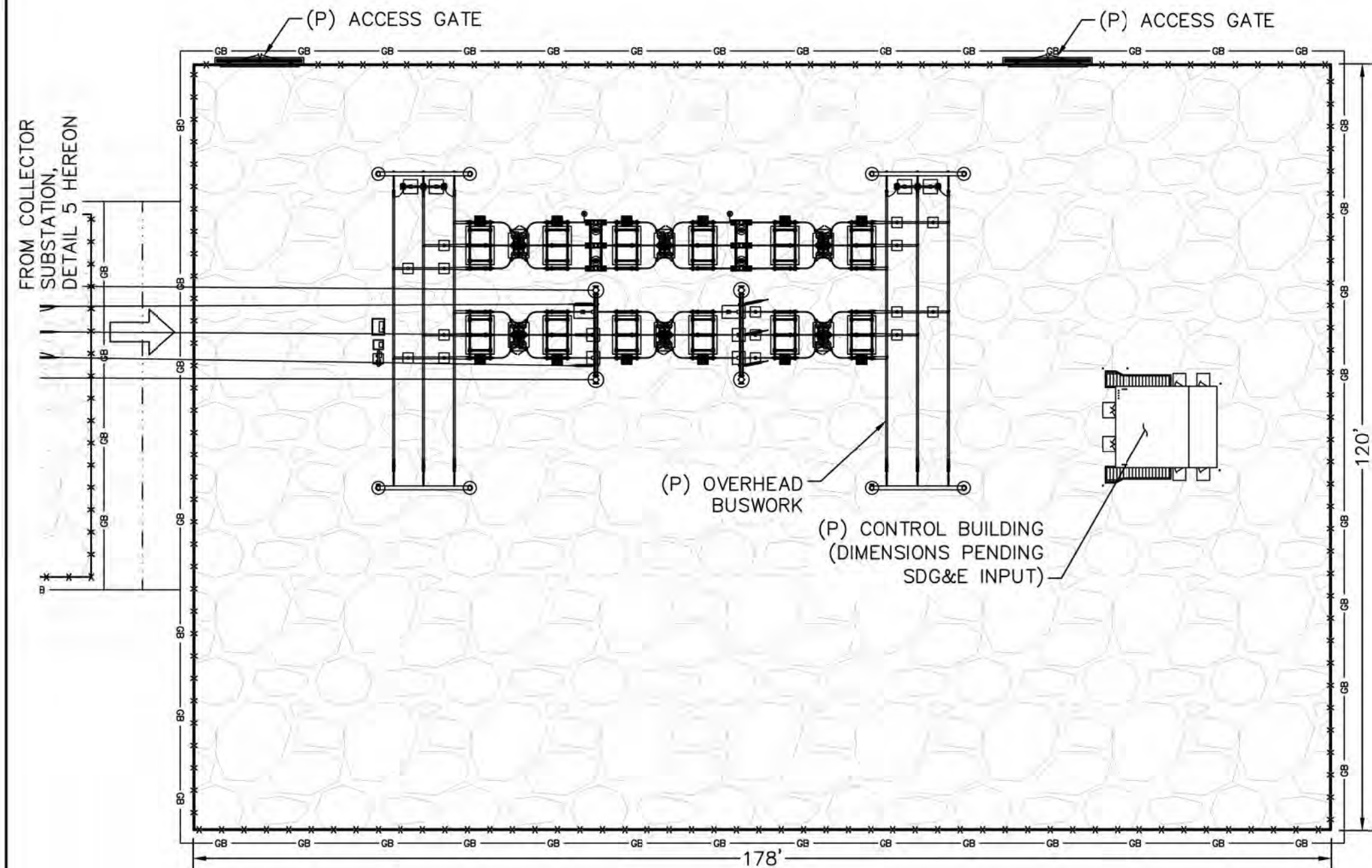
SCALE: NTS



NOTE:  
1. SWITCHYARD PAD GRADING AND SURFACING TO BE FURTHER DETAILED DURING FINAL DESIGN.  
2. SUBSTATION EQUIPMENT LAYOUT PENDING INPUT FROM SDG&E.

4 SWITCHYARD (SCHEMATIC)

SCALE: NTS

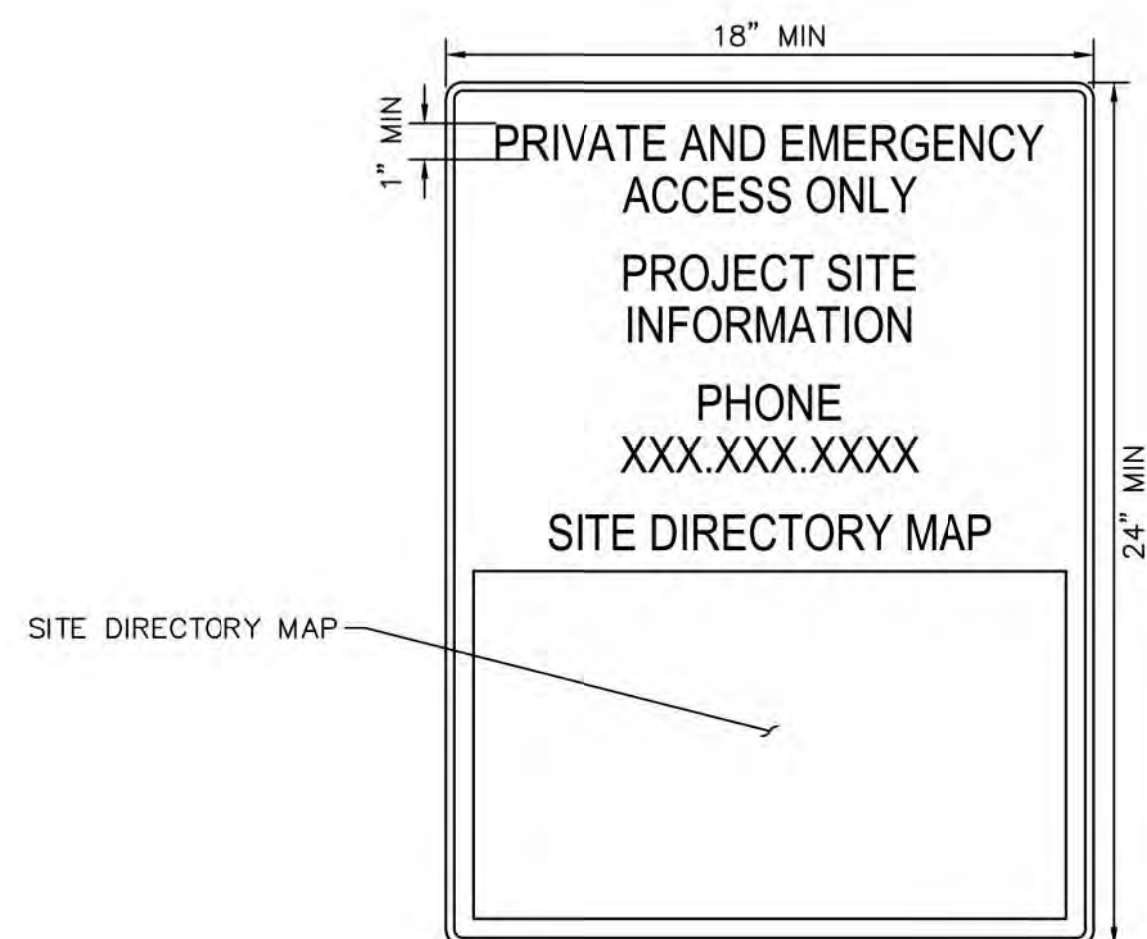


NOTE:  
1. PILE PROJECTIONS ARE SUBJECT TO CHANGE DURING FINAL DESIGN.

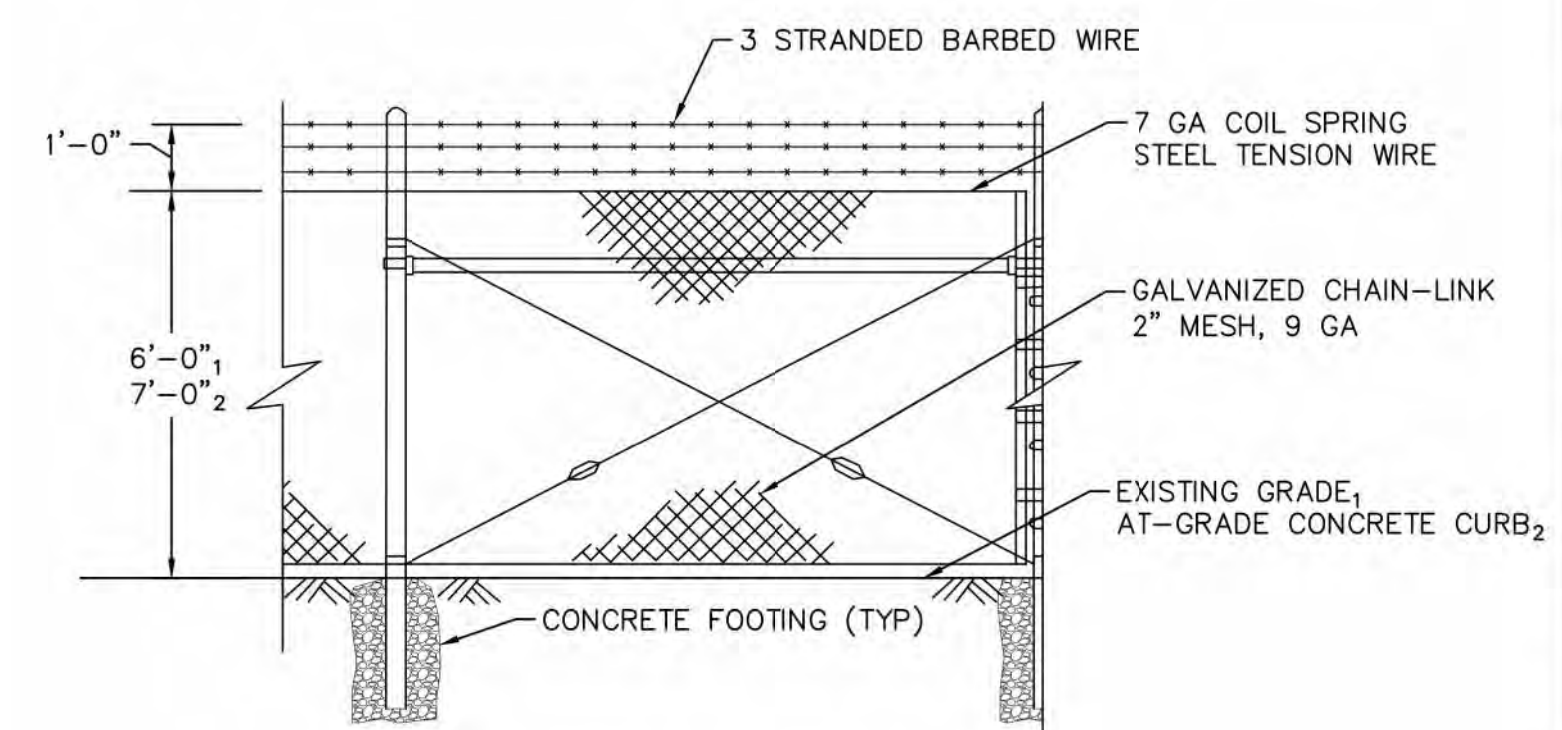
3 TRACKER AND SUPPORT PILE PROFILE

SCALE: NTS

2 FENCE MOUNTED PROJECT SIGNAGE



NOTES:  
1. TO BE PLACED AT ALL VEHICULAR ENTRANCE GATES TO THE SITE.  
2. SIGN BACKING TO BE REFLECTIVE SHEETING, ASTM TYPE I REFLECTIVE SHEETING ALSO KNOWN AS ENGINEER GRADE SCOTCHLITE OR BETTER.  
3. MINIMUM TEXT HEIGHT TO BE 1".  
4. SIGN TO BE ILLUMINATED TOP DOWN; LIGHTING PLAN PENDING FINAL DESIGN. LIGHTING WILL BE ACTIVATED BY MOTION SENSOR AND WILL MEET ZONE A LIGHTING REQUIREMENTS OF THE LIGHTING POLLUTION PREVENTION ORDINANCE.



NOTE:  
1. FOOTNOTE "1" APPLIES TO PV ARRAY FIELD PERIMETER FENCE ONLY.  
2. FOOTNOTE "2" APPLIES TO THE COLLECTOR SUBSTATION PERIMETER FENCE ONLY AND IS A PRELIMINARY ESTIMATE SUBJECT TO CHANGE IN FINAL DESIGN.

SCALE: NTS

1 CHAIN LINK SECURITY FENCE

SCALE: NTS



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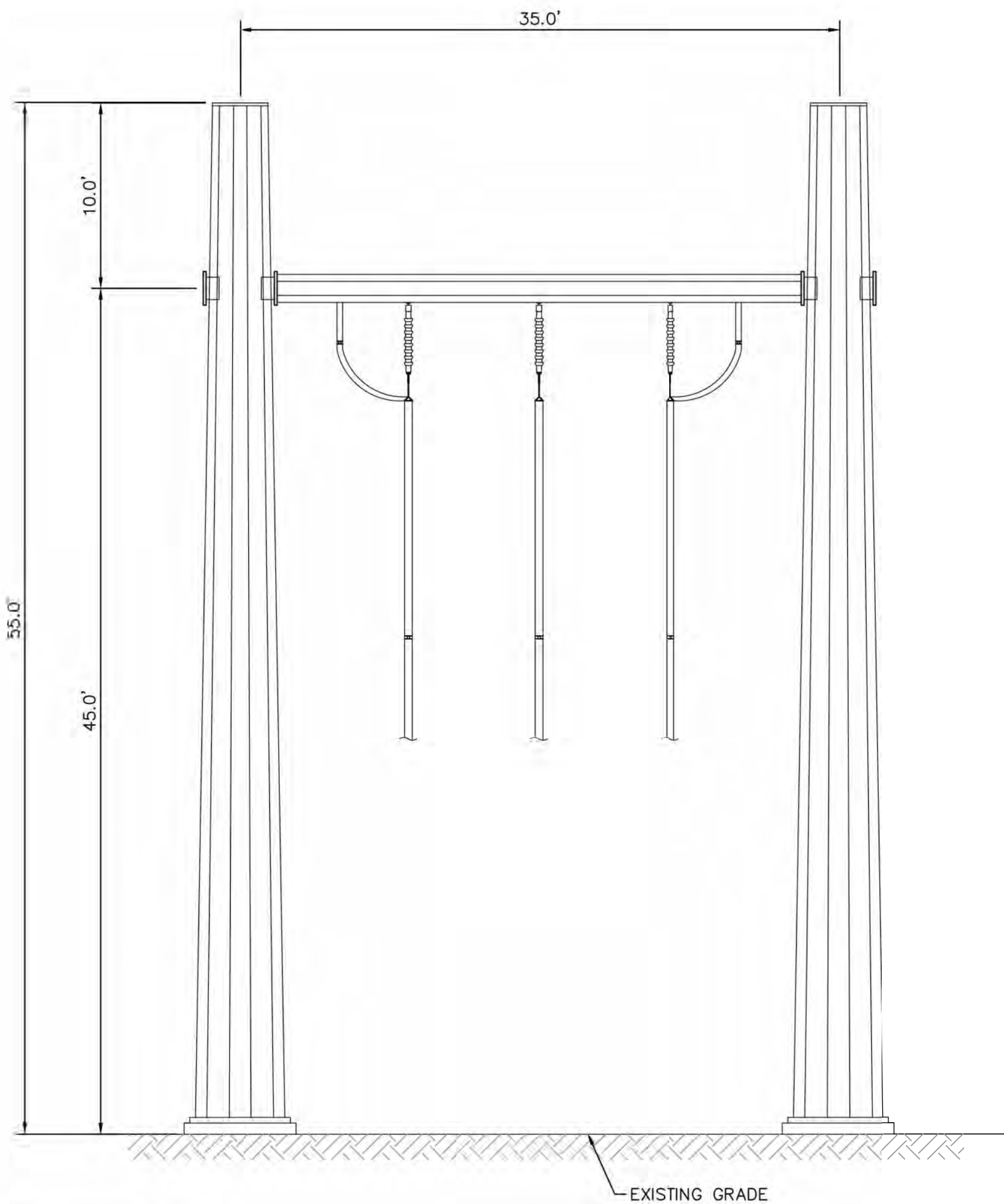
CLIENT SIGNATURE

MAJOR USE PERMIT

DETAILS

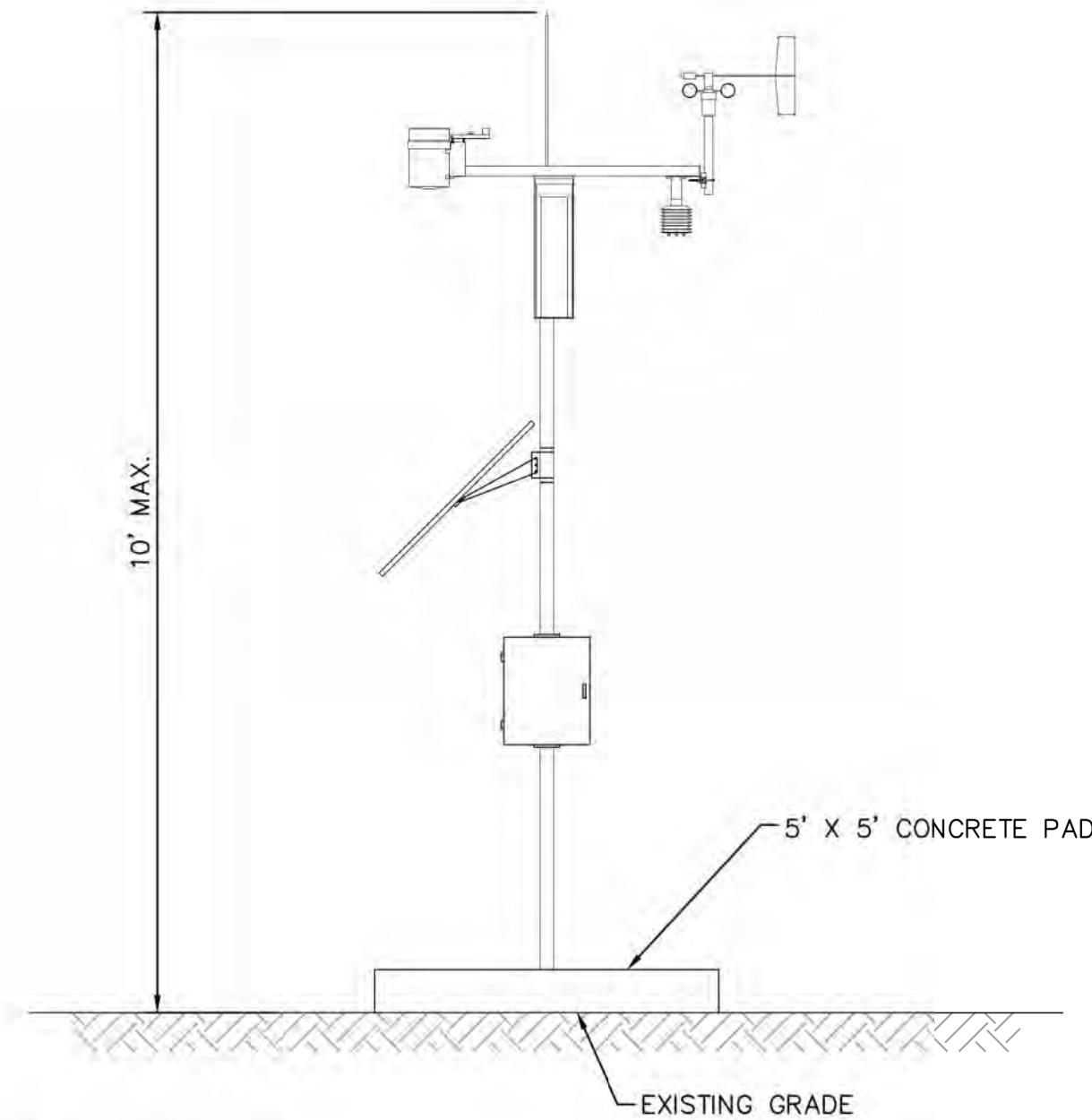
DRAWING  
NUMBER 203

SHEET SIZE: ARCH D - 24" x 36"



2 TRANSMISSION TOWER

SCALE: NTS



1 METEOROLOGICAL STATION



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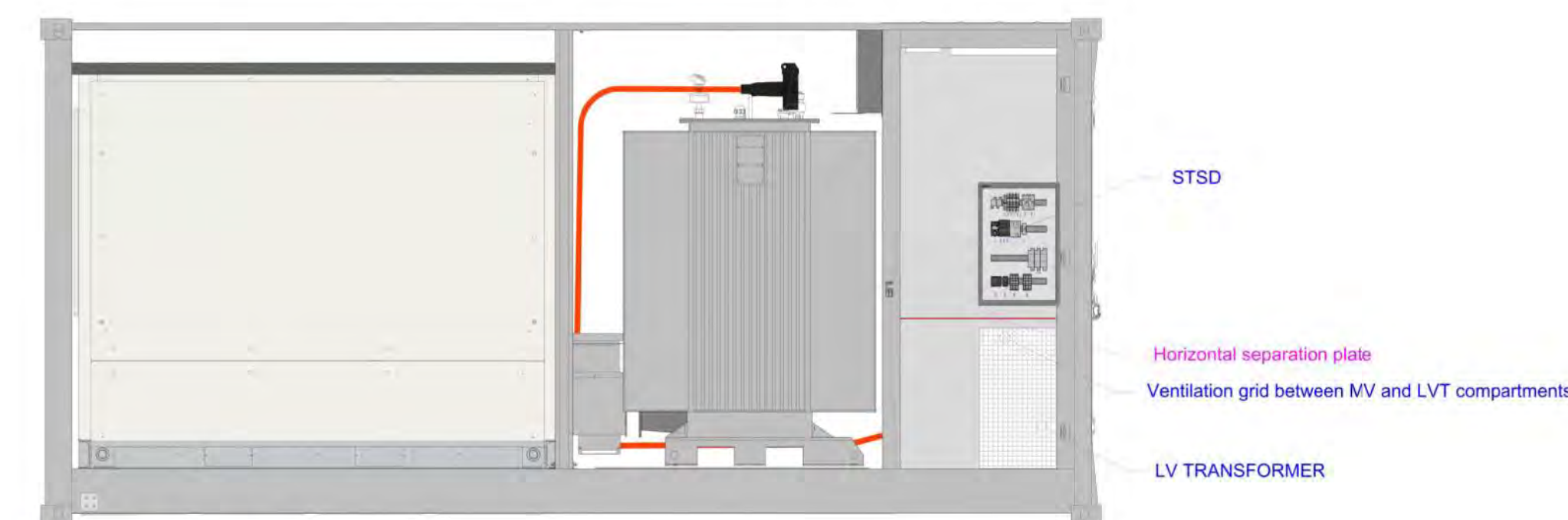
MAJOR USE PERMIT

DETAILS

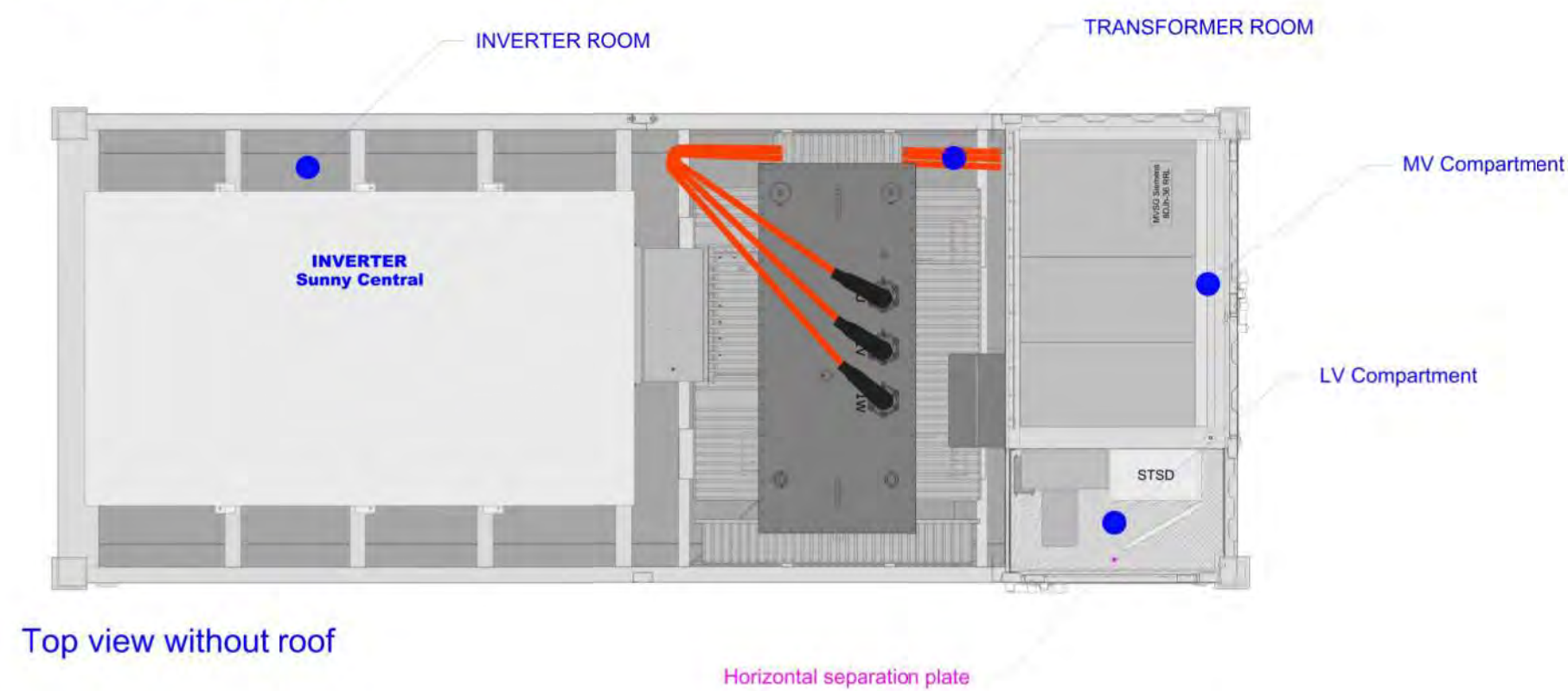
DRAWING  
NUMBER 204

SHEET SIZE: ARCH D - 24" x 36"

PRINT DATE: 10/17/2019



Right view without door



Top view without roof

REVISION	DATE	DESCRIPTION	BY	CHKD	APP'D
1	28/05/2019	General Drawing	A. Krishnan	A. Krishnan	A. Krishnan
2	06/05/2019	General Drawing - Add SKIDTAINER and MVPS20' SKIDTAINER	A. Krishnan	A. Krishnan	A. Krishnan
3	24/04/2019	Project revision	A. Krishnan	A. Krishnan	A. Krishnan
4	19/04/2019	Final revision	A. Krishnan	A. Krishnan	A. Krishnan

PROJECT / PROJECT	PROJECT NO. / PART NO.	DATE / REV.
MVPS20' SKIDTAINER	MVPS-SK003	10/17/2019

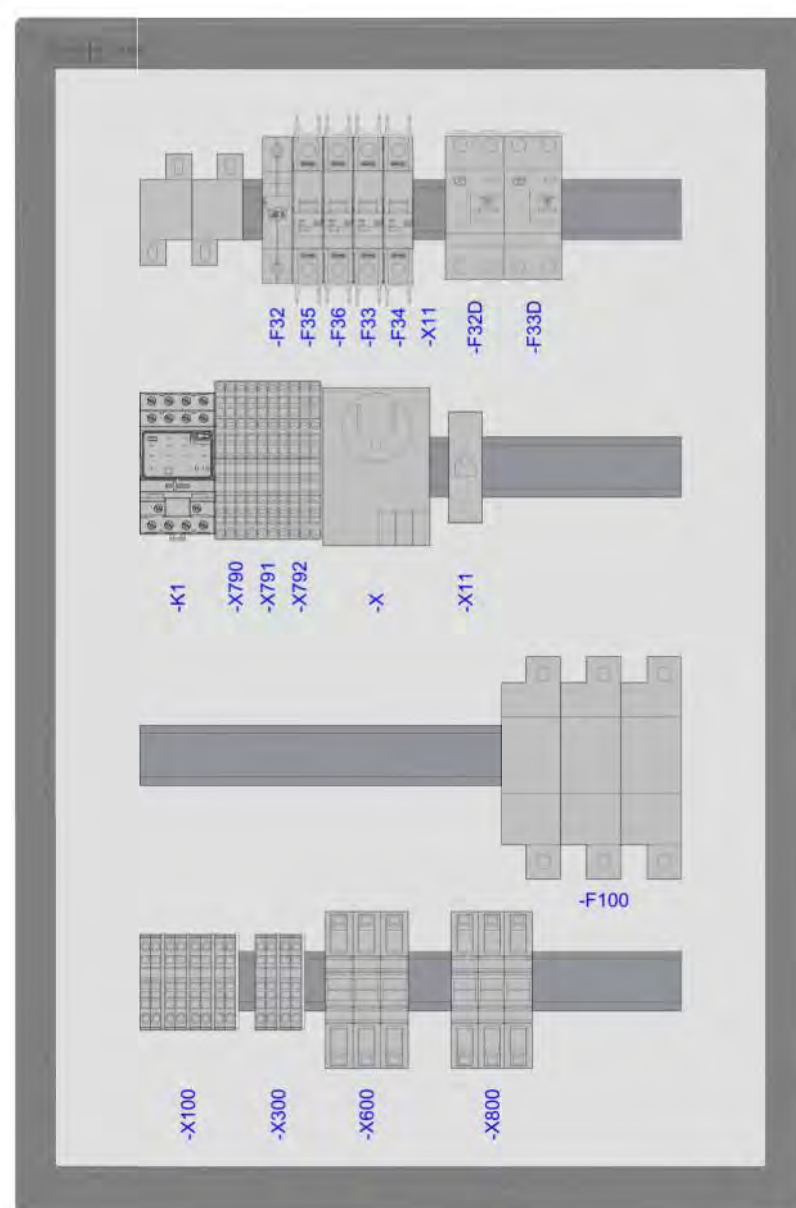
Commercial drawing with devices installed  
Disegno commerciale con apparecchiature installate

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Page Size: 11.5" x 17.5" (A) 1:1

PRINT DATE: 10/17/2019

Station sub-distribution - STSD



TERMINAL	DESCRIPTION
-X	120 Vac - Power socket
-X11	Ethernet socket
-X300	120 Vac - Spare terminals
-X800	230/400 Vac - LVT Output

REVISION	DATE	DESCRIPTION	BY	CHKD	APP'D
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2	06/05/2019	General Drawing - Add SKIDTAINER and MVPS20' SKIDTAINER	A. Krishnan	A. Krishnan	A. Krishnan
3	24/04/2019	Project revision	A. Krishnan	A. Krishnan	A. Krishnan
4	19/04/2019	Final revision	A. Krishnan	A. Krishnan	A. Krishnan

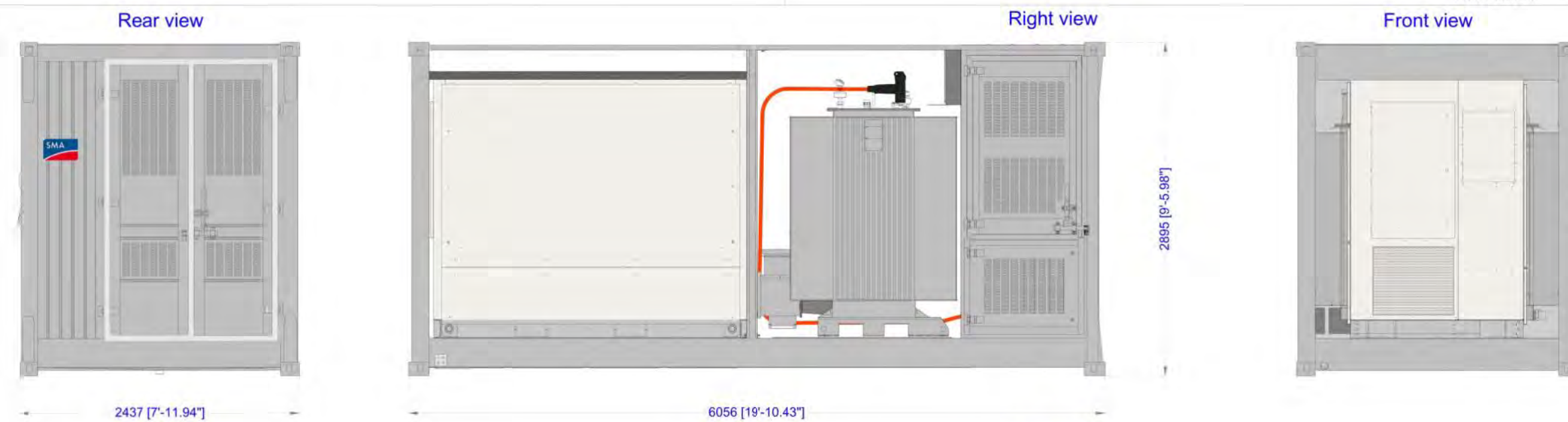
PROJECT / PROJECT	PROJECT NO. / PART NO.	DATE / REV.
MVPS20' SKIDTAINER	MVPS-SK003	10/17/2019

Commercial drawing with devices installed  
Disegno commerciale con apparecchiature installate

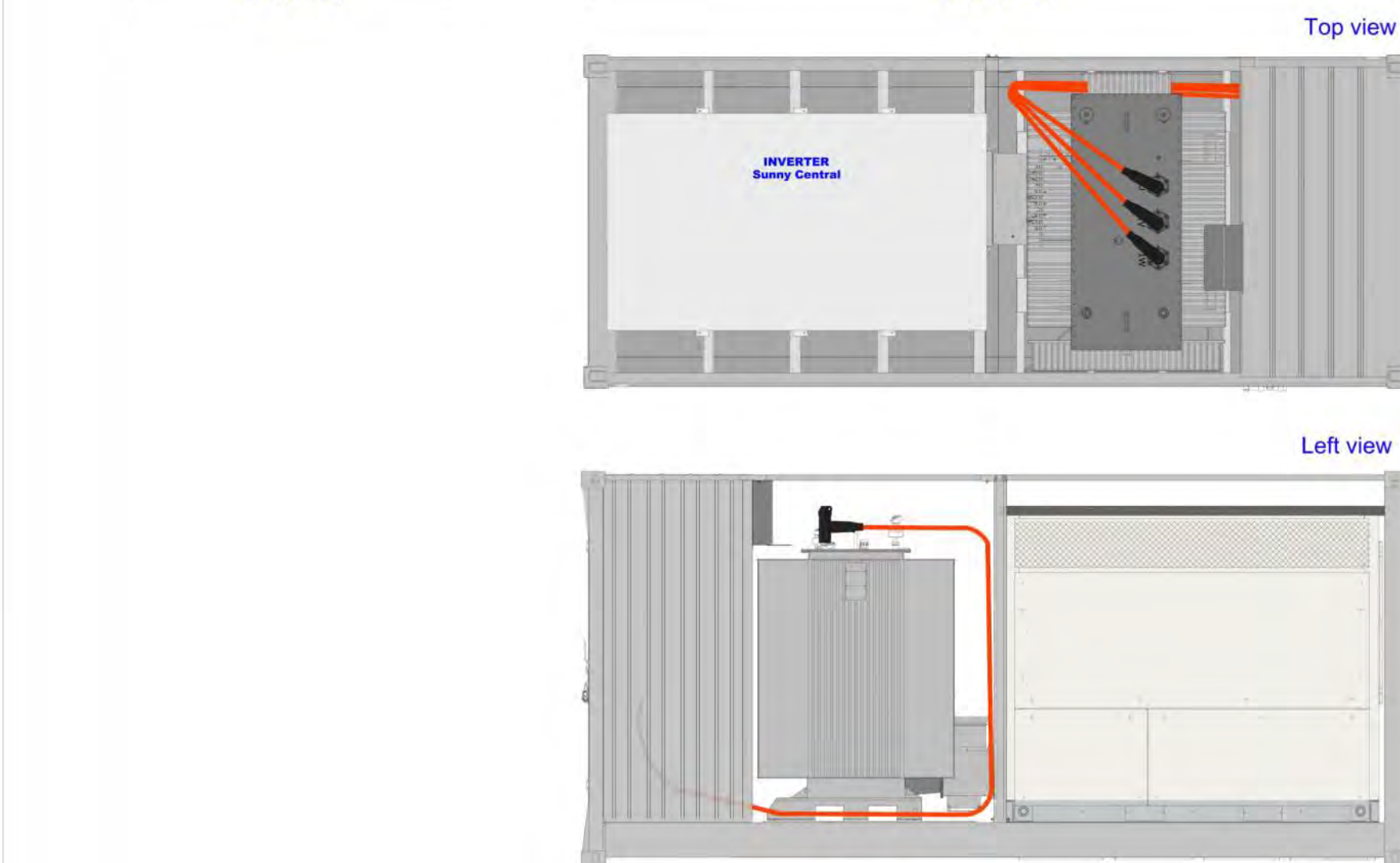
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PRINT DATE: 10/17/2019



Views with closed doors



REVISION	DATE	DESCRIPTION	BY	CHKD	APP'D
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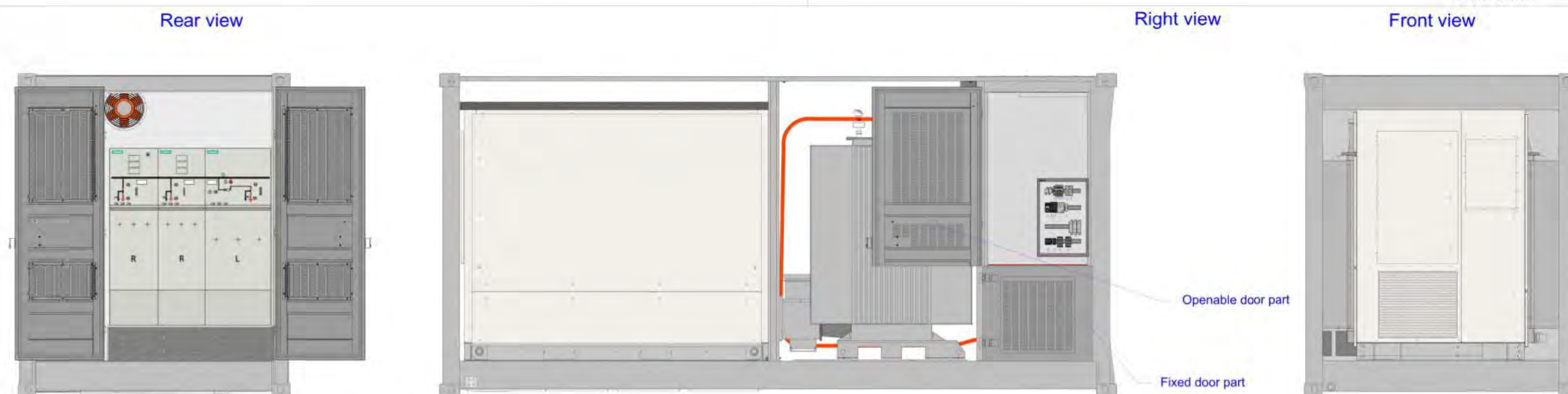
PROJECT / PROJECT	PROJECT NO. / PART NO.	DATE / REV.
MVPS20' SKIDTAINER	MVPS-SK003	10/17/2019

Commercial drawing with devices installed  
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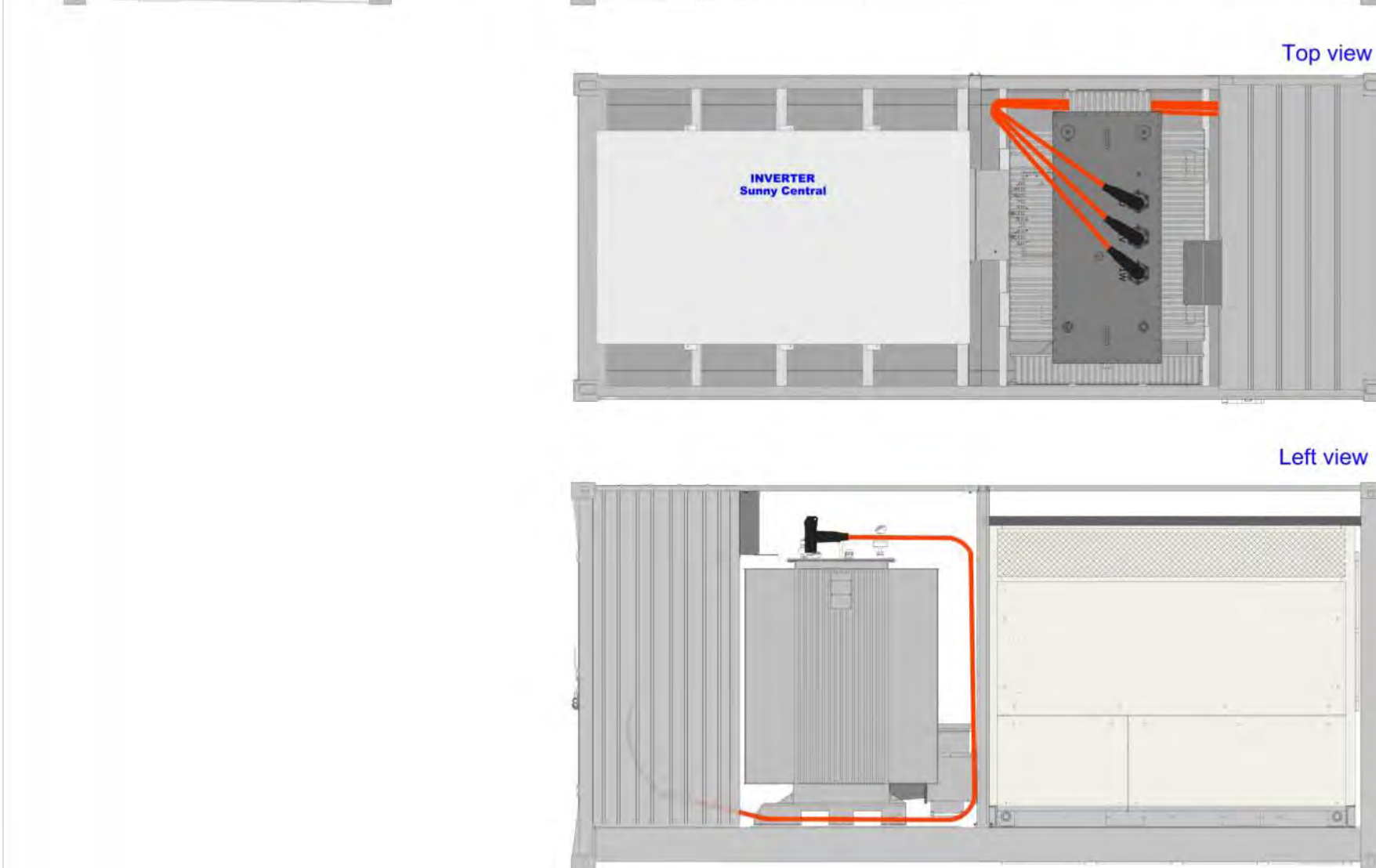
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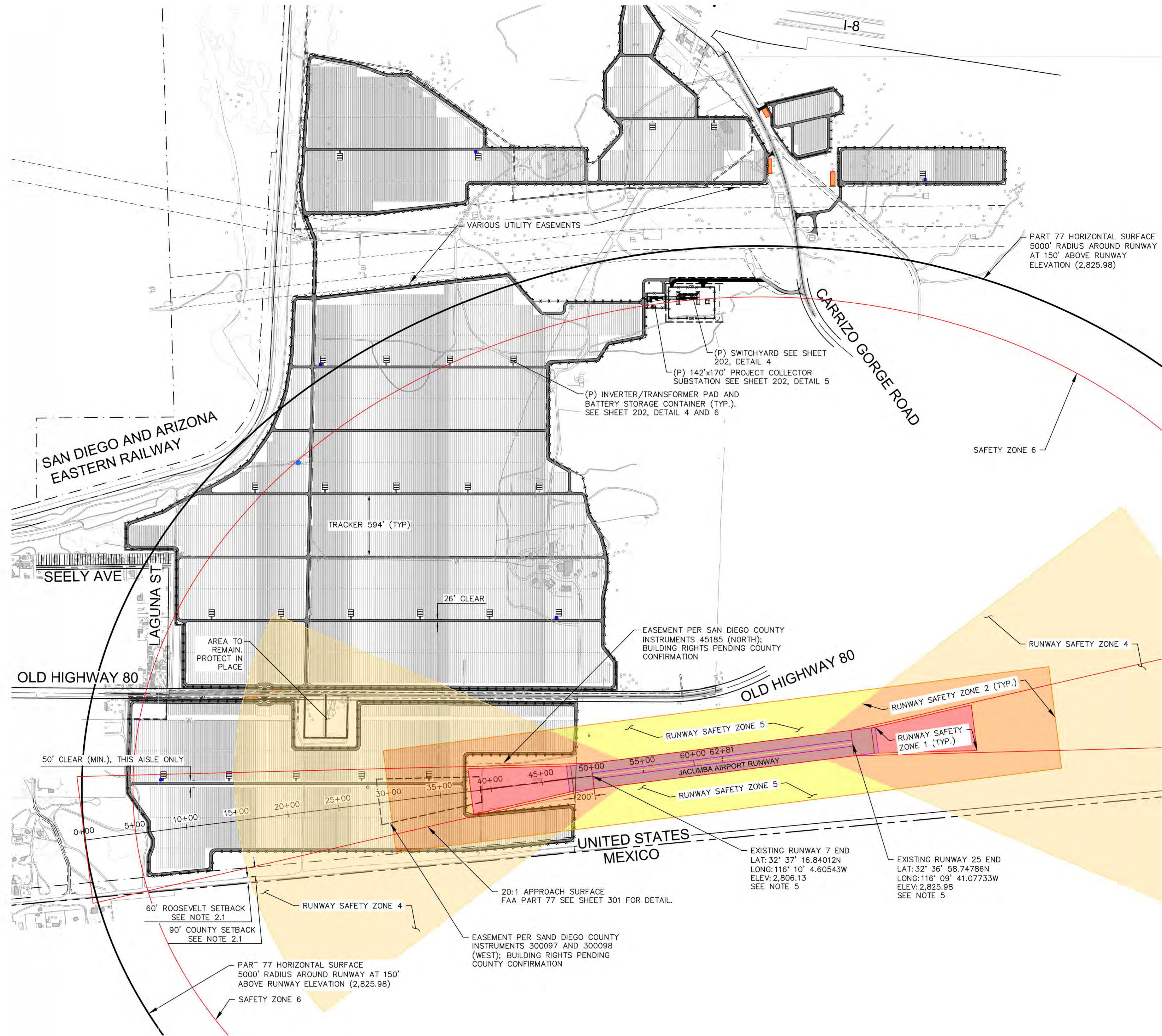
PROJECT / PROJECT	PROJECT NO. / PART NO.	DATE / REV.
MVPS20' SKIDTAINER	MVPS-SK003	10/17/2019

Commercial drawing with devices installed  
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LEGEND	
	PROPERTY LINE
	CENTER LINE
	EASEMENT LINE
	PROPOSED FENCE. SEE SHEET 202, DETAIL 1
	ALL WEATHER ACCESS DRIVE

- NOTES**
- SURVEY INFORMATION PREPARED BY KIMLEY-HORN AND ASSOCIATES DATED AUGUST 2018; PENDING ALTA COMPLETION.
  - SETBACKS
    - 60' "ROOSEVELT" PUBLIC RESERVE SETBACK PER "COUNTY OF SAN DIEGO, CALIFORNIA BOARD OF SUPERVISORS POLICY NUMBER I-111" A.1. ~1.3± ACRES OF ENCROACHMENT INTO 90'-WIDE SD COUNTY SETBACK ~0.10% OF GROSS (PROPERTY) AREA; ~0.25% OF FENCED AREA.
    - 90' COUNTY SETBACK PER "COUNTY OF SAN DIEGO, CALIFORNIA BOARD OF SUPERVISORS POLICY NUMBER I-111"
    - FRONT, REAR, AND SIDE BUILDING COUNTY SETBACKS PER SAN DIEGO COUNTY "SETBACKS FOR SOLAR PHOTOVOLTAIC PANELS" DATED 01/30/18. REQUIRES A MINIMUM 3' SETBACK FROM PROPERTY LINE TO GROUND-MOUNTED PV SOLAR ARRAYS.
  - RUNWAY SAFETY ZONES DELINEATED PER JACUMBA AIRPORT LAND USE COMPATIBILITY PLAN (ALUP) ADOPTED BY THE SAN DIEGO COUNTY AIRPORT LAND USE COMMISSION (ALUC) IN DECEMBER, 2006 AND AMENDED IN DECEMBER, 2011. DATA SOURCE IS NOTED BELOW:
    - SHAPEFILES PROVIDED BY SAN DIEGO COUNTY
    - KIMLEY-HORN DEPICTION PER SAFETY ZONE DIMENSIONAL PLAN PROVIDED BY BAYWA AND ALUP. ALSO INCLUDES KIMLEY-HORN DEPICTION OF ADDITIONAL BUILDING LIMITATIONS PER FAA PART 77 INCLUDING RUNWAY PROTECTION ZONE (RPZ), APPROACH ZONE, ETC AS SHOWN IN GREEN.
  - ELECTRICAL LAYOUT SHOWN AS PROVIDED BY BAYWA R.E. SOLAR PROJECTS, LLC DATED OCTOBER 09, 2018.
  - RUNWAY COORDINATES PER SD COUNTY -EMAIL DATED 10/4/2018 FROM ERIC NELSON

**ALUP CLEAR SPACE CALCULATIONS**

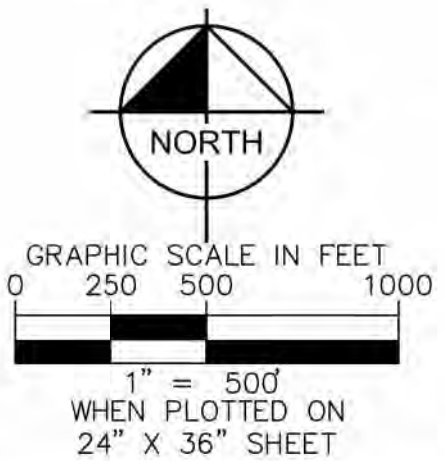
THIS LAYOUT COMPLIES WITH §2.9 OF THE ALUP (CLEAR SPACE) AS CALCULATED BELOW:

CLEAR SPACE REQUIREMENT: 0.5 AC MINIMUM PER 10 AC PORTION OF DEVELOPED SITE

DEVELOPED AREA (OVERALL SITE):  
MUP BOUNDARY AREA: 643± AC  
COVERED SPACE: 231± AC  
CLEAR SPACE: 412± AC  
PERCENT CLEAR SPACE: 6.4 AC PER 10 AC PORTION

ARRAY FIELD (INSIDE OF PERIMETER PERIMETER DRIVE):  
AREA: 521± AC  
COVERED SPACE: 187± AC  
CLEAR SPACE: 334± AC  
PERCENT CLEAR SPACE: 6.4 AC PER 10 AC PORTION

SAFETY ZONES			
SAFETY ZONE	PROP. LAND USE CATEGORY <sup>Ⓐ</sup>	MAX LOT COVERAGE <sup>Ⓑ</sup>	EST. LOT COVERAGE <sup>Ⓒ</sup>
1	INDUSTRIAL OUTDOOR STORAGE	0%	25-45%
2		50%	25-45%
4		70%	25-45%
5		70%	25-45%
Ⓐ PER ALUPC MAP JAC-2 Ⓑ PER ALUPC § 2.8 Ⓒ PENDING FINAL DESIGN			



**BayWa r.e. Solar Projects LLC**

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PHONE: 714.939.1030 FAX: 714.938.9488  
WWW.KIMLEY-HORN.COM



**SITE INFORMATION**  
JVR ENERGY PARK

**PROJECT MANAGER**  
GEORGE GUNNOE  
832.303.2477

**PROJECT ENGINEER**  
AKHILA KRISHNAN  
949.771.2976

NO.	ISSUE	DATE
1	MUP - 1ST SUBMITTAL	11/01/2018
2	MUP - 2ND SUBMITTAL	10/17/2019
3	COVER SHEET UPDATE	12/3/2019

PROJECT NUMBER KHA-194083001  
DRAWN BY LL  
REVIEWED BY WC  
APPROVED BY DB

CLIENT SIGNATURE

MAJOR USE PERMIT

AVIATION  
COMPATIBILITY PLAN

DRAWING NUMBER 300  
SHEET SIZE: ARCH D - 24" x 36"



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MAJOR USE PERMIT  
AVIATION  
COMPATIBILITY  
PROFILE

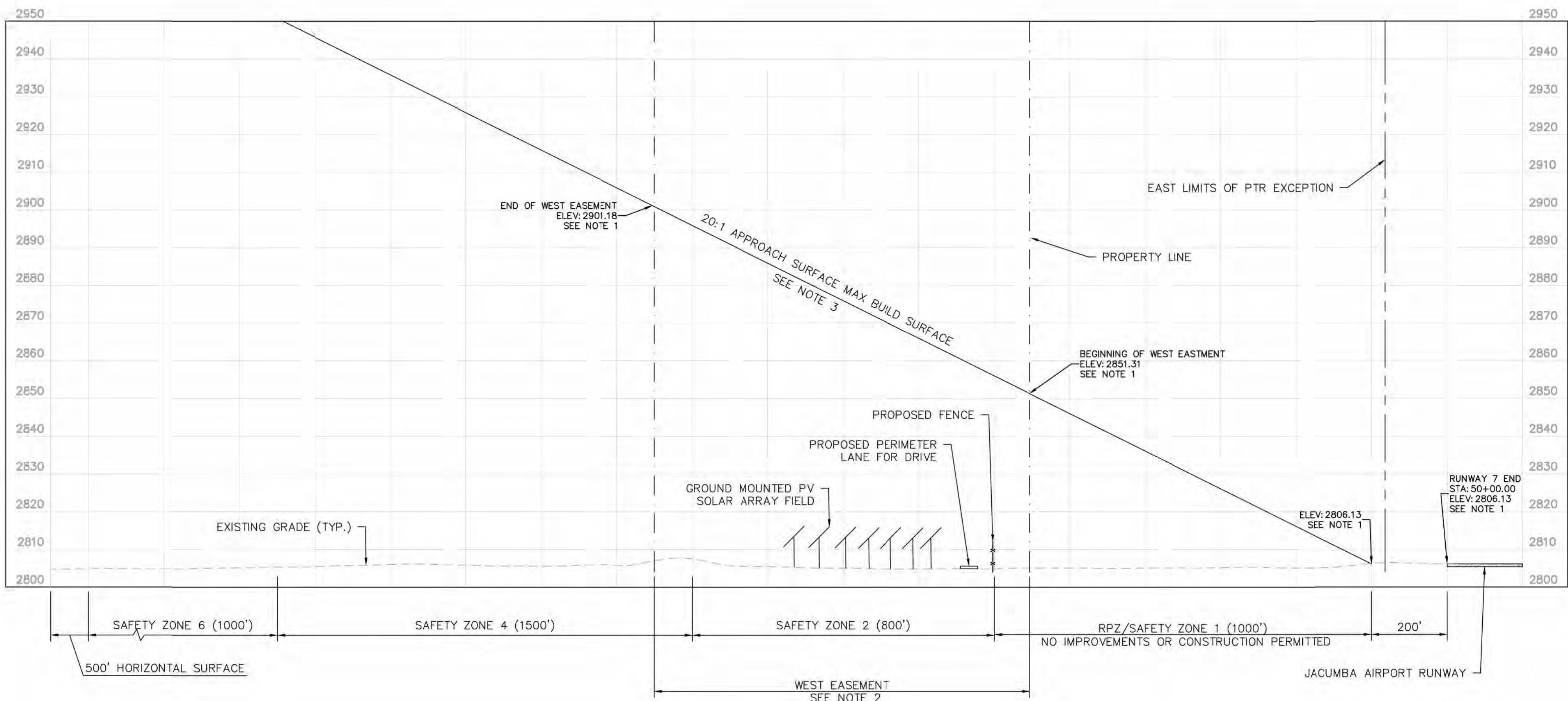
DRAWING  
NUMBER

301

SHEET SIZE: ARCH D - 24" x 36"

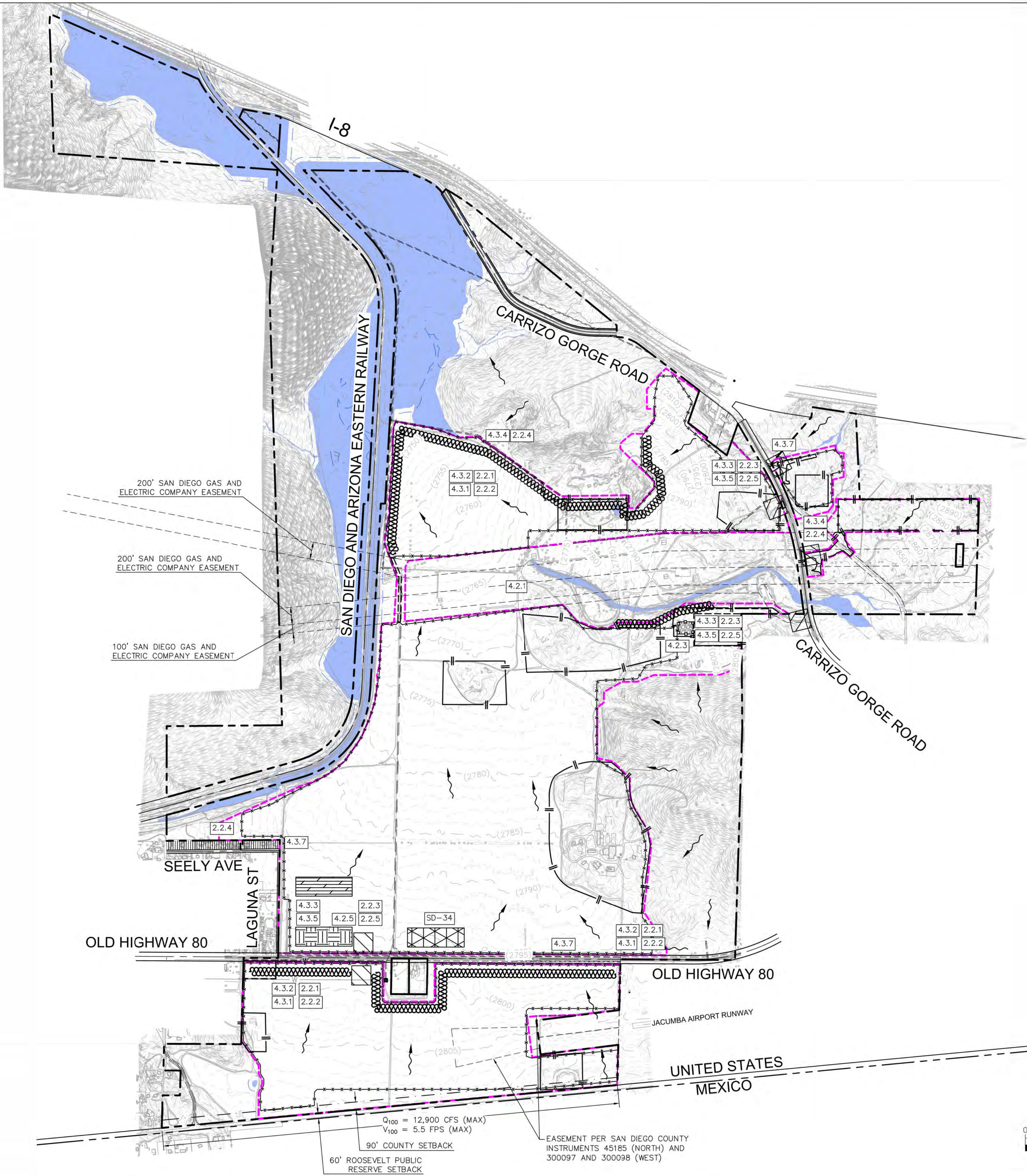
NOTES

- ELEVATIONS ARE MEASURED ABOVE MEAN SEAN LEVEL PER SURVEY BY KIMLEY HORN & ASSOCIATES DATED AUG. 22, 2018.
- WEST EASEMENT – COUNTY OF SAN DIEGO EASEMENT INSTRUMENT NO. 300098 RECORDED 8/25/1973
- DO NOT PENETRATE WITH PERMANENT IMPROVEMENTS OR CONSTRUCTION EQUIPMENT.



AVIATION COMPATIBILITY PROFILE  
N.T.S.





- LEGEND**
- PROPERTY LINE
  - CENTER LINE
  - SETBACK LINE
  - EASEMENT LINE
  - PROPOSED FENCE
  - PROPOSED SUBSTATION FENCE
  - LIMIT OF PROPOSED GRADING
  - FIBER ROLL (SC-5)
  - PROJECT LIMIT OF WORK
  - SILT FENCE (SC-1)

- LANDSCAPE BOUNDARY
- ALL WEATHER ACCESS DRIVE
- STOCKPILE AREA
- SANITARY, TRASH, HAZARDOUS MATERIAL, CONCRETE & PAVEMENT MANAGEMENT, VEHICLE MAINTENANCE AND EQUIPMENT STORAGE AREA (WM-4, WM-8, WM-5, WM-9)
- STABILIZED CONSTRUCTION ENTRANCE (TC-1)
- MATERIAL STORAGE AND DELIVERY AREA (WM-1, WM-4)
- DRAINAGE FEATURES
- 50' DRAINAGE FEATURE BUFFER

- NOTES**
- GROSS (PROPERTY) AREA: 1,355.84 ACRES
  - MUP BOUNDARY ("DEVELOPED") AREA: 643± ACRES
  - FENCED AREA (INCLUDES PROJECT COLLECTOR SUBSTATION AND SWITCHYARD): 574.84± ACRES
  - GENERAL PLAN: SPECIFIC PLAN AREA
  - REGIONAL CATEGORY: MOUNTAIN EMPIRE SUBREGIONAL PLAN
  - TOPOGRAPHIC SOURCE: KIMLEY-HORN FIELD SURVEY COMPLETED 8/8/2018
  - THIS PLAN IS PROVIDED TO ALLOW FOR FULL AND ADEQUATE DISCRETIONARY REVIEW OF A PROPOSED DEVELOPMENT PROJECT. THE PROPERTY OWNER ACKNOWLEDGES THAT ACCEPTANCE OR APPROVAL OF THIS PLAN DOES NOT CONSTITUTE AN APPROVAL TO PERFORM ANY GRADING SHOWN HEREON, AND AGREES TO OBTAIN VALID GRADING PERMISSIONS BEFORE COMMENCING SUCH ACTIVITY.
  - ALL DISTURBED AREAS SHALL BE COVERED WITH ORGANIC MULCH OR APPROVED EQUAL TO REDUCE DUST, SEEDED, AND WATERED REGULARLY DURING CONSTRUCTION.
  - PILE DRIVING OPERATIONS: IN ORDER TO LIMIT TEMPORARY CONSTRUCTION NOISE, ALL PILE DRIVING OPERATIONS SHALL BE LOCATED A MINIMUM SETBACK OF 215 FEET FROM ANY OCCUPIED RESIDENTIAL PROPERTY LINE. IF PILE DRIVING OPERATIONS ARE TO OCCUR WITHIN 215 FEET, THEN THESE OPERATIONS SHALL BE LIMITED TO OPERATE 25% OF THE HOURLY OR DAILY DURATION.
  - EXISTING STORM DRAIN PIPES TO BE RESTORED OR REPLACED IF NECESSARY.

**SUMMARY OF LID/SITE DESIGN BMPs**

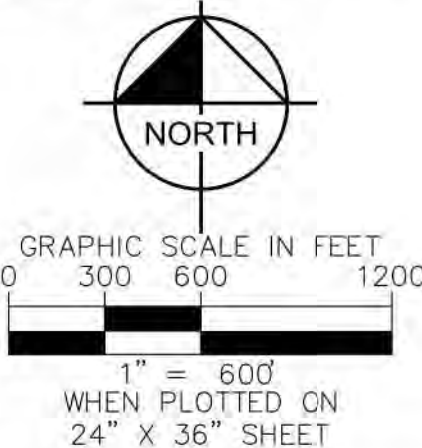
- PER SAN DIEGO COUNTY STORMWATER BEST MANAGEMENT PRACTICES REFERENCE GUIDE
- |       |                                                                               |
|-------|-------------------------------------------------------------------------------|
| 2.2.1 | CONSERVATION OF NATURAL DRAINAGES AND SIGNIFICANT VEGETATION                  |
| 2.2.2 | MINIMIZE DISTURBANCES TO NATURAL DRAINAGES                                    |
| 2.2.3 | MINIMIZE & DISCONNECT IMPERVIOUS SURFACES                                     |
| 2.2.4 | MINIMIZE SOIL COMPACTION                                                      |
| 2.2.5 | DRAIN RUNOFF FROM IMPERVIOUS SURFACES TO PERVIOUS AREAS                       |
| 4.2.3 | PERMEABLE PAVEMENT DESIGN AT SUBSTATION (GRAVEL YARD)                         |
| 3.1.3 | LID ONSITE ACCESS ROADS (OMITTED FOR CLARITY)                                 |
| 4.2.1 | PREVENTION OF ILLICIT DISCHARGES INTO THE MS4                                 |
| 4.2.5 | PROTECT TRASH STORAGE AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL |
| 4.3.1 | MAINTAIN NATURAL DRAINAGE PATHWAYS AND HYDROLOGIC FEATURES                    |
| 4.3.2 | CONSERVE NATURAL AREAS, SOILS, AND VEGETATION                                 |
| 4.3.3 | MINIMIZE IMPERVIOUS AREA                                                      |
| 4.3.4 | MINIMIZE SOIL COMPACTION                                                      |
| 4.3.5 | IMPERVIOUS AREA DISPERSION                                                    |
| 4.2.7 | LANDSCAPING WITH NATIVE OR DROUGHT TOLERANT SPECIES                           |

**SUMMARY OF SOURCE CONTROL BMPs**

- |       |                                                 |
|-------|-------------------------------------------------|
| SD-34 | PROPER DESIGN OF OUTDOOR MATERIAL STORAGE AREAS |
|-------|-------------------------------------------------|

**IMPERVIOUS SURFACES**

PILES	
PV TRACKERS	708 SF
INVERTER SKIDS	8 SF
BATTERY STORAGE CONTAINERS	75,124 SF
SUBSTATION (WITHIN FENCED AREA)	24,140 SF
SWITCHYARD (WITHIN FENCED AREA)	133,004 SF
TOTAL	232,984 SF



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3	COVER SHEET UPDATE	12/3/2019

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DRAWN BY	CK
REVIEWED BY	WC
APPROVED BY	DB

CLIENT SIGNATURE

**MAJOR USE PERMIT**




**BEST MANAGEMENT  
PRACTICES**

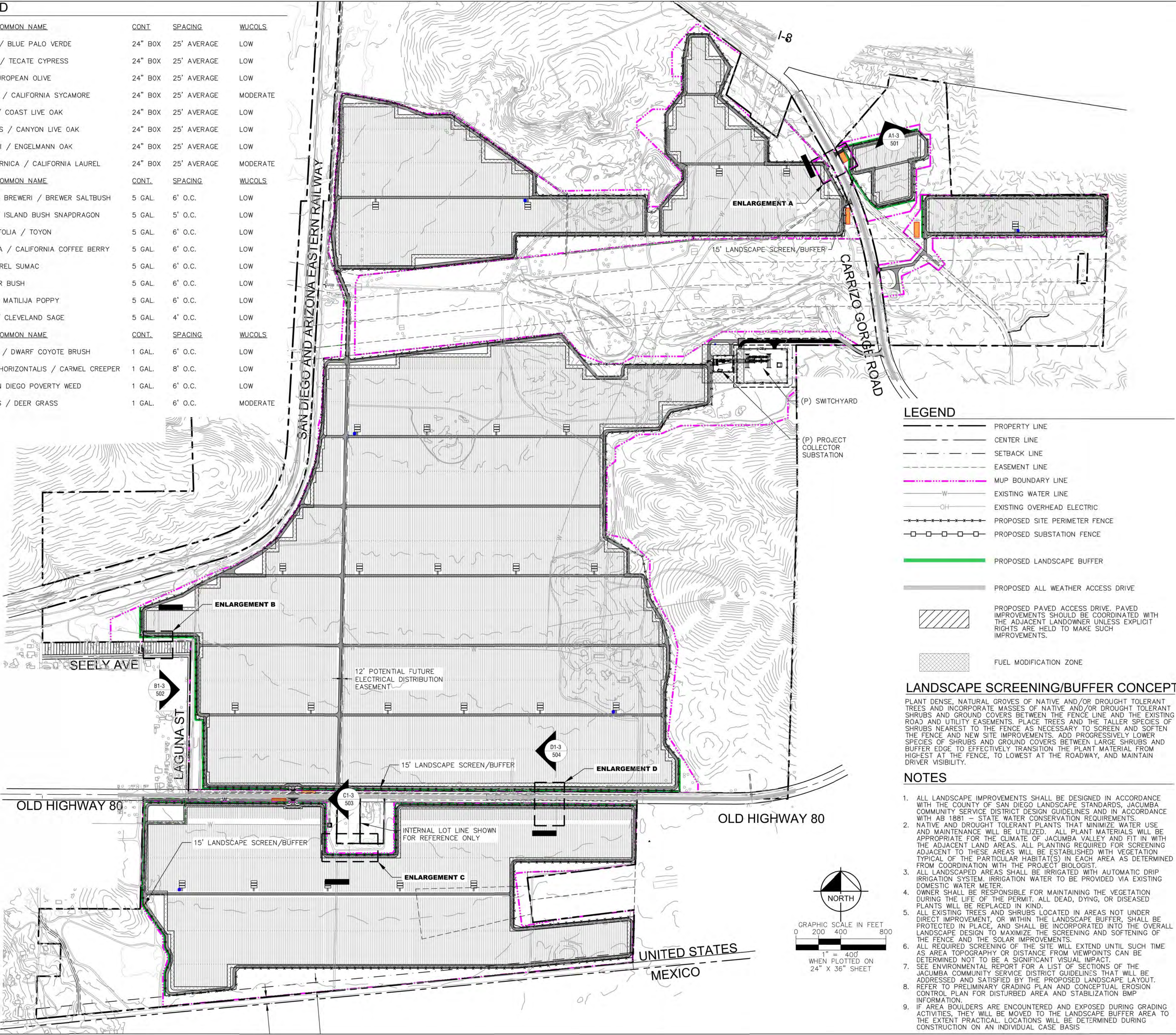
DRAWING  
NUMBER **400**

SHEET SIZE: ARCH D - 24" x 36"



PRELIMINARY PLANT LEGEND

TREES					
TREES	CODE	BOTANICAL NAME / COMMON NAME	CONT.	SPACING	WUCOLS
	CF	CERCIDIUM FLORIDUM / BLUE PALO VERDE	24" BOX	25' AVERAGE	LOW
	CT	CUPRESSUS FORBESII / TECATE CYPRESS	24" BOX	25' AVERAGE	LOW
	OE	OLEA EUROPAEA / EUROPEAN OLIVE	24" BOX	25' AVERAGE	LOW
	PR	PLATANUS RACEMOSA / CALIFORNIA SYCAMORE	24" BOX	25' AVERAGE	MODERATE
	QA	QUERCUS AGRIFOLIA / COAST LIVE OAK	24" BOX	25' AVERAGE	LOW
	QC	QUERCUS CHRYSOLEPIS / CANYON LIVE OAK	24" BOX	25' AVERAGE	LOW
	QE	QUERCUS ENGLEMANNI / ENGELMANN OAK	24" BOX	25' AVERAGE	LOW
	UC	UMBELLULARIA CALIFORNICA / CALIFORNIA LAUREL	24" BOX	25' AVERAGE	MODERATE
SHRUBS					
SHRUBS	CODE	BOTANICAL NAME / COMMON NAME	CONT.	SPACING	WUCOLS
	AB	ATRIPLEX LENTIFORMIS BREWERI / BREWER SALT BUSH	5 GAL.	6' O.C.	LOW
	GS	GALVEZIA SPECIOSA / ISLAND BUSH SNAPDRAGON	5 GAL.	5' O.C.	LOW
	HA	HETEROMELES ARBUTIFOLIA / TOYON	5 GAL.	6' O.C.	LOW
	RC	RHAMNUS CALIFORNICA / CALIFORNIA COFFEE BERRY	5 GAL.	6' O.C.	LOW
	RL	RHUS LAURINA / LAUREL SUMAC	5 GAL.	6' O.C.	LOW
	RO	RHUS OVATA / SUGAR BUSH	5 GAL.	6' O.C.	LOW
	RC2	ROMNEYA COULTERI / MATILIJIA POPPY	5 GAL.	6' O.C.	LOW
	SC	SALVIA CLEVELANDII / CLEVELAND SAGE	5 GAL.	4' O.C.	LOW
GROUND COVERS					
GROUND COVERS	CODE	BOTANICAL NAME / COMMON NAME	CONT.	SPACING	WUCOLS
	BP	BACCHARIS PILULARIS / DWARF COYOTE BRUSH	1 GAL.	6' O.C.	LOW
	CH	CEANOTHUS GRISEUS HORIZONTALIS / CARMEL CREEPER	1 GAL.	8' O.C.	LOW
	IH	IVA HAYESIANA / SAN DIEGO POVERTY WEED	1 GAL.	6' O.C.	LOW
	MR	MUHLENBERGIA RIGENS / DEER GRASS	1 GAL.	6' O.C.	MODERATE



**LEGEND**

- PROPERTY LINE
- CENTER LINE
- SETBACK LINE
- EASEMENT LINE
- MUP BOUNDARY LINE
- EXISTING WATER LINE
- EXISTING OVERHEAD ELECTRIC
- PROPOSED SITE PERIMETER FENCE
- PROPOSED SUBSTATION FENCE
- PROPOSED LANDSCAPE BUFFER
- PROPOSED ALL WEATHER ACCESS DRIVE
- PROPOSED PAVED ACCESS DRIVE, PAVED IMPROVEMENTS SHOULD BE COORDINATED WITH THE ADJACENT LANDOWNER UNLESS EXPLICIT RIGHTS ARE HELD TO MAKE SUCH IMPROVEMENTS.
- FUEL MODIFICATION ZONE

**LANDSCAPE SCREENING/BUFFER CONCEPT**

PLANT DENSE, NATURAL GROVES OF NATIVE AND/OR DROUGHT TOLERANT TREES AND INCORPORATE MASSES OF NATIVE AND/OR DROUGHT TOLERANT SHRUBS AND GROUND COVERS BETWEEN THE FENCE LINE AND THE EXISTING ROAD AND LANDLIFT EASEMENTS. PLACE TREES AND THE TALLER SPECIES OF SHRUBS NEAREST TO THE FENCE AS NECESSARY TO SCREEN AND SOFTEN THE FENCE AND NEW SITE IMPROVEMENTS. ADD PROGRESSIVELY LOWER SPECIES OF SHRUBS AND GROUND COVERS BETWEEN LARGE SHRUBS AND BUFFER EDGE TO EFFECTIVELY TRANSITION THE PLANT MATERIAL FROM HIGHEST AT THE FENCE, TO LOWEST AT THE ROADWAY, AND MAINTAIN DRIVER VISIBILITY.

- NOTES**
- ALL LANDSCAPE IMPROVEMENTS SHALL BE DESIGNED IN ACCORDANCE WITH THE COUNTY OF SAN DIEGO LANDSCAPE STANDARDS, JACUMBA COMMUNITY SERVICE DISTRICT DESIGN GUIDELINES AND IN ACCORDANCE WITH AB 1881 - STATE WATER CONSERVATION REQUIREMENTS.
  - NATIVE AND DROUGHT TOLERANT PLANTS THAT MINIMIZE WATER USE AND MAINTENANCE WILL BE UTILIZED. ALL PLANT MATERIALS WILL BE APPROPRIATE FOR THE CLIMATE OF JACUMBA VALLEY AND FIT IN WITH THE ADJACENT LAND AREAS. ALL PLANTING REQUIRED FOR SCREENING ADJACENT TO THESE AREAS WILL BE ESTABLISHED WITH VEGETATION TYPICAL OF THE PARTICULAR HABITAT(S) IN EACH AREA AS DETERMINED FROM COORDINATION WITH THE PROJECT BIOLOGIST.
  - ALL LANDSCAPED AREAS SHALL BE IRRIGATED WITH AUTOMATIC DRIP IRRIGATION SYSTEM. IRRIGATION WATER TO BE PROVIDED VIA EXISTING DOMESTIC WATER METER.
  - OWNER SHALL BE RESPONSIBLE FOR MAINTAINING THE VEGETATION DURING THE LIFE OF THE PERMIT. ALL DEAD, DYING, OR DISEASED PLANTS WILL BE REPLACED IN KIND.
  - ALL EXISTING TREES AND SHRUBS LOCATED IN AREAS NOT UNDER DIRECT IMPROVEMENT, OR WITHIN THE LANDSCAPE BUFFER, SHALL BE PROTECTED IN PLACE, AND SHALL BE INCORPORATED INTO THE OVERALL LANDSCAPE DESIGN TO MAXIMIZE THE SCREENING AND SOFTENING OF THE FENCE AND THE SOLAR IMPROVEMENTS.
  - ALL REQUIRED SCREENING OF THE SITE WILL EXTEND UNTIL SUCH TIME AS AREA TOPOGRAPHY OR DISTANCE FROM VIEWPOINTS CAN BE DETERMINED NOT TO BE A SIGNIFICANT VISUAL IMPACT.
  - SEE ENVIRONMENTAL REPORT FOR A LIST OF SECTIONS OF THE JACUMBA COMMUNITY SERVICE DISTRICT GUIDELINES THAT WILL BE ADDRESSED AND SATISFIED BY THE PROPOSED LANDSCAPE LAYOUT.
  - REFER TO PRELIMINARY GRADING PLAN AND CONCEPTUAL EROSION CONTROL PLAN FOR DISTURBED AREA AND STABILIZATION BMP INFORMATION.
  - IF AREA BOULDERS ARE ENCOUNTERED AND EXPOSED DURING GRADING ACTIVITIES, THEY WILL BE MOVED TO THE LANDSCAPE BUFFER AREA TO THE EXTENT PRACTICAL. LOCATIONS WILL BE DETERMINED DURING CONSTRUCTION ON AN INDIVIDUAL CASE BASIS.



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**SITE INFORMATION**  
JVR ENERGY PARK

**PROJECT MANAGER**  
GEORGE GUNNOE  
832.303.2477

**PROJECT LANDSCAPE ARCHITECT**  
MATTHEW MORGAN  
619.272.7192

NO.	ISSUE	DATE
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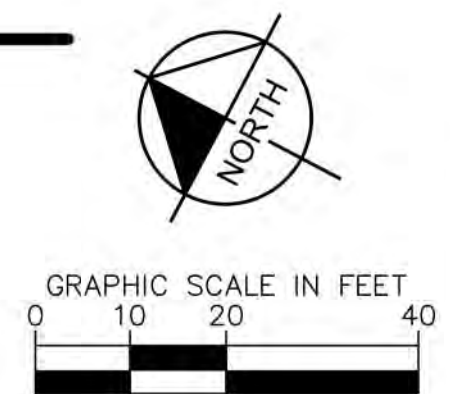
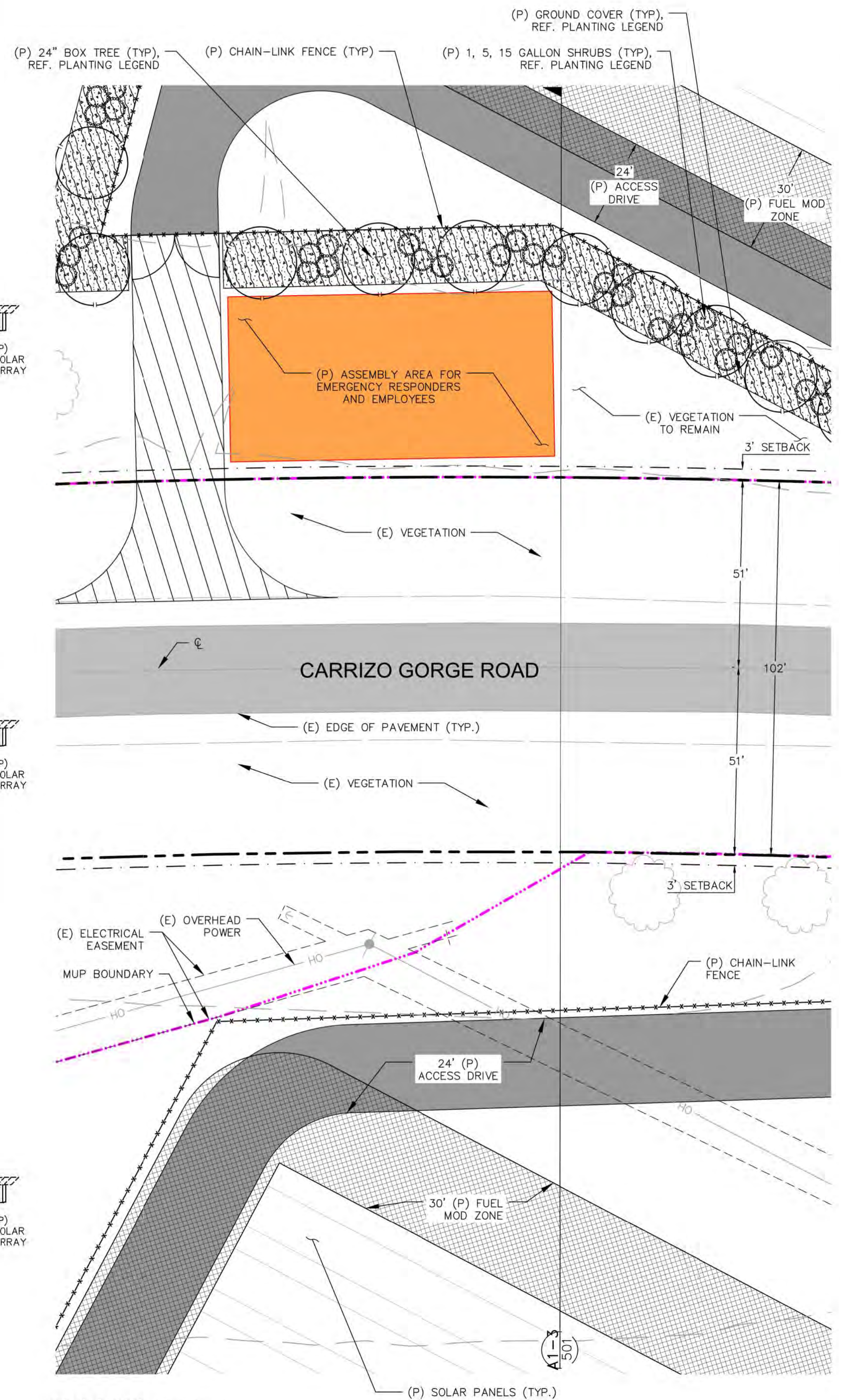
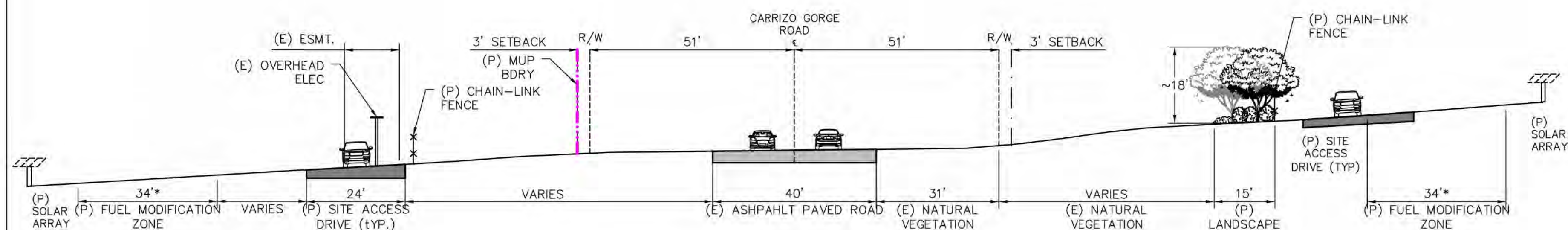
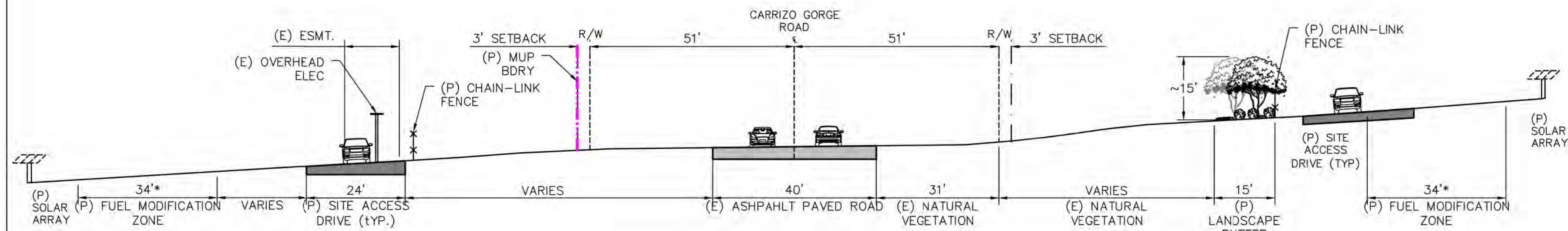
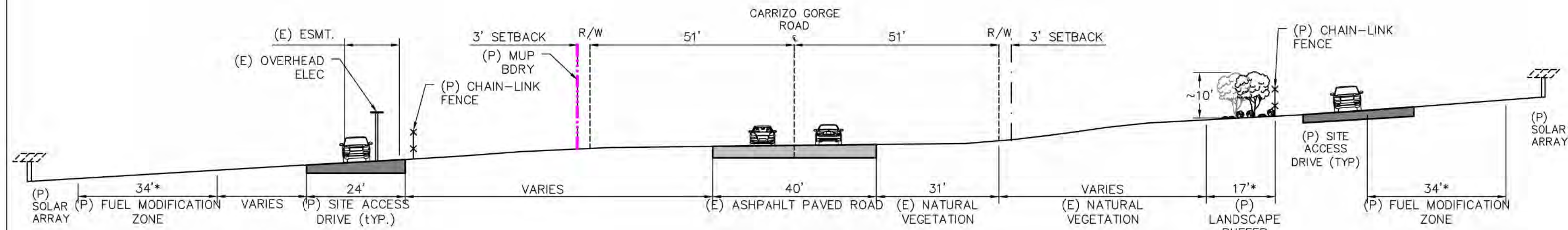
PROJECT NUMBER KHA-194083001  
DRAWN BY CF  
REVIEWED BY CF  
APPROVED BY MM

CLIENT SIGNATURE

**MAJOR USE PERMIT**  
**OVERALL**  
**CONCEPTUAL**  
**LANDSCAPE PLAN**

DRAWING NUMBER 500  
SHEET SIZE: ARCH D - 24" x 36"





NO.	ISSUE	DATE
1	MUP - 1ST SUBMITTAL	11/01/2018
2	MUP - 2ND SUBMITTAL	10/17/2019
3	COVER SHEET UPDATE	12/3/2019

PROJECT NUMBER	KHA-194083001
DRAWN BY	CF
REVIEWED BY	CF
APPROVED BY	MM

CLIENT SIGNATURE

MAJOR USE PERMIT  
CONCEPTUAL  
LANDSCAPE  
ENLARGEMENT A AND  
SECTIONS

DRAWING  
NUMBER 501

SHEET SIZE: ARCH D - 24" x 36"



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SITE INFORMATION  
JVR ENERGY PARK

PROJECT MANAGER  
GEORGE GUNNOE  
832.303.2477

PROJECT LANDSCAPE ARCHITECT  
MATTHEW MORGAN  
619.272.7192

NO.	ISSUE	DATE
1	MUP - 1ST SUBMITTAL	11/01/2018
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3	COVER SHEET UPDATE	12/3/2019

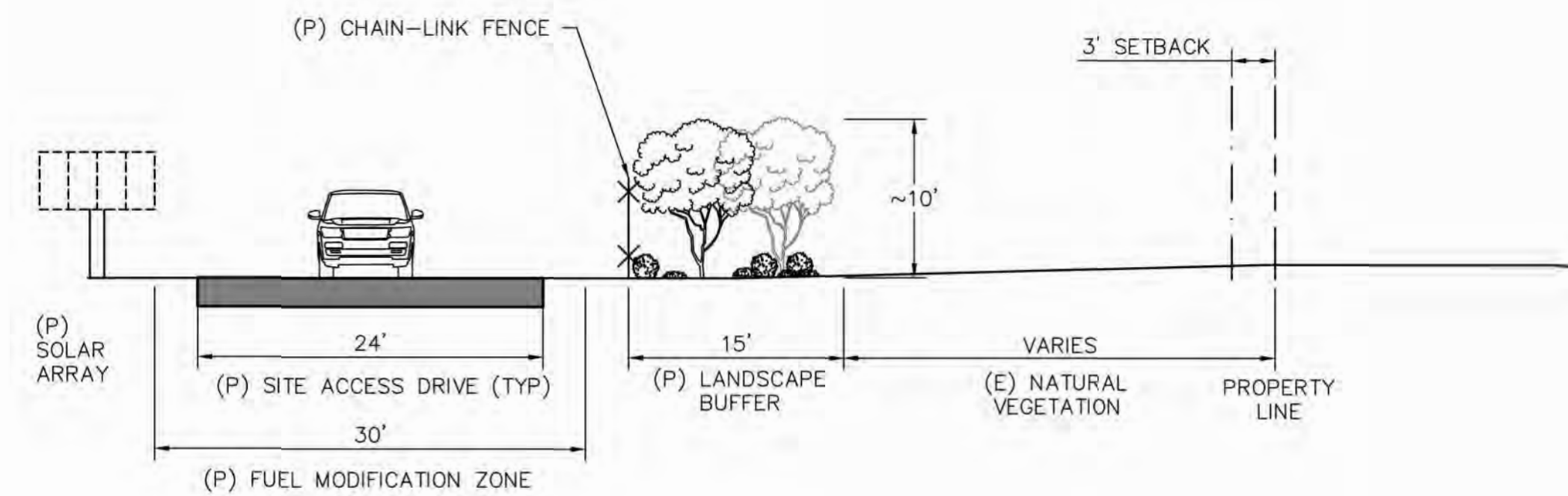
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DRAWN BY CF  
REVIEWED BY CF  
APPROVED BY MM

CLIENT SIGNATURE

MAJOR USE PERMIT  
CONCEPTUAL  
LANDSCAPE  
ENLARGEMENT B AND  
SECTIONS

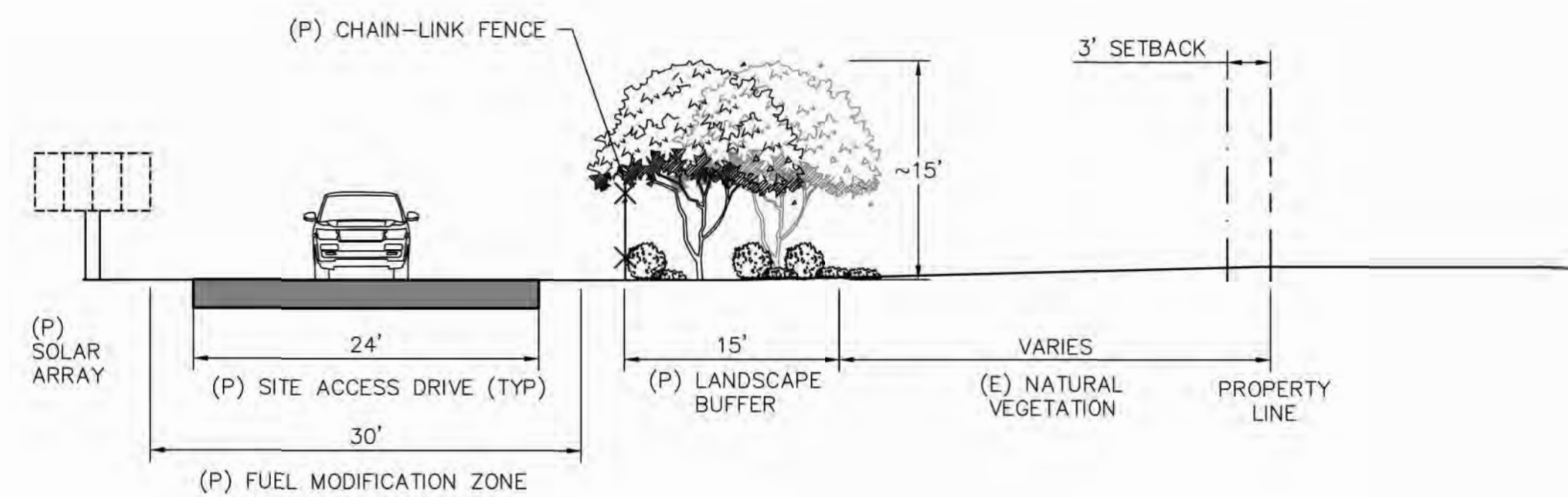
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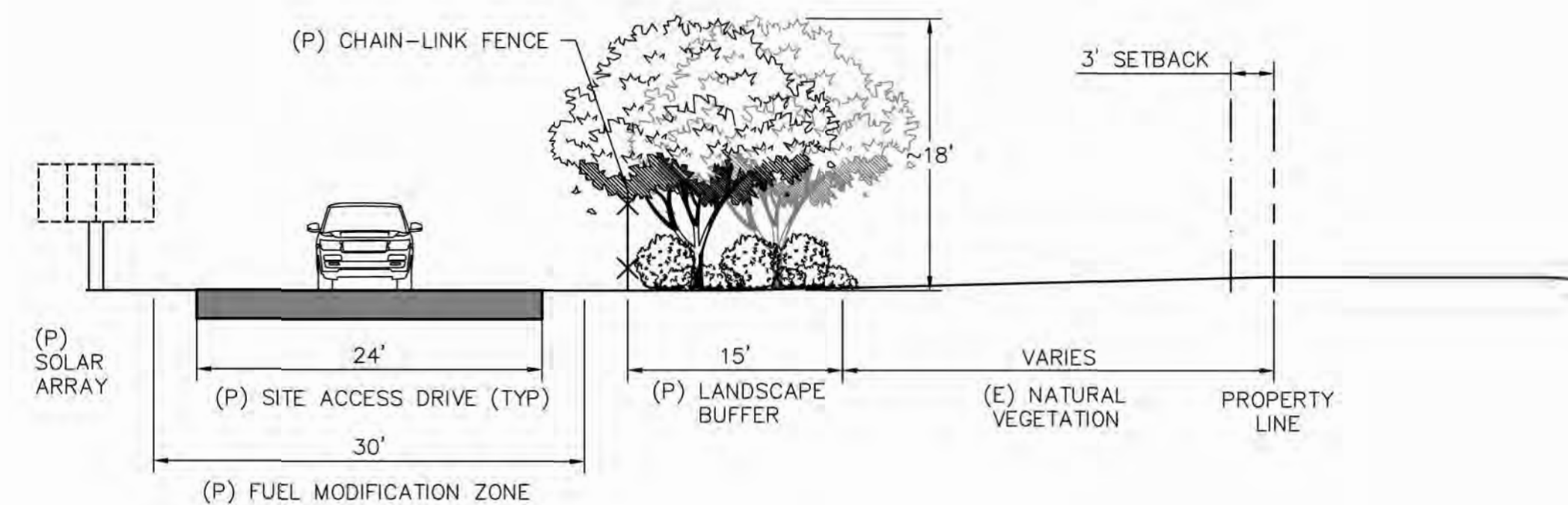
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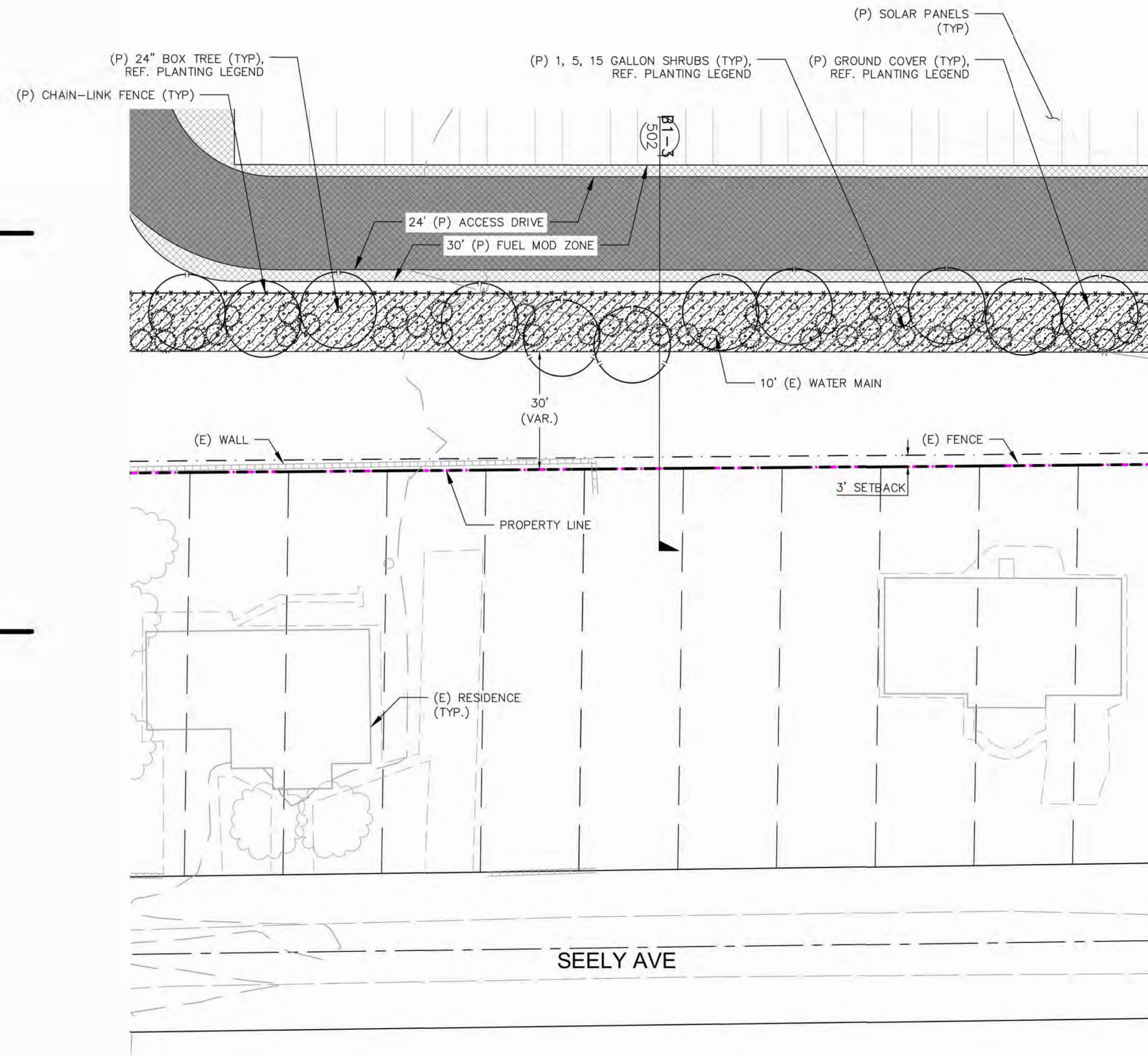
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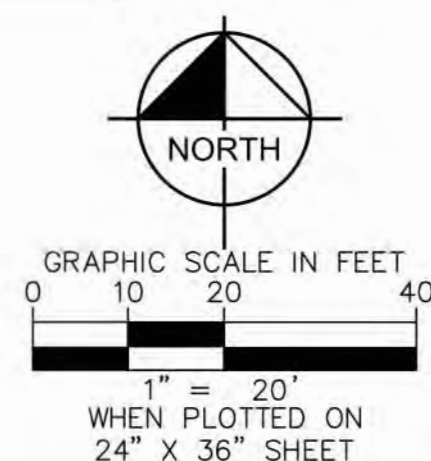
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ENLARGEMENT B

SCALE: 1" = 20'

\*LANDSCAPE BUFFER WILL BE IRRIGATED  
\*REFER TO SHEET 400 FOR PLANT SCHEDULE, LEGEND, AND NOTES



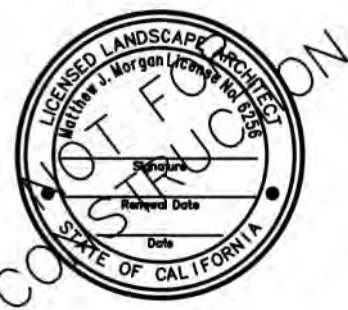


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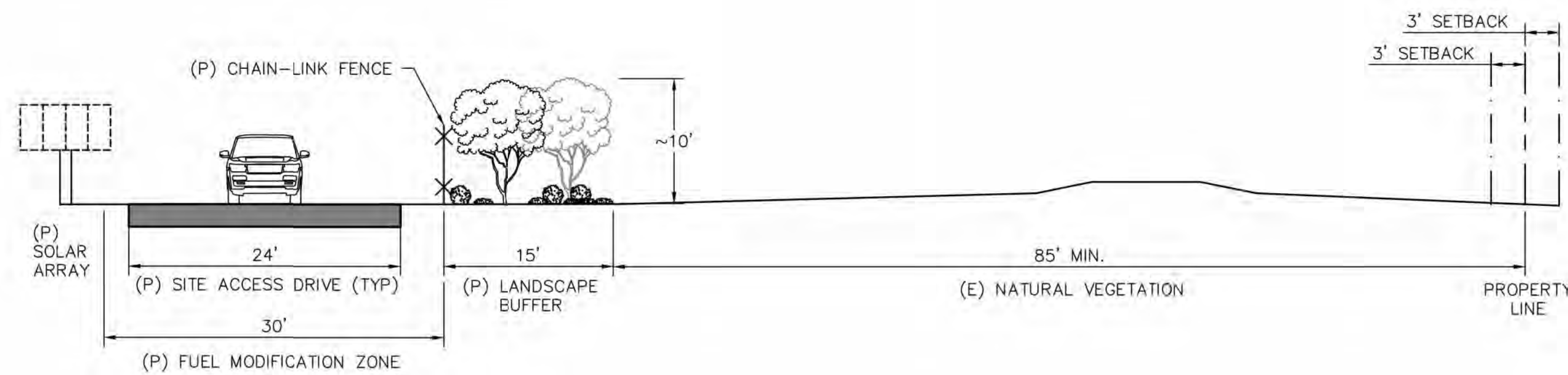
PROJECT NUMBER KHA-194083001  
DRAWN BY CF  
REVIEWED BY CF  
APPROVED BY MM

CLIENT SIGNATURE

MAJOR USE PERMIT  
CONCEPTUAL  
LANDSCAPE  
ENLARGEMENT C AND  
SECTIONS

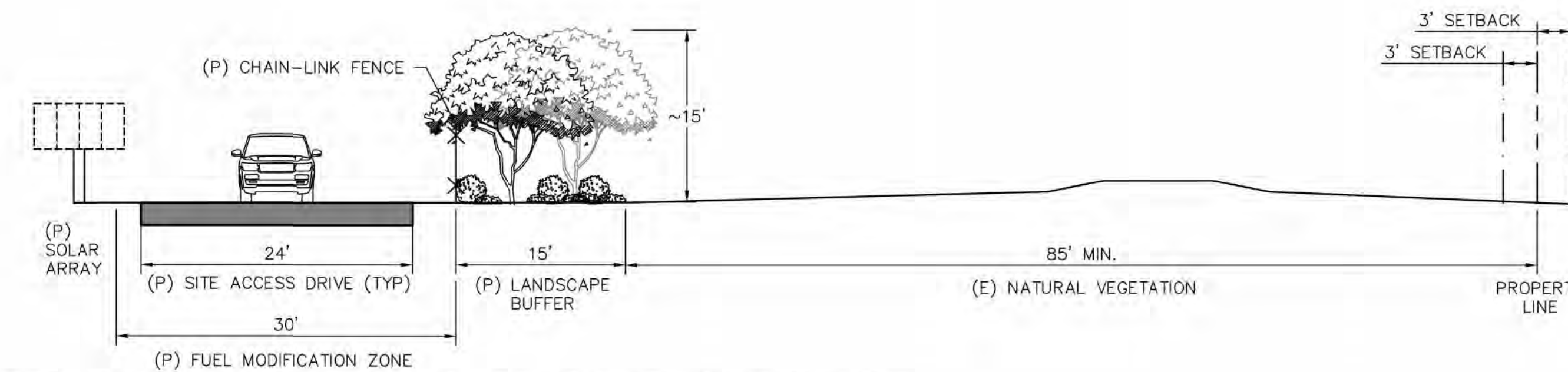
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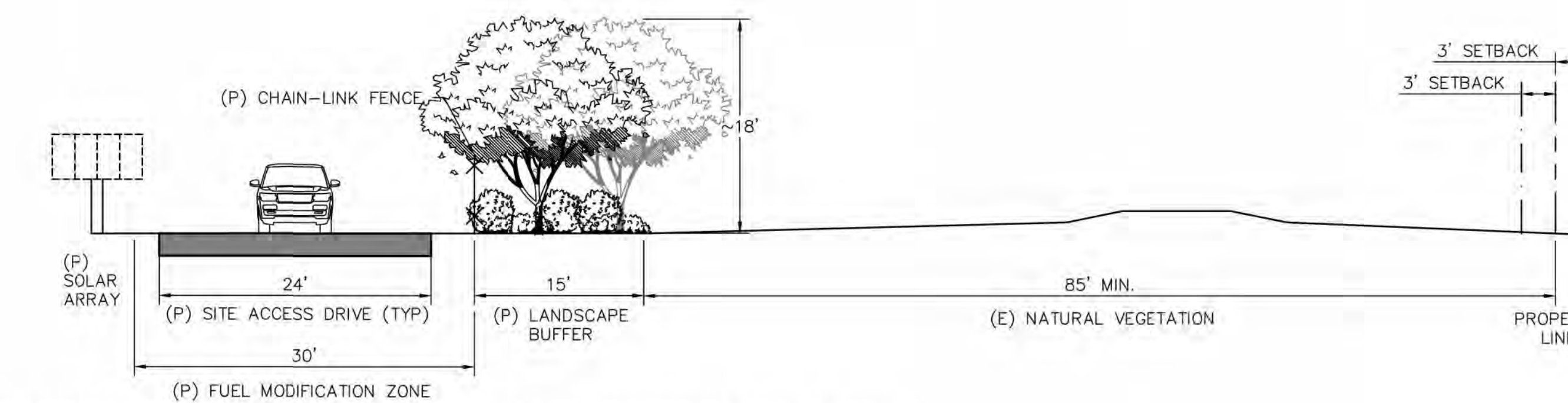
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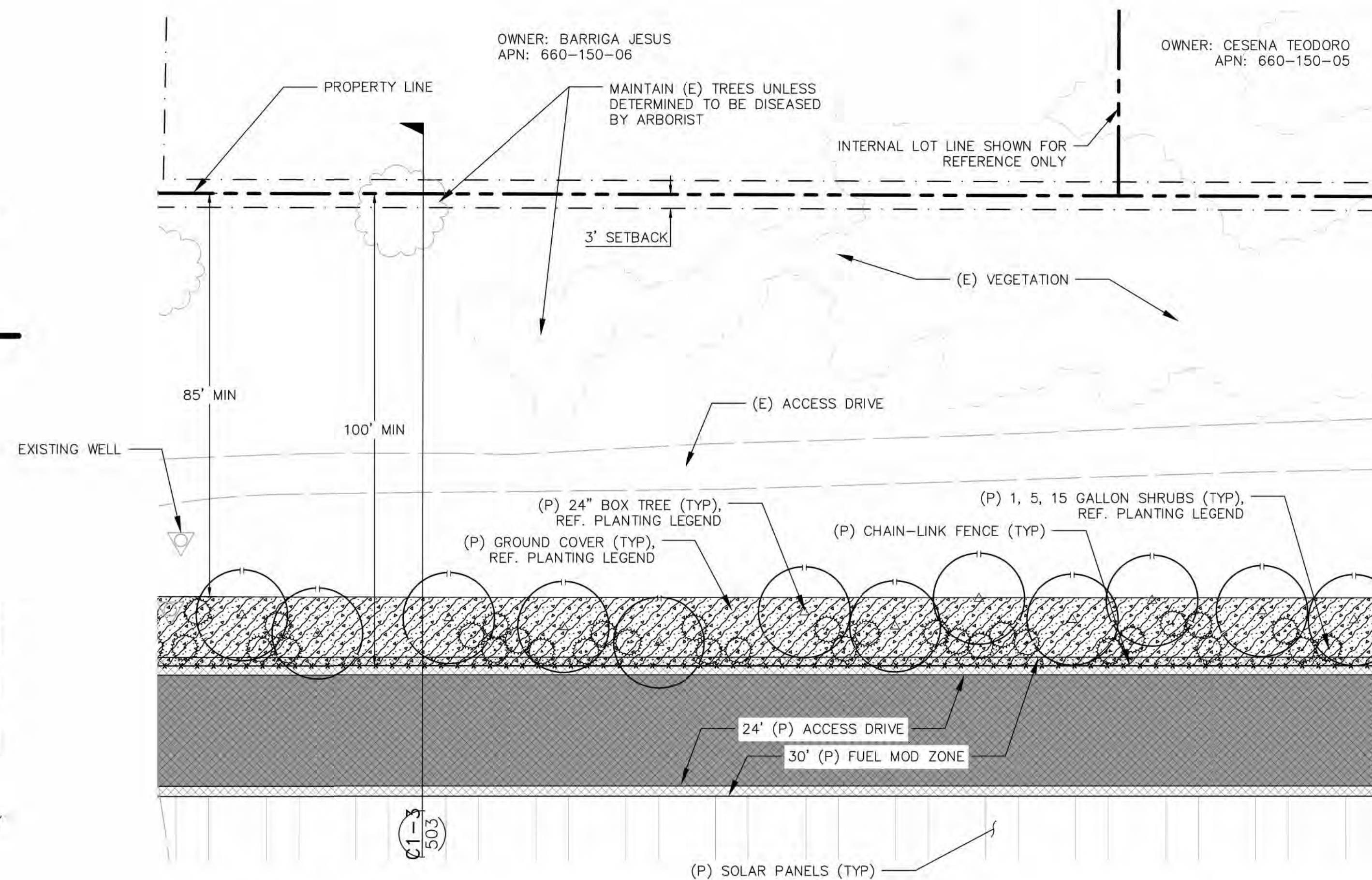
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NOT TO SCALE



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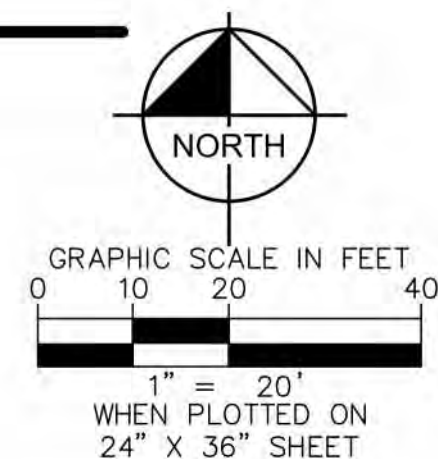
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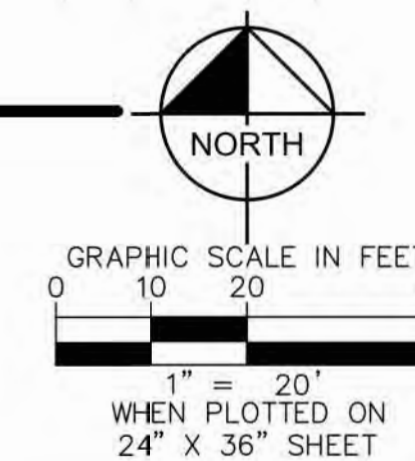
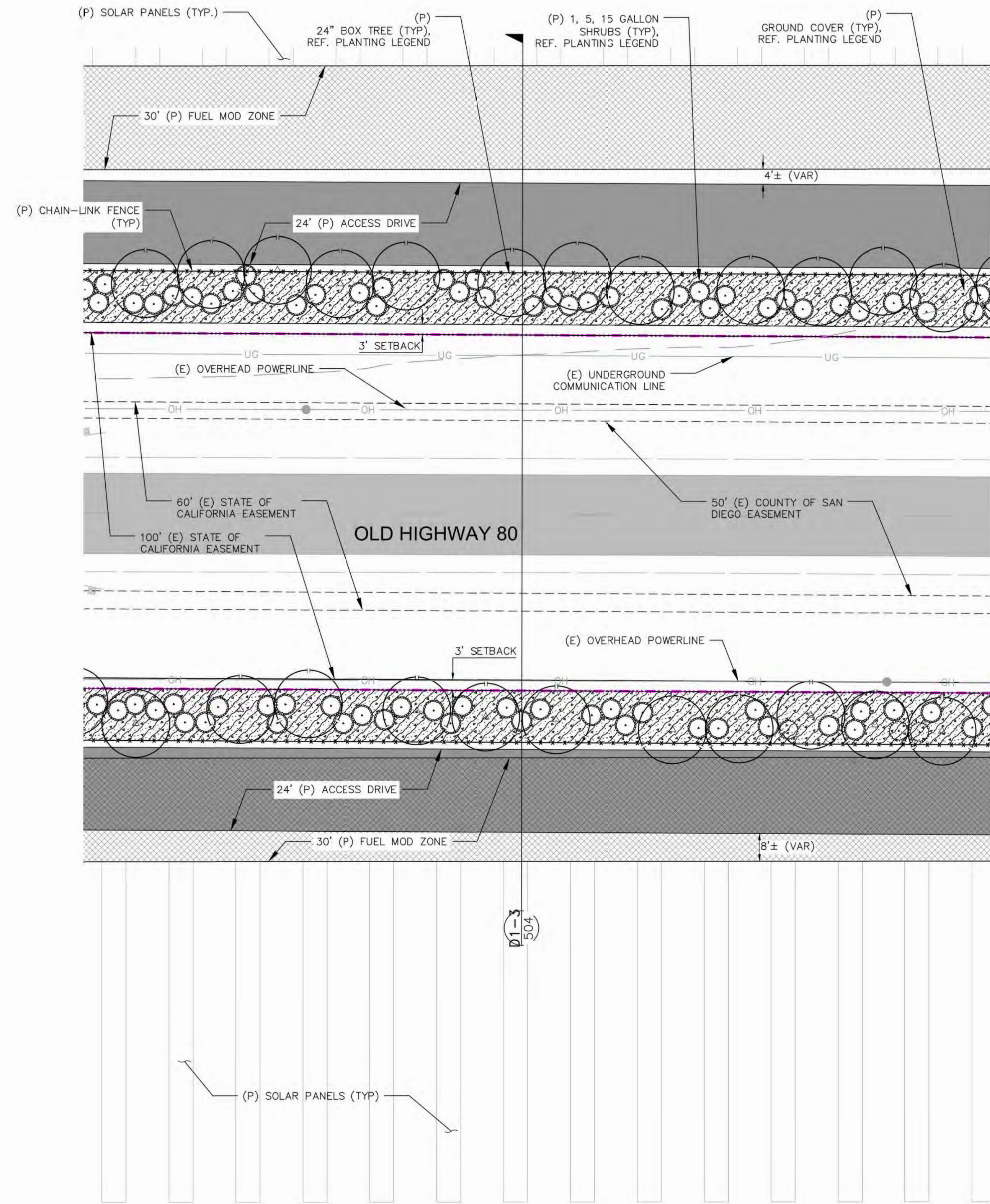
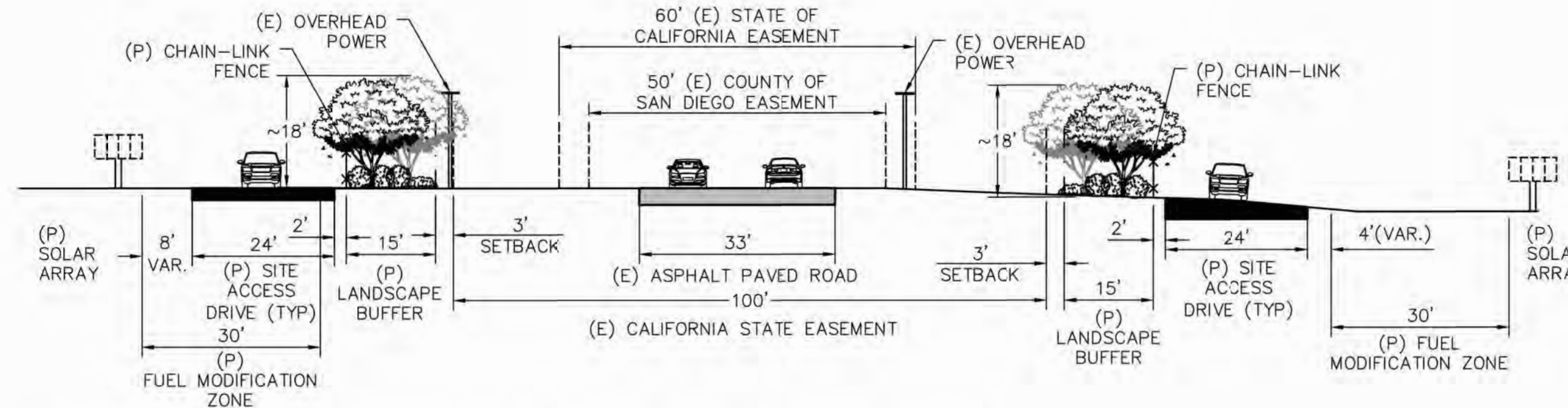
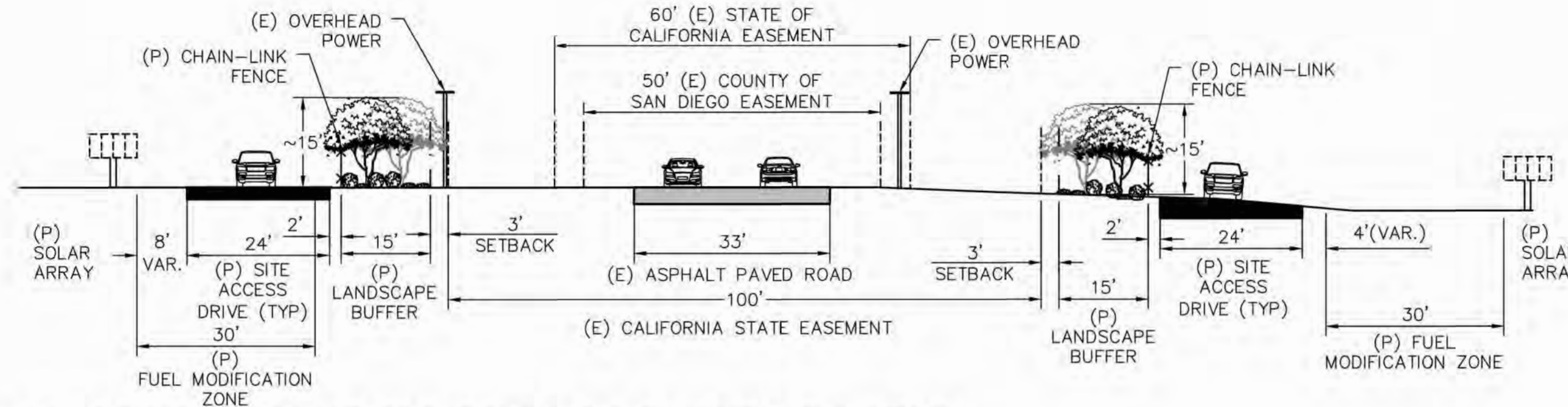
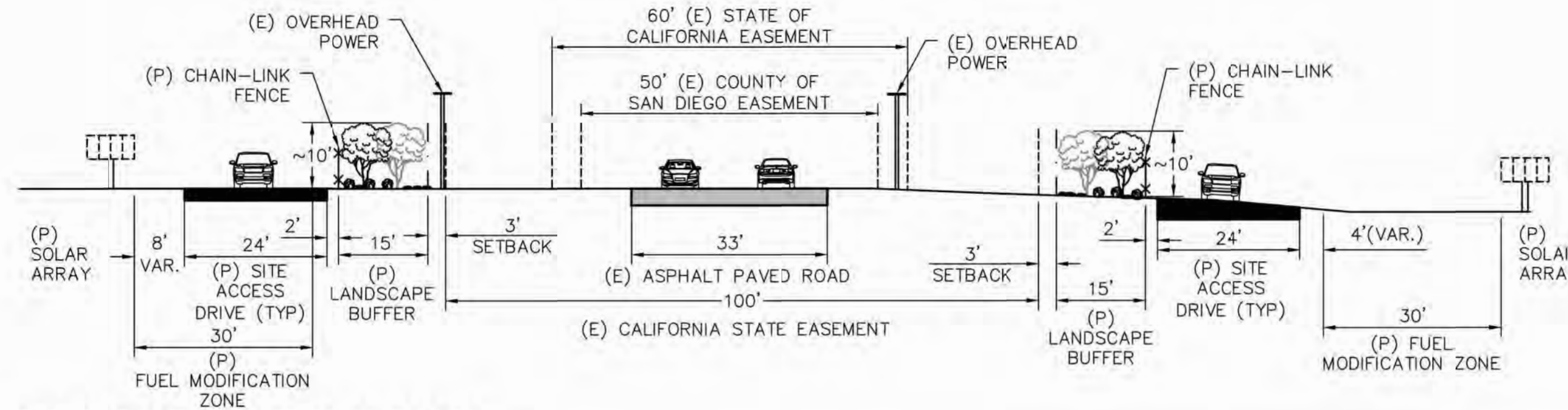
ENLARGEMENT C

SCALE: 1" = 20'

\*LANDSCAPE BUFFER WILL BE IRRIGATED  
\*REFER TO SHEET 400 FOR PLANT SCHEDULE, LEGEND, AND NOTES







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### SITE INFORMATION

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3	COVER SHEET UPDATE	12/3/2019

PROJECT NUMBER KHA-194083001

DRAWN BY CF

REVIEWED BY CF

APPROVED BY MM

CLIENT SIGNATURE

## MAJOR USE PERMIT CONCEPTUAL LANDSCAPE ENLARGEMENT D AND SECTIONS

DRAWING NUMBER 504

SHEET SIZE: ARCH D - 24" x 36"



## APPENDIX B

### PROJECT DESCRIPTION



## **JVR Energy Park – Summarized Project Description**

### **Project Description**

The Project consists of a Solar Facility that would be located on private land in southeastern San Diego County. The Proposed Project would be located to the south of Interstate (I) 8, immediately east of the community of Jacumba Hot Springs, and immediately north of the U.S./Mexico international border.

### **Solar Facility**

The Proposed Project is a solar energy generation and storage facility that would produce a rated capacity of up to 90 MW of AC generating capacity. The power produced by the proposed solar facility would be delivered to an existing SDG&E 138 KV transmission line that would transect the Project site. The Proposed Project would include the following primary components:

#### **PV Modules**

PV modules generate electricity by safely converting the energy of the sun's photons into DC electrons. The Proposed Project would include approximately 300,000 PV modules, which would be installed in rows (arrays). The modules would be mounted on single-axis trackers oriented in the north-south direction. The PV modules would cover the majority of the area of the proposed facility. The PV modules would be electrically connected to the grounding system of the facility in accordance with local codes and regulations.

#### **PV Module Support Structures**

The solar PV modules would be mounted on 12-foot-high support structures that allows them to be properly positioned for maximum capture of the sun's solar energy. Each row of PV modules (module arrays) would be a single-axis tracker system that would be oriented along a north-to-south axis.

#### **Electrical (DC) Underground Collection System**

PV modules would be electrically connected to adjacent modules to form module "strings" using wiring attached to the support structures. PV module strings would be electrically connected to each other via underground wiring. String wiring terminates at the PV module array combiner boxes, which are lockable electrical boxes mounted on or near an array's support structure. Output wires from combiner boxes would be routed along an underground trench system approximately 3-4 feet deep and 1-3 feet wide, including trench and disturbed area, to the inverters and transformer platforms.

#### **Inverter/Transformer Platforms**



Inverters are a key component of solar PV power-generating facilities because they convert the DC generated by the PV modules into AC that is compatible for use with the transmission network. The medium-voltage transformers step up the AC voltage to collection-level voltage (34.5 kV). The inverters and medium-voltage transformers would be installed at 25 locations, adjacent to the battery storage containers throughout the solar facility. At each location, two inverters and one transformer would be installed on a metal platform, referred to as a skid. The skids would be mounted above the 100-year flood elevations on a set of piles driven into the ground and covered by an earth or gravel mound that is built up to the top of the skid to provide a working clearance to all access points on the skid.

### Underground Medium AC Voltage Collection System

At each of the 25 inverter/transformer platform locations, the 34.5 kVA transformer would be connected to an underground medium AC voltage collection system that would carry the power to the on-site collector substation.

### Collector Substation

The Proposed Project includes a collector substation that would be located near the center of the eastern side of the Project site. The purpose of the substation is to collect the power from the AC collector system and convert the voltage from 34.5 kV to 138 kV, as well as to be able to isolate equipment in the event of an electrical short-circuit or for maintenance. A 138 kV dead-end structure that would have a maximum height of 65 feet would also be placed within the substation area. This structure would have either an A-frame or H-frame design and would be constructed of steel. The dead-end structure is where the power output from the collector substation is delivered to the gen-tie line that goes to the switchyard. One Control Enclosure would also be provided for the Supervisory Control and Data Acquisition (SCADA) system.

### Switchyard

The Proposed Project would include a 138 kV switchyard located adjacent to the proposed collector substation. Within this area would be 8-foot high security fence (445 feet by 300 feet) surrounded by a 5-foot shoulder for grounding protection inside the fence. Drainage facilities would be installed to control runoff and protect the switchyard from erosion. The 138 kV insulated electrical bus, steel support structures and foundations would be installed to support electrical equipment. One control enclosure would be used for relays, metering, SCADA information and security and communication equipment. A gas generator may also be installed for use as backup power to the station lights and station service power transformers.

### 138 kV Transmission Line Tie-in

The proposed switchyard would be connected into the existing 138 kV SDG&E Boulevard – East County transmission line. The existing transmission line is overhead between the existing SDG&E



Boulevard substation and the vicinity of the proposed switchyard. The existing transmission line is underground from vicinity of the switchyard eastward to the existing SDG&E East County (ECO) substation (within Carrizo Gorge Road and Old Highway 80 right-of-way). The proposed overhead transmission line tie-in would require two approximately 550-foot long spans of wire and up to four steel transmission poles. Each pole would have up to six cross arms and a pole top to accommodate a fiber optic ground wire for lightning protection and critical communication.

### Battery Energy Storage System

A battery energy storage system with a maximum capacity of up to 90 MW(180 MWh) is proposed to be located throughout the solar facility. This energy storage system would be comprised of battery storage containers located adjacent to the inverter/transformer platforms (up to 3 containers at each location for a total of 75 containers on site). The battery system would be charged from the energy from the PV modules, which is a DC connected system.

### Fiber-Optic Line

To provide for communication with the SCADA system, a fiber-optic cable would be placed underground to connect the substation to the switchyard. Utility interconnection regulations require the installation of a second separate, redundant fiber-optic cable. The redundant fiber-optic cable would also be installed within the Project development footprint and the proposed switchyard boundary.

### Meteorological Weather Stations

The Proposed Project includes five meteorological weather stations, which would be installed throughout the solar facility. The weather stations would be used to record weather to measure the performance of the solar facility. Four of the meteorological stations would be installed at a place closest to the inverter/transformer platforms to minimize cable runs. The fifth station would be located adjacent to the collector substation.

### Site Access Driveways

The Project proposes five access points. The site access driveways would be 24-feet wide, would be all-weather and would support a 50,000-pound load bearing capacity as required by County Fire. In addition, the switchyard would have a dedicated access from an existing access road on Carrizo Gorge Road that would be improved to a 30-foot-wide paved road. Each site entrance would feature a manual swing gate, and a sign with a lighted directory map and contact information. All entrance gates would feature a 'Knox Box' for emergency access.

### Internal Access

The Proposed Project would include dual-purpose internal fire response access and service access. The perimeter internal access within the fenced solar facility would be constructed to a minimum



improved width of 24 feet. The interior access would be constructed to a minimum improved width of 20 feet. All internal access would be designed to provide a minimum inner turning radius of 28 feet, would be graded and maintained to support the imposed loads of fire apparatus (not less than 75,000 pounds), and would be designed and maintained to provide all-weather driving capabilities. The internal access would allow for two-way access of fire apparatus throughout the solar facility in order to access all of the inverter/transformer pads.

### Improvements within SDG&E Transmission Corridor

The SDG&E Transmission Corridor is approximately 600-feet wide and is comprised of three easements. The Proposed Project would include minor improvements within the SDG&E Transmission Corridor.

### Security Fencing, Lighting and Signage

The solar facility would be fenced along the entire facility boundary for security. The fencing would meet National Electrical Safety Code requirements for protective arrangements in electric supply stations. Fencing would be 7 feet in height total, with a 6-foot-high chain-link perimeter fence and 1 foot of three strands of barbed wire along the top. Signage in Spanish and English for electrical safety would be placed along the perimeter of the solar facility on the fence, warning the public of the high voltage and the need to keep out. Motion censored lights would be installed at all site access driveway entrances and would only be used if motion is detected.

### Water Tanks (Fire Protection)

The Project would have six 10,000-gallon water tanks with fire department connections available. One tank would be provided at each entrance to a site section and one tank would be provided near the substation. Water would be stored in aboveground tanks complying with the San Diego California Fire Agency requirements and with National Fire Protection Act 22, Private Fire Protection Water Tanks.

### Fuel Modification Zones

A minimum 30 feet wide fuel modification zone (FMZ) would be provided along the perimeter of the solar facility between the PV modules and the off-site wildland fuels. This area would include contiguous fuel modification from the perimeter fence inward and would include the perimeter fire access road. Additionally, a minimum 100-foot-wide FMZ would surround the proposed collector substation and switchyard.

### Landscaping

Landscaping would be installed in the following locations to provide visual screening of the PV modules and other Project components:



- Along the proposed fenceline on the north and south sides of Old Highway 80
- Along the western boundary of the proposed solar facility adjacent to residential areas (along Seely Avenue, Laguna Street, and the entire western boundary south of Old Highway 80)

The proposed landscaping buffer would be approximately 15-feet wide and would be located outside of the perimeter fencing. The proposed landscaping would include native and/or drought tolerant trees shrubs, and ground covers. All landscaping would be regularly irrigated with an automatic drip irrigation system supplied by an existing domestic water meter.

## **Construction**

Construction of the Project is anticipated to occur over approximately 13 months and would consist of several activities as described below.

### **Clearing and Grubbing**

Construction of the Project would involve clearing and grubbing of the existing vegetation within the development footprint. Grading would be required throughout the development footprint, and is expected to be balanced on site.

### **Installation of Underground Medium Voltage Collection System**

Trenching is required for installation of the AC medium voltage underground electrical collection system and telecommunication lines. Trenches would be approximately 3 to 4-feet-deep and 2 to 3 feet wide. The trenches would be filled with base materials above and below the conductors and communication lines to ensure adequate thermal conductivity and electrical installation characteristics. The topsoil from trench excavation would be set aside the trench before the trench is backfilled and would ultimately comprise the uppermost layer of the trench. Excess material from the foundation and trench excavations would be used for site leveling. Where possible, trenching would be located beneath driveways and roads to minimize disturbance.

### **PV System Installation**

The PV system installation includes foundations, racking, module assembly, and DC wiring as follows:

- Foundations: The foundations are H piles that would be driven into the soil using a pile/vibratory/rotary driving technique like that used to install freeway guardrails. The pile foundations would be driven to approximate depths of 10 to 15 feet deep depending upon required embedment depth. The spacing of the piles is determined by the ultimate ground coverage ratio that are surveyed and pinned to exact location.



- Racking: The racking is assembled on top of the H piles manually and tightened and adjusted with handheld electric ratchet guns.
- Module Assembly: The modules are manually lifted and adjusted on top of the racking.
- Above Ground DC Wiring: The modules are strung together and manually connected with twist connectors.

### Installation of Battery Energy Storage System

The battery energy storage installation would be completed in four phases:

- Foundation: The foundations are driven H piles driven to the embedment depth required by the manufacturer.
- Containers: The storage containers and integration systems are delivered to the site by truck and are lifted off the truck by a forklift or crane.
- Battery Placement: The battery packs are delivered separately from the containers and integrated into the system onsite.
- Wiring and Commissioning: The fully integrated container is then wired into the inverter/transformer platforms.

### Construction Personnel, Traffic, and Equipment

It is conservatively estimated that during the peak construction of the Proposed Project, up to 500 workers would be on the Project site. It is anticipated that workers would arrive and depart between 6:00 a.m. and 7:00 p.m. Monday through Saturday. It is also anticipated that 30 heavy construction and/or delivery vehicles would travel daily to/from the Project site during construction. The Proposed Project construction would result in a temporary increase in traffic on Carrizo Gorge Road and Old Highway 80. No road closures are anticipated during Project construction.

### **Decommissioning**

This section describes the dismantling of the solar facility, recycling, and removal surety. All Project components would be decommissioned except the switchyard and connection to the SDG&E transmission line which would be owned and operated by SDG&E. All decommissioning would occur within the development footprint and disturbance limits of the Proposed Project.

Given the lifespan of the solar facility equipment (35 years), a conservative 35-year life span for the Proposed Project is assumed at which time it will be decommissioned as described below. The decommissioning of the solar facility would last approximately 10 months. The use of the land would have to return to a use that is consistent with the County of San Diego Zoning Ordinance at



the time of dismantling. If a new use is not proposed, the decommissioning would include removal of all ground-level components and preparing the site with a compatible hydroseed mix.

The aboveground (detachable) equipment and structures would be disassembled and removed from the site. Detachable elements include all PV modules and support structures, battery storage units, inverters, transformers, and associated controllers. Removal of the fencing, substation, and aboveground conductors on the transmission facilities would also be implemented. Most of these materials can be recycled or reclaimed. Remaining materials that cannot be recycled or reclaimed would be limited and would be contained and disposed of offsite, consistent with the County of San Diego Construction Demolition and Debris Management Plan (County Ordinance 68.508-68.518). Underground collector and transmission components would be abandoned in place and cut off down to three feet below grade.

## **Operation**

The solar facility's control system includes a SCADA system and an overall plant control system (PCS). Operation of the solar facility would be monitored through the SCADA system, as described below. The SCADA system is required for the purpose of communicating and monitoring the solar facility from a remote location. The SCADA system connects the solar facility to the plant operator and the Independent System Operator (ISO). The SCADA system would be monitored remotely, and no on-site operations and maintenance facilities or personnel would be necessary. The SCADA system would be located in two Control Enclosures. One enclosure would be located in the on-site collection substation area and the other enclosure would be located within the switchyard area. The SCADA system would be comprised of rack-mounted servers and software to allow for the continuous monitoring and control of PV inverters, solar trackers, PV weather monitoring system, substation equipment, battery energy storage system and other equipment throughout the solar facility. The SCADA system would be used to provide critical operating information (e.g., power production, equipment status and alarms, and meteorological information) to the power purchaser, Project owners and investors, grid operator, and Project operations teams. The system would also facilitate production forecasting and other reporting requirements for Project stakeholders.

Electrical components would be tested routinely according to manufacturer's recommendations. In the event that remote monitoring indicates a problem, such as low performance in a section of the array field, a crew would investigate and correct the problem on an as-needed basis. It is anticipated that in-place PV panel washing would occur four times a year. Washing of the PV panels would be undertaken using wash trucks. Washing would occur during daylight hours, so no lighting would be required. During operation of the collector substation, operation and maintenance staff would visit the substation periodically for switching and other operation activities. Maintenance trucks would be utilized to perform routine maintenance, including but not limited to equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventative maintenance.



After completion of construction of the switchyard, operation of the switchyard would be transferred to SDG&E; therefore, the switchyard would be monitored and controlled remotely from the SDGE's central operations facilities off site. Accordingly, no new personnel would be required for operation and maintenance. Routine operations would require a single pickup truck visiting the switchyard site several times a week for switching, as well as several larger substation construction and maintenance trucks visiting the switchyard several times a year for equipment maintenance. Maintenance activities would include equipment testing, equipment monitoring and repair, and emergency and routine procedures for service continuity and preventive maintenance. Based on operations at similar facilities, routine maintenance is expected to necessitate approximately six trips per year by a two-to four-person crew. Routine operations would require one or two workers in a light utility truck to visit the switchyard on a weekly basis. Typically, a major maintenance inspection would take place annually, requiring approximately 20 personnel for approximately one week.



## APPENDIX C

### EXISTING TRAFFIC VOLUME DATA



SAME PH AS EB RAMPS

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-8 Access Rd & I-8 EB Ramps  
City: Jacumba  
Control: 1-Way Stop (EB)

Project ID: 19-04107-001  
Date: 3/6/2019

Total																			
NS/EW Streets:	I-8 Access Rd				I-8 Access Rd				I-8 EB Ramps				I-8 EB Ramps						
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL		
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0			
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU			
	0	3	9	0	0	6	0	0	0	0	9	0	0	0	0	0			
	7:00 AM	0	8	5	0	0	3	0	0	0	0	5	0	0	0	0			
	7:15 AM	0	6	4	0	0	1	0	0	0	0	4	0	0	0	0			
	7:30 AM	0	4	6	0	0	2	0	0	0	0	6	0	0	0	0			
	7:45 AM	0	4	6	0	0	4	0	0	0	0	5	0	0	0	0			
	8:00 AM	0	6	6	0	0	9	0	0	0	1	5	0	0	0	0			
	8:15 AM	0	7	7	0	0	4	0	0	0	0	8	0	0	0	0			
8:30 AM	0	5	10	0	0	4	0	0	0	0	11	0	0	0	0				
8:45 AM																			
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL		
APPROACH %'s :	0.00%	43	53	0	0.00%	43	30	0	0.00%	1	53	0	0	0	0	0	180		
PEAK HR :	08:00 AM - 09:00 AM				08:00 AM - 09:00 AM				08:00 AM - 09:00 AM				08:00 AM - 09:00 AM				TOTAL		
PEAK HR VOL :	0	22	29	0	0	18	0	0	0	1	29	0	0	0	0	0	99		
PEAK HR FACTOR :	0.000	0.786	0.725	0.000	0.000	0.500	0.000	0.000	0.000	0.250	0.659	0.000	0.000	0.000	0.000	0.000	0.825		
	0.850				0.500				0.682										
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL		
	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0			
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU			
	0	6	3	0	0	4	0	0	0	0	9	0	0	0	0	0			
	4:00 PM	0	6	11	0	0	7	0	0	0	7	0	0	0	0	0			
	4:15 PM	0	6	8	0	0	2	0	0	0	17	0	0	0	0	0			
	4:30 PM	0	8	10	0	0	7	0	0	0	1	7	0	0	0	0			
	4:45 PM	0	3	11	0	0	4	0	0	0	7	0	0	0	0	0			
	5:00 PM	0	1	3	0	0	5	0	0	0	9	0	0	0	0	0			
	5:15 PM	0	8	7	0	0	6	0	0	0	2	9	0	0	0	0			
5:30 PM	0	4	8	0	0	5	0	0	0	9	0	0	0	0	0				
5:45 PM																			
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL		
APPROACH %'s :	0.00%	40	61	0	0.00%	40	78	0	0.00%	3	74	0	0	0	0	0	220		
PEAK HR :	04:15 PM - 05:15 PM				04:15 PM - 05:15 PM				04:15 PM - 05:15 PM				04:15 PM - 05:15 PM				TOTAL		
PEAK HR VOL :	0	23	40	0	0	20	0	0	0	1	38	0	0	0	0	0	122		
PEAK HR FACTOR :	0.000	0.719	0.909	0.000	0.000	0.714	0.000	0.000	0.000	0.250	0.559	0.000	0.000	0.000	0.000	0.000	0.924		
	0.875				0.714				0.574										

I-8 WB RAMPS

18/20  
22/23

$$\begin{aligned} \text{AM PHF} &= \frac{40}{4(15)} & \text{PHF 8AM-9AM} &= 0.667 \\ \text{PM PHF} &= \frac{43}{4(15)} & \text{PHF 4:15PM-5:15PM} &= 0.717 \end{aligned}$$

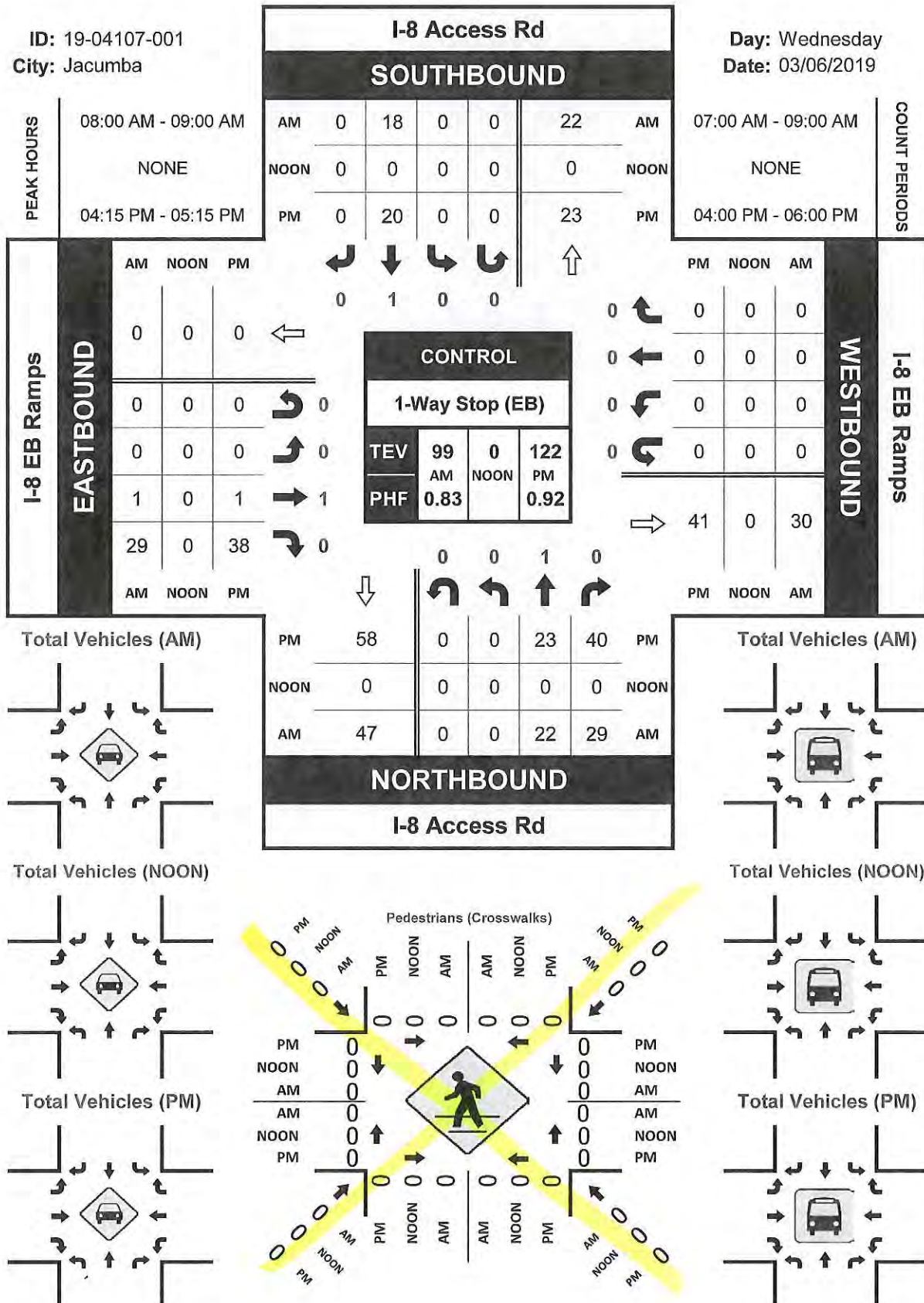


# I-8 Access Rd & I-8 EB Ramps

## Peak Hour Turning Movement Count

ID: 19-04107-001  
City: Jacumba

Day: Wednesday  
Date: 03/06/2019





## National Data &amp; Surveying Services

## Intersection Turning Movement Count

Location: I-8 Access Rd & Carrizo Gorge Rd  
 City: Jacumba  
 Control: 2-Way Yield (EB/WB)

Project ID: 19-04107-002  
 Date: 3/5/2019

## Total

NS/EW Streets:	I-8 Access Rd				I-8 Access Rd				Carrizo Gorge Rd				Carrizo Gorge Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	5	0	0	2	6	6	0	2	0	0	0	0	0	5	0	26
7:15 AM	0	8	0	0	0	5	0	0	2	0	0	0	0	1	2	0	18
7:30 AM	0	4	0	0	2	6	1	0	3	0	0	0	0	0	4	0	20
7:45 AM	0	5	0	0	2	2	2	0	3	0	0	0	0	1	3	0	18
8:00 AM	0	3	1	0	1	4	2	0	0	0	0	0	0	0	6	0	17
8:15 AM	0	9	0	0	2	9	4	0	2	0	0	0	0	0	1	0	27
8:30 AM	0	2	1	0	1	8	1	0	2	0	0	0	0	0	6	0	21
8:45 AM	0	6	0	0	1	11	5	0	6	1	0	0	0	0	7	0	37
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	0	42	2	0	11	51	21	0	20	1	0	0	0	2	34	0	184
	0.00%	95.45%	4.55%	0.00%	13.25%	61.45%	25.30%	0.00%	95.24%	4.76%	0.00%	0.00%	0.00%	5.56%	94.44%	0.00%	
PEAK HR:	08:00 AM - 09:00 AM				08:00 AM - 09:00 AM				08:00 AM - 09:00 AM				08:00 AM - 09:00 AM				TOTAL
PEAK HR VOL:	0	20	2	0	5	32	12	0	10	1	0	0	0	0	20	0	102
PEAK HR FACTOR:	0.000	0.556	0.500	0.000	0.625	0.727	0.600	0.000	0.417	0.250	0.000	0.000	0.000	0.000	0.714	0.000	0.689
	0.611				0.721				0.393				0.714				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	7	0	0	2	5	3	0	2	0	0	0	0	0	4	0	23
4:15 PM	0	7	0	0	2	12	5	0	0	1	0	0	0	1	6	0	34
4:30 PM	0	9	0	0	4	8	4	0	2	2	0	0	0	3	5	0	37
4:45 PM	1	8	1	0	0	9	2	0	2	1	0	0	0	0	6	0	30
5:00 PM	0	1	0	0	2	9	2	0	4	0	0	0	0	0	9	0	27
5:15 PM	0	2	1	0	1	8	4	0	1	0	0	0	0	0	5	0	22
5:30 PM	0	6	0	0	2	10	4	0	2	0	0	0	0	0	3	0	27
5:45 PM	0	7	0	0	0	10	6	0	3	1	0	0	0	1	2	0	30
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	1	47	2	0	13	71	30	0	16	5	0	0	0	5	40	0	230
	2.00%	94.00%	4.00%	0.00%	11.40%	62.28%	26.32%	0.00%	76.19%	23.81%	0.00%	0.00%	0.00%	11.11%	88.89%	0.00%	
PEAK HR:	04:15 PM - 05:15 PM				04:15 PM - 05:15 PM				04:15 PM - 05:15 PM				04:15 PM - 05:15 PM				TOTAL
PEAK HR VOL:	1	25	1	0	8	38	13	0	8	4	0	0	0	4	26	0	128
PEAK HR FACTOR:	0.250	0.694	0.250	0.000	0.500	0.792	0.650	0.000	0.500	0.500	0.000	0.000	0.000	0.333	0.722	0.000	0.865
	0.675				0.776				0.750				0.833				



# I-8 Access Rd & Carrizo Gorge Rd

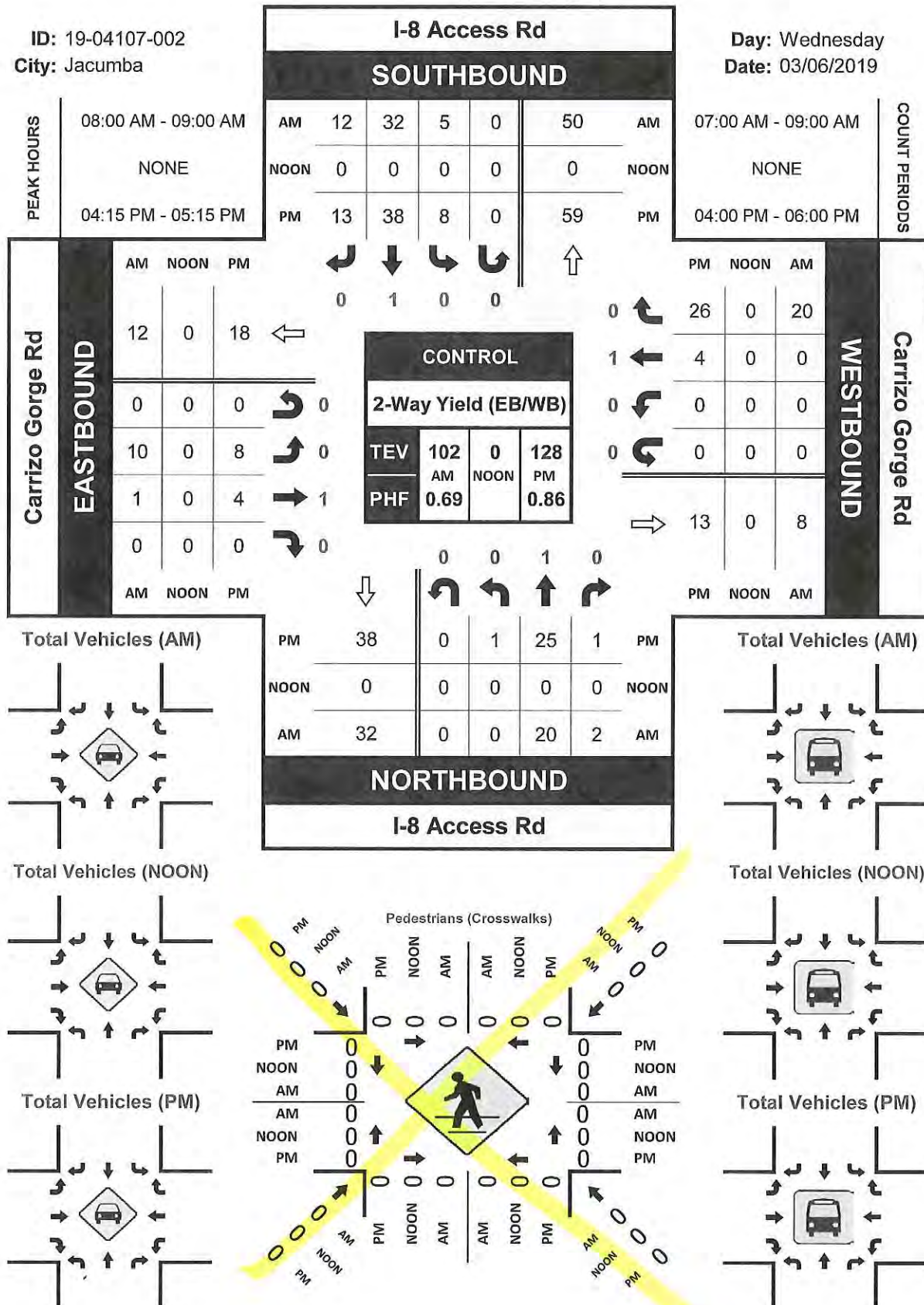
## Peak Hour Turning Movement Count

ID: 19-04107-002

City: Jacumba

Day: Wednesday

Date: 03/06/2019





**VOLUME**

Old Hwy 80 Bet. Campo St &amp; Carrizo Gorge Rd

Day: Wednesday  
Date: 3/6/2019City: Jacumba Hot Springs  
Project #: CA19\_4108\_001

DAILY TOTALS					NB	SB					EB	WB	Total	
					0	0	198	201	399					
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL		
00:00			0	0	0		12:00			4	10	14		
00:15			0	1	1		12:15			3	3	6		
00:30			0	0	0		12:30			5	4	9		
00:45			2	2	1	2	12:45			4	16	1	18	
01:00			0	1	1		13:00			3	7	10		
01:15			2	2	4		13:15			4	4	8		
01:30			1	2	3		13:30			3	2	5		
01:45			0	3	1	6	13:45			7	17	4	17	
02:00			1	0	1		14:00			11	6	17		
02:15			0	0	0		14:15			3	8	11		
02:30			1	0	1		14:30			5	7	12		
02:45			0	2	2	2	14:45			3	22	5	26	
03:00			0	2	2		15:00			1	2	3		
03:15			0	0	0		15:15			1	7	8		
03:30			1	2	3		15:30			6	0	6		
03:45			2	3	0	4	15:45			3	11	4	13	
04:00			0	0	0		16:00			2	1	3		
04:15			0	1	1		16:15			3	1	4		
04:30			0	0	0		16:30			7	2	9		
04:45			1	1	0	1	16:45			4	16	7	11	
05:00			0	3	3		17:00			0	5	5		
05:15			2	0	2		17:15			1	14	3	15	
05:30			1	0	1		17:30			1	3	4		
05:45			1	4	1	4	17:45			2	4	1	12	
06:00			6	6	12		18:00			2	4	6		
06:15			2	0	2		18:15			2	2	4		
06:30			1	4	5		18:30			0	0	0		
06:45			2	11	2	12	18:45			1	5	1	7	
07:00			3	1	4		19:00			1	1	2		
07:15			1	1	2		19:15			1	1	2		
07:30			4	1	5		19:30			0	1	1		
07:45			4	12	0	3	19:45			1	3	1	4	
08:00			3	1	4		20:00			0	2	2		
08:15			0	1	1		20:15			0	2	2		
08:30			2	1	3		20:30			2	2	4		
08:45			6	11	1	4	20:45			0	2	2	8	
09:00			0	3	3		21:00			0	1	1		
09:15			3	3	6		21:15			1	1	2		
09:30			6	2	8		21:30			0	0	0		
09:45			4	13	1	9	21:45			1	2	2	4	
10:00			2	2	4		22:00			2	2	4		
10:15			3	6	9		22:15			1	0	1		
10:30			2	0	2		22:30			0	0	0		
10:45			2	9	3	18	22:45			1	4	2	4	
11:00			4	5	9		23:00			1	1	2		
11:15			6	3	9		23:15			1	0	1		
11:30			4	3	7		23:30			1	2	3		
11:45			7	21	7	18	23:45			1	4	0	3	
TOTALS			92	74	166		TOTALS			106	127	233		
SPLIT %			55.4%	44.6%	41.6%		SPLIT %			45.5%	54.5%	58.4%		

DAILY TOTALS			NB	SB				EB	WB	Total		
			0	0				198	201			
AM Peak Hour			11:00	11:45	11:15	PM Peak Hour			13:45	14:00	13:45	
AM Pk Volume			21	24	44	PM Pk Volume			26	26	51	
Pk Hr Factor			0.750	0.600	0.786	Pk Hr Factor			0.591	0.813	0.750	
7 - 9 Volume	0	0	23	7	30	4 - 6 Volume	0	0	20	23	43	
7 - 9 Peak Hour			07:00	08:00	07:00	4 - 6 Peak Hour			16:00	16:45	16:15	
7 - 9 Pk Volume	0	0	12	4	15	4 - 6 Pk Volume	0	0	16	18	29	
Pk Hr Factor	0.000	0.000	0.750	1.000	0.750	Pk Hr Factor	0.000	0.000	0.571	0.643	0.659	

$$PHF = \frac{15}{4(7)} = 0.536$$

$$PHF = \frac{29}{4(11)} = 0.659$$



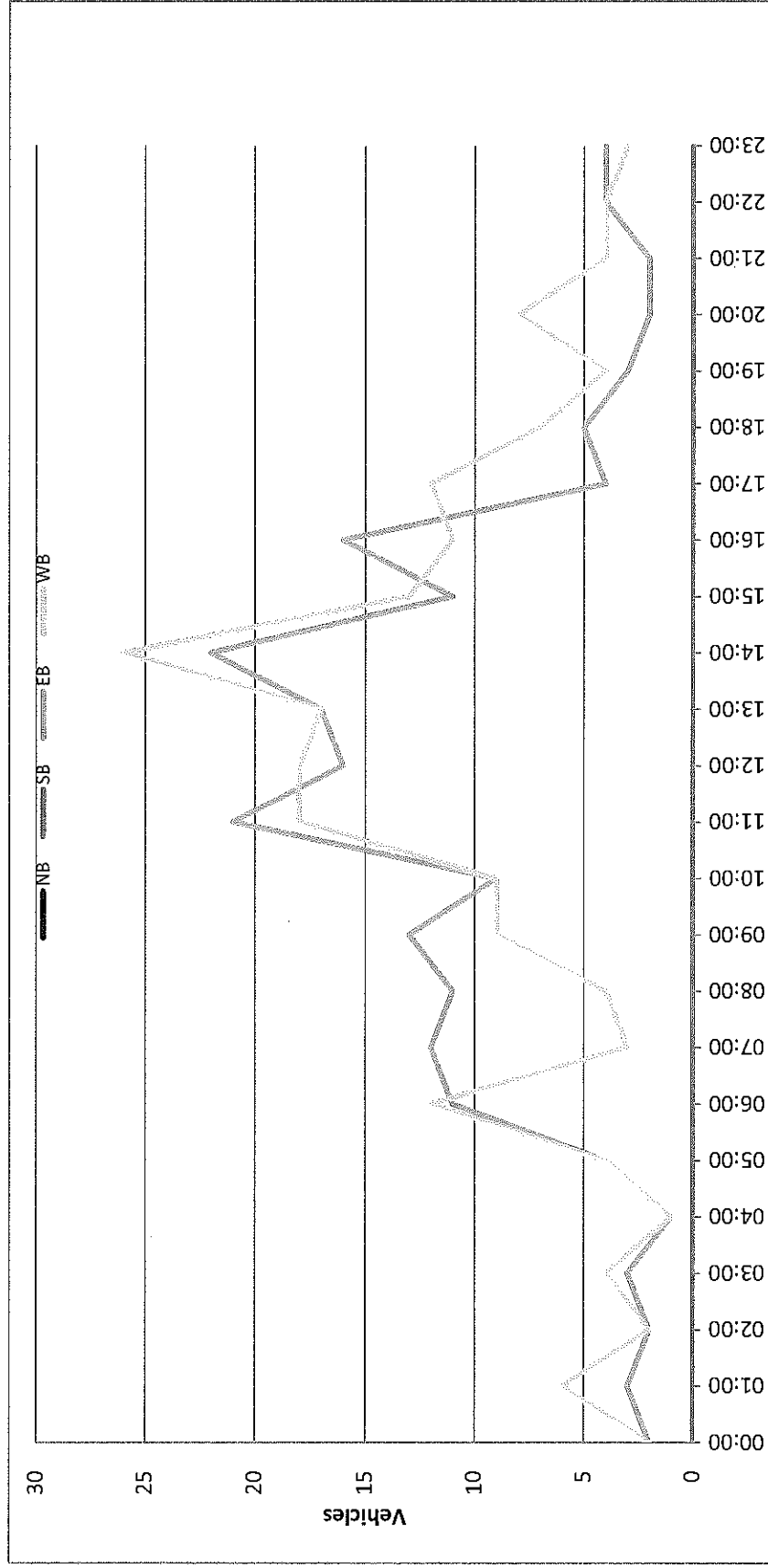
Prepared by NDS/ATD

Project #: CA19\_4108\_001

City: Jacumba Hot Springs

Location: Old Hwy 80 Bet. Campo St & Carrizo Gorge

Date: 3/6/2019





**VOLUME**

Carrizo Gorge Rd E/O I-8 Access Rd

Day: Wednesday  
Date: 3/6/2019City: Jacumba Hot Springs  
Project #: CA19\_4108\_002

DAILY TOTALS					NB	SB	EB		WB		Total
					0	0	150		144		294
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			0	0	0	12:00			6	4	10
00:15			1	0	1	12:15			3	3	6
00:30			0	0	0	12:30			3	3	6
00:45			2	3	5	12:45			2	14	16
01:00			1	0	1	13:00			4	3	7
01:15			2	3	5	13:15			2	3	5
01:30			2	1	3	13:30			1	4	5
01:45			0	5	5	13:45			3	10	13
02:00			0	3	3	14:00			6	8	14
02:15			0	0	0	14:15			5	3	8
02:30			0	1	1	14:30			4	2	6
02:45			0	0	0	14:45			4	19	23
03:00			1	0	1	15:00			1	2	3
03:15			0	0	0	15:15			2	1	3
03:30			2	0	2	15:30			0	1	1
03:45			0	3	3	15:45			2	5	7
04:00			0	2	2	16:00			0	1	1
04:15			2	1	3	16:15			0	1	1
04:30			0	0	0	16:30			4	5	9
04:45			1	3	4	16:45			4	8	12
05:00			2	0	2	17:00			3	2	5
05:15			0	1	1	17:15			3	0	3
05:30			1	0	1	17:30			1	0	1
05:45			1	4	5	17:45			2	9	11
06:00			3	2	5	18:00			2	2	4
06:15			1	2	3	18:15			2	1	3
06:30			2	0	2	18:30			0	1	1
06:45			0	6	6	18:45			0	4	4
07:00			0	1	1	19:00			1	0	1
07:15			1	0	1	19:15			1	1	2
07:30			1	3	4	19:30			1	0	1
07:45			0	2	2	19:45			2	5	7
08:00			0	4	4	20:00			1	1	2
08:15			1	0	1	20:15			2	0	2
08:30			0	0	0	20:30			4	2	6
08:45			1	2	3	20:45			0	7	7
09:00			1	0	1	21:00			1	0	1
09:15			2	3	5	21:15			1	0	1
09:30			2	2	4	21:30			1	1	2
09:45			0	5	5	21:45			3	6	9
10:00			3	2	5	22:00			2	1	3
10:15			4	2	6	22:15			1	1	2
10:30			2	4	6	22:30			1	2	3
10:45			1	10	11	22:45			2	6	8
11:00			2	2	4	23:00			1	0	1
11:15			1	2	3	23:15			0	0	0
11:30			4	2	6	23:30			1	0	1
11:45			5	12	17	23:45			0	2	2
TOTALS			55	62	117	TOTALS			95	82	177
SPLIT %			47.0%	53.0%	39.8%	SPLIT %			53.7%	46.3%	60.2%

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	150	144	294

AM Peak Hour	11:30	11:45	11:30	PM Peak Hour	14:00	13:15	14:00
AM Pk Volume	18	14	31	PM Pk Volume	19	17	35
Pk Hr Factor	0.750	0.875	0.775	Pk Hr Factor	0.792	0.531	0.625
7 - 9 Volume	4	12	16	4 - 6 Volume	17	13	30
7 - 9 Peak Hour	07:00	07:15	07:15	4 - 6 Peak Hour	16:30	16:15	16:30
7 - 9 Pk Volume	2	8	10	4 - 6 Pk Volume	14	10	23
Pk Hr Factor	0.500	0.500	0.625	Pk Hr Factor	0.875	0.500	0.639

$$PHF = \frac{9}{4(7)} = 0.5625$$

$$PHF = \frac{21}{4(9)} = 0.583$$



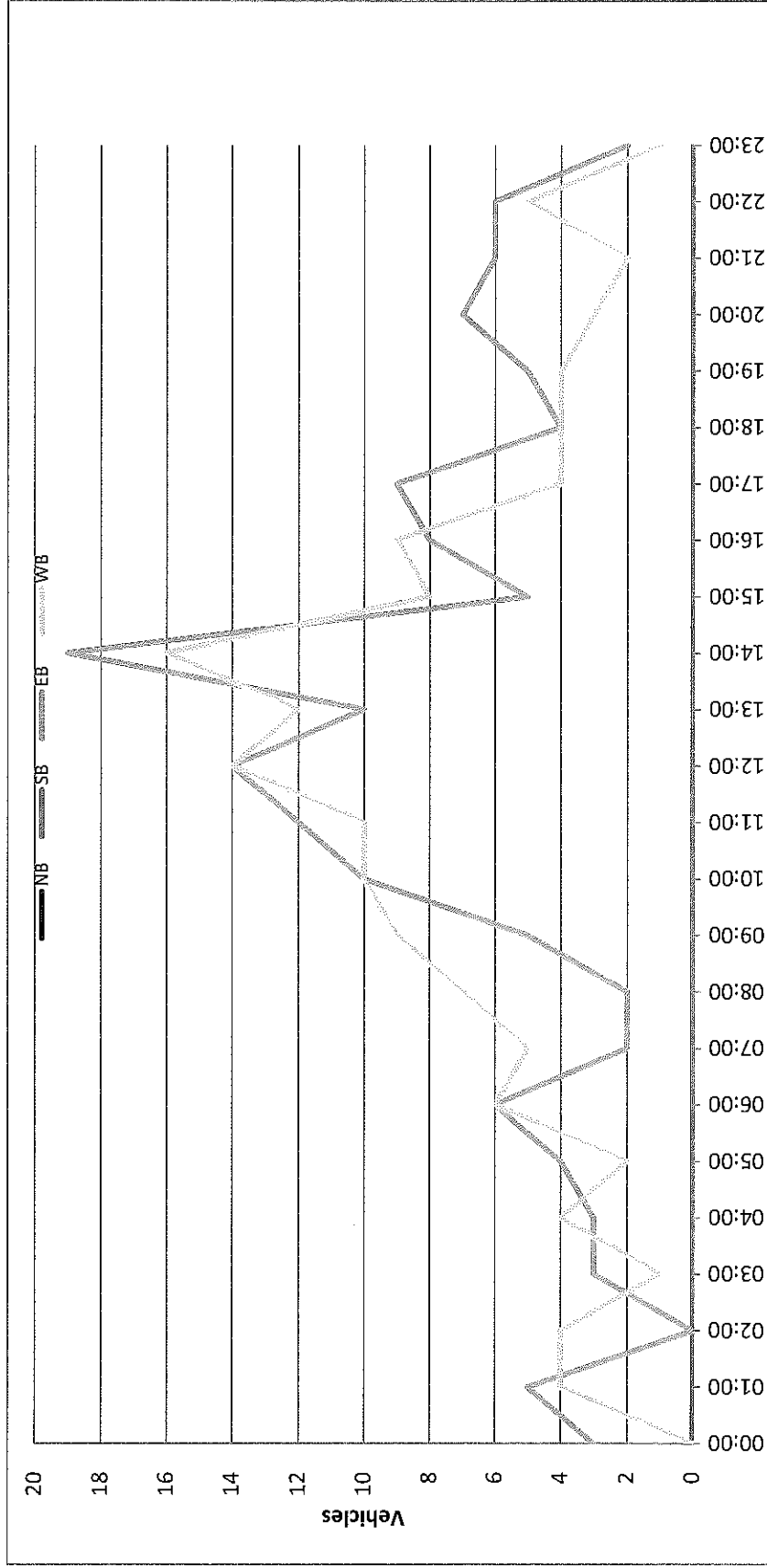
Prepared by NDS/ATD

Project #: CA19\_4108\_002

City: Jacumba Hot Springs

Location: Carrizo Gorge Rd E/O I-8 Access Rd

Date: 3/6/2019













## APPENDIX D

### INTERSECTION LOS WORKSHEETS


















Jacumba Valley Ranch  
1: I-8 Access Road & I-8 WB On Ramp/I-8 WB Off Ramp

Existing AM Baseline

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	18	0	22	0
Future Volume (Veh/h)	0	0	18	0	22	0
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	0	0	27	0	33	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	66	0	66	66	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	66	0	66	66	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	100	100	97	100	98	
cM capacity (veh/h)	808	1085	913	808	1623	
Direction, Lane #	WB 1	NB 1				
Volume Total	27	33				
Volume Left	27	33				
Volume Right	0	0				
cSH	913	1623				
Volume to Capacity	0.03	0.02				
Queue Length 95th (ft)	2	2				
Control Delay (s)	9.1	7.3				
Lane LOS	A	A				
Approach Delay (s)	9.1	7.3				
Approach LOS	A					
Intersection Summary						
Average Delay		8.1				
Intersection Capacity Utilization		13.3%		ICU Level of Service		A
Analysis Period (min)		15				


















## 2: I-8 Access Road &amp; I-8 EB Off Ramp/I-8 EB On Ramp

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	29	0	0	0	0	22	29	0	18	0
Future Volume (Veh/h)	0	1	29	0	0	0	0	22	29	0	18	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	1	35	0	0	0	0	27	35	0	22	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	66	84	22	102	66	44	22			62		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	66	84	22	102	66	44	22			62		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	97	100	100	100	100			100		
cM capacity (veh/h)	927	806	1055	849	824	1025	1593			1541		
Direction, Lane #	EB 1	NB 1	SB 1									
Volume Total	36	62	22									
Volume Left	0	0	0									
Volume Right	35	35	0									
cSH	1046	1700	1541									
Volume to Capacity	0.03	0.04	0.00									
Queue Length 95th (ft)	3	0	0									
Control Delay (s)	8.6	0.0	0.0									
Lane LOS	A											
Approach Delay (s)	8.6	0.0	0.0									
Approach LOS	A											
Intersection Summary												
Average Delay			2.6									
Intersection Capacity Utilization			13.3%			ICU Level of Service				A		
Analysis Period (min)			15									



Jacumba Valley Ranch  
3: Driveway/I-8 Access Road & Carrizo Gorge Road

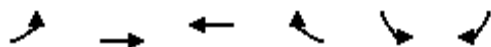
Existing AM Baseline





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1	0	0	0	20	0	20	2	5	32	12
Future Volume (Veh/h)	10	1	0	0	0	20	0	20	2	5	32	12
Sign Control		Yield			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Hourly flow rate (vph)	14	1	0	0	0	29	0	29	3	7	46	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	128	100	54	100	108	30	63			32		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	128	100	54	100	108	30	63			32		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	100	100	100	97	100			100		
cM capacity (veh/h)	819	786	1012	878	779	1044	1540			1580		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	15	29	32	70								
Volume Left	14	0	0	7								
Volume Right	0	29	3	17								
cSH	817	1044	1540	1580								
Volume to Capacity	0.02	0.03	0.00	0.00								
Queue Length 95th (ft)	1	2	0	0								
Control Delay (s)	9.5	8.5	0.0	0.8								
Lane LOS	A	A		A								
Approach Delay (s)	9.5	8.5	0.0	0.8								
Approach LOS	A	A										
Intersection Summary												
Average Delay			3.0									
Intersection Capacity Utilization			20.7%	ICU Level of Service					A			
Analysis Period (min)			15									



Jacumba Valley Ranch  
4: Old Highway 80 & Carrizo Gorge Road

Existing AM Baseline



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	4	2	0	0	2
Future Volume (Veh/h)	7	4	2	0	0	2
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.54	0.54	0.54	0.54	0.54	0.54
Hourly flow rate (vph)	13	7	4	0	0	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	4				37	4
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4				37	4
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	100
cM capacity (veh/h)	1618				968	1080
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	20	4	4			
Volume Left	13	0	0			
Volume Right	0	0	4			
cSH	1618	1700	270			
Volume to Capacity	0.01	0.00	0.01			
Queue Length 95th (ft)	1	0	1			
Control Delay (s)	4.7	0.0	18.5			
Lane LOS	A		C			
Approach Delay (s)	4.7	0.0	18.5			
Approach LOS			C			
Intersection Summary						
Average Delay			6.0			
Intersection Capacity Utilization			13.3%		ICU Level of Service	
Analysis Period (min)			15		A	


















## 1: I-8 Access Road &amp; I-8 WB On Ramp/I-8 WB Off Ramp

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↖	↗	
Traffic Volume (veh/h)	0	0	20	0	23	0
Future Volume (Veh/h)	0	0	20	0	23	0
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	0	0	28	0	32	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	64	0	64	64	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	64	0	64	64	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	100	100	97	100	98	
cM capacity (veh/h)	810	1085	916	810	1623	
Direction, Lane #	WB 1	NB 1				
Volume Total	28	32				
Volume Left	28	32				
Volume Right	0	0				
cSH	916	1623				
Volume to Capacity	0.03	0.02				
Queue Length 95th (ft)	2	2				
Control Delay (s)	9.1	7.3				
Lane LOS	A	A				
Approach Delay (s)	9.1	7.3				
Approach LOS	A					
Intersection Summary						
Average Delay		8.1				
Intersection Capacity Utilization		13.7%		ICU Level of Service		A
Analysis Period (min)		15				



Jacumba Valley Ranch  
2: I-8 Access Road & I-8 EB Off Ramp/I-8 EB On Ramp
















Existing PM Baseline

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	38	0	0	0	0	23	40	0	20	0
Future Volume (Veh/h)	0	1	38	0	0	0	0	23	40	0	20	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1	41	0	0	0	0	25	43	0	22	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	68	90	22	110	68	46	22			68		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	68	90	22	110	68	46	22			68		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	96	100	100	100	100			100		
cM capacity (veh/h)	924	800	1055	834	822	1023	1593			1533		
Direction, Lane #	EB 1	NB 1	SB 1									
Volume Total	42	68	22									
Volume Left	0	0	0									
Volume Right	41	43	0									
cSH	1047	1700	1533									
Volume to Capacity	0.04	0.04	0.00									
Queue Length 95th (ft)	3	0	0									
Control Delay (s)	8.6	0.0	0.0									
Lane LOS	A											
Approach Delay (s)	8.6	0.0	0.0									
Approach LOS	A											
Intersection Summary												
Average Delay			2.7									
Intersection Capacity Utilization			13.7%			ICU Level of Service				A		
Analysis Period (min)			15									



Jacumba Valley Ranch  
3: Driveway/I-8 Access Road & Carrizo Gorge Road

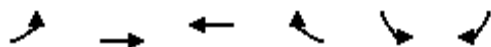
Existing PM Baseline





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	4	0	0	4	26	1	25	1	8	38	13
Future Volume (Veh/h)	8	4	0	0	4	26	1	25	1	8	38	13
Sign Control		Yield			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	9	5	0	0	5	30	1	29	1	9	44	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	134	102	52	104	108	30	59			30		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	134	102	52	104	108	30	59			30		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	99	100	100	99	97	100			99		
cM capacity (veh/h)	806	784	1016	868	777	1045	1545			1583		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	14	35	31	68								
Volume Left	9	0	1	9								
Volume Right	0	30	1	15								
cSH	798	996	1545	1583								
Volume to Capacity	0.02	0.04	0.00	0.01								
Queue Length 95th (ft)	1	3	0	0								
Control Delay (s)	9.6	8.7	0.2	1.0								
Lane LOS	A	A	A	A								
Approach Delay (s)	9.6	8.7	0.2	1.0								
Approach LOS	A	A										
Intersection Summary												
Average Delay			3.5									
Intersection Capacity Utilization			20.3%		ICU Level of Service				A			
Analysis Period (min)			15									



Jacumba Valley Ranch  
4: Old Highway 80 & Carrizo Gorge Road

Existing PM Baseline



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	4	4	0	0	11
Future Volume (Veh/h)	10	4	4	0	0	11
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	15	6	6	0	0	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	6				42	6
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	6				42	6
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	98
cM capacity (veh/h)	1615				960	1077
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	21	6	17			
Volume Left	15	0	0			
Volume Right	0	0	17			
cSH	1615	1700	269			
Volume to Capacity	0.01	0.00	0.06			
Queue Length 95th (ft)	1	0	5			
Control Delay (s)	5.2	0.0	19.3			
Lane LOS	A		C			
Approach Delay (s)	5.2	0.0	19.3			
Approach LOS			C			
Intersection Summary						
Average Delay			9.9			
Intersection Capacity Utilization			13.3%		ICU Level of Service	
Analysis Period (min)			15		A	


















## 1: I-8 Access Road &amp; I-8 WB On Ramp/I-8 WB Off Ramp

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↖	↗	
Traffic Volume (veh/h)	0	0	101	0	37	0
Future Volume (Veh/h)	0	0	101	0	37	0
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	110	0	40	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	80	0	80	80	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	80	0	80	80	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	100	100	88	100	98	
cM capacity (veh/h)	790	1085	891	790	1623	
Direction, Lane #	WB 1	NB 1				
Volume Total	110	40				
Volume Left	110	40				
Volume Right	0	0				
cSH	891	1623				
Volume to Capacity	0.12	0.02				
Queue Length 95th (ft)	11	2				
Control Delay (s)	9.6	7.3				
Lane LOS	A	A				
Approach Delay (s)	9.6	7.3				
Approach LOS	A					
Intersection Summary						
Average Delay		9.0				
Intersection Capacity Utilization		25.8%		ICU Level of Service		A
Analysis Period (min)		15				



















## 2: I-8 Access Road &amp; I-8 EB Off Ramp/I-8 EB On Ramp

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	222	0	0	0	0	37	35	0	101	0
Future Volume (Veh/h)	0	1	222	0	0	0	0	37	35	0	101	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1	241	0	0	0	0	40	38	0	110	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	169	188	110	410	169	59	110			78		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	169	188	110	410	169	59	110			78		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	74	100	100	100	100			100		
cM capacity (veh/h)	795	707	943	410	724	1007	1480			1520		
Direction, Lane #	EB 1	NB 1	SB 1									
Volume Total	242	78	110									
Volume Left	0	0	0									
Volume Right	241	38	0									
cSH	942	1700	1520									
Volume to Capacity	0.26	0.05	0.00									
Queue Length 95th (ft)	26	0	0									
Control Delay (s)	10.1	0.0	0.0									
Lane LOS	B											
Approach Delay (s)	10.1	0.0	0.0									
Approach LOS	B											
Intersection Summary												
Average Delay			5.7									
Intersection Capacity Utilization			24.6%			ICU Level of Service				A		
Analysis Period (min)			15									



Jacumba Valley Ranch  
3: Driveway/I-8 Access Road & Carrizo Gorge Road

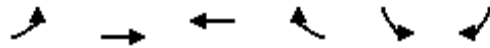
Existing AM with Construction Traffic





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1	0	0	0	41	0	20	2	281	32	12
Future Volume (Veh/h)	10	1	0	0	0	41	0	20	2	281	32	12
Sign Control		Yield			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	1	0	0	0	45	0	22	2	305	35	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	720	676	42	675	681	23	48			24		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	720	676	42	675	681	23	48			24		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	100	100	100	96	100			81		
cM capacity (veh/h)	280	303	1029	313	301	1054	1559			1591		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	12	45	24	353								
Volume Left	11	0	0	305								
Volume Right	0	45	2	13								
cSH	282	1054	1559	1591								
Volume to Capacity	0.04	0.04	0.00	0.19								
Queue Length 95th (ft)	3	3	0	18								
Control Delay (s)	18.3	8.6	0.0	6.9								
Lane LOS	C	A		A								
Approach Delay (s)	18.3	8.6	0.0	6.9								
Approach LOS	C	A										
Intersection Summary												
Average Delay	7.0											
Intersection Capacity Utilization	38.6%			ICU Level of Service					A			
Analysis Period (min)	15											



Jacumba Valley Ranch  
4: Old Highway 80 & Carrizo Gorge Road

Existing AM with Construction Traffic












Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	24	4	4	4	0	112
Future Volume (Veh/h)	24	4	4	4	0	112
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	4	4	4	0	122
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	8				62	6
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	8				62	6
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	89
cM capacity (veh/h)	1612				929	1077
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	30	8	122			
Volume Left	26	0	0			
Volume Right	0	4	122			
cSH	1612	1700	269			
Volume to Capacity	0.02	0.00	0.45			
Queue Length 95th (ft)	1	0	55			
Control Delay (s)	6.3	0.0	29.0			
Lane LOS	A		D			
Approach Delay (s)	6.3	0.0	29.0			
Approach LOS			D			
Intersection Summary						
Average Delay			23.3			
Intersection Capacity Utilization			16.9%		ICU Level of Service	
Analysis Period (min)			15		A	



Jacumba Valley Ranch  
5: Carrizo Gorge Road & Access 1










Existing AM with Construction Traffic

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	3	25	2	28	250
Future Volume (Veh/h)	0	3	25	2	28	250
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	3	27	2	30	272
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	360	28			29	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	360	28			29	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			98	
cM capacity (veh/h)	627	1047			1584	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	3	29	302			
Volume Left	0	0	30			
Volume Right	3	2	0			
cSH	1047	1700	1584			
Volume to Capacity	0.00	0.02	0.02			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	8.4	0.0	0.9			
Lane LOS	A		A			
Approach Delay (s)	8.4	0.0	0.9			
Approach LOS	A					
Intersection Summary						
Average Delay		0.9				
Intersection Capacity Utilization		31.4%		ICU Level of Service		A
Analysis Period (min)		15				



Jacumba Valley Ranch  
6: Carrizo Gorge Road & Access 2










Existing AM with Construction Traffic

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	0	4	23	195	55
Future Volume (Veh/h)	4	0	4	23	195	55
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	4	25	212	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	275	242	272			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	275	242	272			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	100			
cM capacity (veh/h)	712	797	1291			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	4	29	272			
Volume Left	4	4	0			
Volume Right	0	0	60			
cSH	712	1291	1700			
Volume to Capacity	0.01	0.00	0.16			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	10.1	1.1	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.1	1.1	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization		23.6%		ICU Level of Service		A
Analysis Period (min)		15				



Jacumba Valley Ranch  
7: Carrizo Gorge Road & Access 3










Existing AM with Construction Traffic

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	2	25	3	28	167
Future Volume (Veh/h)	0	2	25	3	28	167
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	2	27	3	30	182
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	270	28			30	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	270	28			30	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			98	
cM capacity (veh/h)	705	1046			1583	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	2	30	212			
Volume Left	0	0	30			
Volume Right	2	3	0			
cSH	1046	1700	1583			
Volume to Capacity	0.00	0.02	0.02			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	8.4	0.0	1.2			
Lane LOS	A		A			
Approach Delay (s)	8.4	0.0	1.2			
Approach LOS	A					
Intersection Summary						
Average Delay		1.1				
Intersection Capacity Utilization		27.0%		ICU Level of Service		A
Analysis Period (min)		15				



Jacumba Valley Ranch  
8: Carrizo Gorge Road & Access 4

















Existing AM with Construction Traffic

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	0	4	24	112	55
Future Volume (Veh/h)	4	0	4	24	112	55
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	4	26	122	60
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	186	152	182			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	186	152	182			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	801	894	1393			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	4	30	182			
Volume Left	4	4	0			
Volume Right	0	0	60			
cSH	801	1393	1700			
Volume to Capacity	0.00	0.00	0.11			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	9.5	1.0	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.5	1.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		0.3				
Intersection Capacity Utilization		19.2%		ICU Level of Service		A
Analysis Period (min)		15				



Jacumba Valley Ranch  
9: Access 5 & Old Highway 80

Existing AM with Construction Traffic

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	20	9	56	4	56	1	0	4	4	0	1
Future Volume (Veh/h)	3	20	9	56	4	56	1	0	4	4	0	1
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	22	10	61	4	61	1	0	4	4	0	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	65			32			190	220	27	194	194	34
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	65			32			190	220	27	194	194	34
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			100	100	100	99	100	100
cM capacity (veh/h)	1537			1580			745	651	1048	739	672	1039
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	35	126	5	5								
Volume Left	3	61	1	4								
Volume Right	10	61	4	1								
cSH	1537	1580	969	785								
Volume to Capacity	0.00	0.04	0.01	0.01								
Queue Length 95th (ft)	0	3	0	0								
Control Delay (s)	0.6	3.7	8.7	9.6								
Lane LOS	A	A	A	A								
Approach Delay (s)	0.6	3.7	8.7	9.6								
Approach LOS			A	A								
Intersection Summary												
Average Delay				3.4								
Intersection Capacity Utilization				23.4%	ICU Level of Service				A			
Analysis Period (min)				15								


















## 1: I-8 Access Road &amp; I-8 WB On Ramp/I-8 WB Off Ramp

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↖	↗	
Traffic Volume (veh/h)	0	0	26	0	216	0
Future Volume (Veh/h)	0	0	26	0	216	0
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	28	0	235	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	470	0	470	470	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	470	0	470	470	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	100	100	94	100	86	
cM capacity (veh/h)	420	1085	448	420	1623	
Direction, Lane #	WB 1	NB 1				
Volume Total	28	235				
Volume Left	28	235				
Volume Right	0	0				
cSH	448	1623				
Volume to Capacity	0.06	0.14				
Queue Length 95th (ft)	5	13				
Control Delay (s)	13.6	7.6				
Lane LOS	B	A				
Approach Delay (s)	13.6	7.6				
Approach LOS	B					
Intersection Summary						
Average Delay		8.2				
Intersection Capacity Utilization		28.9%		ICU Level of Service		A
Analysis Period (min)		15				



















## 2: I-8 Access Road &amp; I-8 EB Off Ramp/I-8 EB On Ramp

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	53	0	0	0	0	216	123	0	26	0
Future Volume (Veh/h)	0	1	53	0	0	0	0	216	123	0	26	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1	58	0	0	0	0	235	134	0	28	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	330	397	28	388	330	302	28			369		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	330	397	28	388	330	302	28			369		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	94	100	100	100	100			100		
cM capacity (veh/h)	623	540	1047	538	589	738	1585			1190		
Direction, Lane #	EB 1	NB 1	SB 1									
Volume Total	59	369	28									
Volume Left	0	0	0									
Volume Right	58	134	0									
cSH	1031	1700	1190									
Volume to Capacity	0.06	0.22	0.00									
Queue Length 95th (ft)	5	0	0									
Control Delay (s)	8.7	0.0	0.0									
Lane LOS	A											
Approach Delay (s)	8.7	0.0	0.0									
Approach LOS	A											
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization			28.9%			ICU Level of Service				A		
Analysis Period (min)			15									



Jacumba Valley Ranch  
3: Driveway/I-8 Access Road & Carrizo Gorge Road

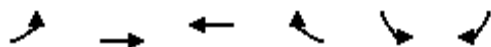
Existing PM with Construction Traffic

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	4	0	0	4	302	1	25	1	29	38	13
Future Volume (Veh/h)	8	4	0	0	4	302	1	25	1	29	38	13
Sign Control		Yield			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	4	0	0	4	328	1	27	1	32	41	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	472	142	48	144	148	28	55			28		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	472	142	48	144	148	28	55			28		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	99	100	100	99	69	100			98		
cM capacity (veh/h)	338	734	1021	809	728	1048	1550			1585		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	13	332	29	87								
Volume Left	9	0	1	32								
Volume Right	0	328	1	14								
cSH	406	1042	1550	1585								
Volume to Capacity	0.03	0.32	0.00	0.02								
Queue Length 95th (ft)	2	35	0	2								
Control Delay (s)	14.2	10.1	0.3	2.8								
Lane LOS	B	B	A	A								
Approach Delay (s)	14.2	10.1	0.3	2.8								
Approach LOS	B	B										
Intersection Summary												
Average Delay			8.2									
Intersection Capacity Utilization			36.6%	ICU Level of Service				A				
Analysis Period (min)			15									



Jacumba Valley Ranch  
4: Old Highway 80 & Carrizo Gorge Road

Existing PM with Construction Traffic












Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	↰
Traffic Volume (veh/h)	120	6	4	0	4	28
Future Volume (Veh/h)	120	6	4	0	4	28
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	130	7	4	0	4	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	4				271	4
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4				271	4
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				99	97
cM capacity (veh/h)	1618				661	1080
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	137	4	34			
Volume Left	130	0	4			
Volume Right	0	0	30			
cSH	1618	1700	1223			
Volume to Capacity	0.08	0.00	0.03			
Queue Length 95th (ft)	7	0	2			
Control Delay (s)	7.1	0.0	8.7			
Lane LOS	A		A			
Approach Delay (s)	7.1	0.0	8.7			
Approach LOS			A			
Intersection Summary						
Average Delay			7.2			
Intersection Capacity Utilization			23.6%	ICU Level of Service		A
Analysis Period (min)			15			



Jacumba Valley Ranch  
5: Carrizo Gorge Road & Access 1










Existing PM with Construction Traffic

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	28	258	0	3	29
Future Volume (Veh/h)	2	28	258	0	3	29
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	30	280	0	3	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	318	280			280	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	318	280			280	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			100	
cM capacity (veh/h)	674	759			1283	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	32	280	35			
Volume Left	2	0	3			
Volume Right	30	0	0			
cSH	753	1700	1283			
Volume to Capacity	0.04	0.16	0.00			
Queue Length 95th (ft)	3	0	0			
Control Delay (s)	10.0	0.0	0.7			
Lane LOS	A		A			
Approach Delay (s)	10.0	0.0	0.7			
Approach LOS	A					
Intersection Summary						
Average Delay		1.0				
Intersection Capacity Utilization		23.6%	ICU Level of Service	A		
Analysis Period (min)		15				



Jacumba Valley Ranch  
6: Carrizo Gorge Road & Access 2










Existing PM with Construction Traffic

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	4	0	203	27	4
Future Volume (Veh/h)	55	4	0	203	27	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	60	4	0	221	29	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	252	31	33			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	252	31	33			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	100	100			
cM capacity (veh/h)	737	1043	1579			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	64	221	33			
Volume Left	60	0	0			
Volume Right	4	0	4			
cSH	750	1579	1700			
Volume to Capacity	0.09	0.00	0.02			
Queue Length 95th (ft)	7	0	0			
Control Delay (s)	10.2	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.2	0.0	0.0			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay		2.1				
Intersection Capacity Utilization		20.7%		ICU Level of Service		A
Analysis Period (min)		15				



Jacumba Valley Ranch  
7: Carrizo Gorge Road & Access 3










Existing PM with Construction Traffic

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	3	28	175	0	2	29
Future Volume (Veh/h)	3	28	175	0	2	29
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	30	190	0	2	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	226	190			190	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	226	190			190	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	96			100	
cM capacity (veh/h)	761	852			1384	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	33	190	34			
Volume Left	3	0	2			
Volume Right	30	0	0			
cSH	843	1700	1384			
Volume to Capacity	0.04	0.11	0.00			
Queue Length 95th (ft)	3	0	0			
Control Delay (s)	9.4	0.0	0.5			
Lane LOS	A		A			
Approach Delay (s)	9.4	0.0	0.5			
Approach LOS	A					
Intersection Summary						
Average Delay		1.3				
Intersection Capacity Utilization		19.2%		ICU Level of Service		A
Analysis Period (min)		15				



Jacumba Valley Ranch  
8: Carrizo Gorge Road & Access 4

















Existing PM with Construction Traffic

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	4	0	120	28	4
Future Volume (Veh/h)	55	4	0	120	28	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	60	4	0	130	30	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	162	32	34			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	162	32	34			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	100	100			
cM capacity (veh/h)	829	1042	1578			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	64	130	34			
Volume Left	60	0	0			
Volume Right	4	0	4			
cSH	840	1578	1700			
Volume to Capacity	0.08	0.00	0.02			
Queue Length 95th (ft)	6	0	0			
Control Delay (s)	9.6	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.6	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay		2.7				
Intersection Capacity Utilization		16.3%		ICU Level of Service		A
Analysis Period (min)		15				



Jacumba Valley Ranch  
9: Access 5 & Old Highway 80

Existing PM with Construction Traffic

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	14	1	4	24	4	3	0	56	56	0	3
Future Volume (Veh/h)	1	14	1	4	24	4	3	0	56	56	0	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	15	1	4	26	4	3	0	61	61	0	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	30			16			56	56	16	114	54	28
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	30			16			56	56	16	114	54	28
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	94	92	100	100
cM capacity (veh/h)	1583			1602			936	833	1064	811	835	1047
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	17	34	64	64								
Volume Left	1	4	3	61								
Volume Right	1	4	61	3								
cSH	1583	1602	1057	820								
Volume to Capacity	0.00	0.00	0.06	0.08								
Queue Length 95th (ft)	0	0	5	6								
Control Delay (s)	0.4	0.9	8.6	9.8								
Lane LOS	A	A	A	A								
Approach Delay (s)	0.4	0.9	8.6	9.8								
Approach LOS			A	A								
Intersection Summary												
Average Delay			6.8									
Intersection Capacity Utilization			20.0%		ICU Level of Service				A			
Analysis Period (min)			15									


















## 1: I-8 Access Road &amp; I-8 WB On Ramp/I-8 WB Off Ramp

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↖	↗	
Traffic Volume (veh/h)	0	0	20	0	24	0
Future Volume (Veh/h)	0	0	20	0	24	0
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Hourly flow rate (vph)	0	0	30	0	36	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	72	0	72	72	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	72	0	72	72	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	100	100	97	100	98	
cM capacity (veh/h)	800	1085	904	800	1623	
Direction, Lane #	WB 1	NB 1				
Volume Total	30	36				
Volume Left	30	36				
Volume Right	0	0				
cSH	904	1623				
Volume to Capacity	0.03	0.02				
Queue Length 95th (ft)	3	2				
Control Delay (s)	9.1	7.3				
Lane LOS	A	A				
Approach Delay (s)	9.1	7.3				
Approach LOS	A					
Intersection Summary						
Average Delay			8.1			
Intersection Capacity Utilization			13.3%	ICU Level of Service	A	
Analysis Period (min)			15			



















## 2: I-8 Access Road &amp; I-8 EB Off Ramp/I-8 EB On Ramp

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	32	0	0	0	0	24	30	0	20	0
Future Volume (Veh/h)	0	1	32	0	0	0	0	24	30	0	20	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	0	1	39	0	0	0	0	29	37	0	24	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	72	90	24	111	72	48	24			66		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	72	90	24	111	72	48	24			66		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	96	100	100	100	100			100		
cM capacity (veh/h)	920	800	1052	834	819	1022	1591			1536		
Direction, Lane #	EB 1	NB 1	SB 1									
Volume Total	40	66	24									
Volume Left	0	0	0									
Volume Right	39	37	0									
cSH	1044	1700	1536									
Volume to Capacity	0.04	0.04	0.00									
Queue Length 95th (ft)	3	0	0									
Control Delay (s)	8.6	0.0	0.0									
Lane LOS	A											
Approach Delay (s)	8.6	0.0	0.0									
Approach LOS	A											
Intersection Summary												
Average Delay			2.6									
Intersection Capacity Utilization			13.3%			ICU Level of Service				A		
Analysis Period (min)			15									



Jacumba Valley Ranch  
3: Driveway/I-8 Access Road & Carrizo Gorge Road

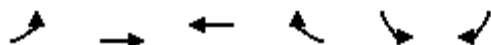
Existing AM with Typical Operations Traffic

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1	0	0	0	23	0	20	2	10	32	12
Future Volume (Veh/h)	10	1	0	0	0	23	0	20	2	10	32	12
Sign Control		Yield			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Hourly flow rate (vph)	14	1	0	0	0	33	0	29	3	14	46	17
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	146	114	54	114	122	30	63			32		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	146	114	54	114	122	30	63			32		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	100	100	100	97	100			99		
cM capacity (veh/h)	791	769	1012	857	762	1044	1540			1580		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	15	33	32	77								
Volume Left	14	0	0	14								
Volume Right	0	33	3	17								
cSH	790	1044	1540	1580								
Volume to Capacity	0.02	0.03	0.00	0.01								
Queue Length 95th (ft)	1	2	0	1								
Control Delay (s)	9.6	8.6	0.0	1.4								
Lane LOS	A	A		A								
Approach Delay (s)	9.6	8.6	0.0	1.4								
Approach LOS	A	A										
Intersection Summary												
Average Delay			3.4									
Intersection Capacity Utilization			23.6%	ICU Level of Service					A			
Analysis Period (min)			15									



Jacumba Valley Ranch  
4: Old Highway 80 & Carrizo Gorge Road

Existing AM with Typical Operations Traffic












Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	↰
Traffic Volume (veh/h)	7	4	2	0	0	2
Future Volume (Veh/h)	7	4	2	0	0	2
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.54	0.54	0.54	0.54	0.54	0.54
Hourly flow rate (vph)	13	7	4	0	0	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	4				37	4
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	4				37	4
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	100
cM capacity (veh/h)	1618				968	1080
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	20	4	4			
Volume Left	13	0	0			
Volume Right	0	0	4			
cSH	1618	1700	270			
Volume to Capacity	0.01	0.00	0.01			
Queue Length 95th (ft)	1	0	1			
Control Delay (s)	4.7	0.0	18.5			
Lane LOS	A		C			
Approach Delay (s)	4.7	0.0	18.5			
Approach LOS			C			
Intersection Summary						
Average Delay			6.0			
Intersection Capacity Utilization			13.3%		ICU Level of Service	
Analysis Period (min)			15		A	



Jacumba Valley Ranch  
5: Carrizo Gorge Road & Access 1










Existing AM with Typical Operations Traffic

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	10	0	0	7
Future Volume (Veh/h)	0	0	10	0	0	7
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.56	0.56	0.56	0.56	0.56	0.56
Hourly flow rate (vph)	0	0	18	0	0	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	31	18			18	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	31	18			18	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	983	1061			1599	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	18	13			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1599			
Volume to Capacity	0.00	0.01	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		13.3%		ICU Level of Service		A
Analysis Period (min)		15				



Jacumba Valley Ranch  
6: Carrizo Gorge Road & Access 2










Existing AM with Typical Operations Traffic

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	10	7	0
Future Volume (Veh/h)	0	0	0	10	7	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.56	0.56	0.56	0.56	0.56	0.56
Hourly flow rate (vph)	0	0	0	18	13	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	31	13	13			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	31	13	13			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	983	1067	1606			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	18	13			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1606	1700			
Volume to Capacity	0.00	0.00	0.01			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay		0.0				
Intersection Capacity Utilization		13.3%		ICU Level of Service		A
Analysis Period (min)		15				



Jacumba Valley Ranch  
7: Carrizo Gorge Road & Access 3










Existing AM with Typical Operations Traffic

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	10	0	0	7
Future Volume (Veh/h)	0	0	10	0	0	7
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.56	0.56	0.56	0.56	0.56	0.56
Hourly flow rate (vph)	0	0	18	0	0	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)			837			
pX, platoon unblocked						
vC, conflicting volume	31	18			18	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	31	18			18	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	983	1061			1599	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	18	13			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1599			
Volume to Capacity	0.00	0.01	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		6.7%		ICU Level of Service	A	
Analysis Period (min)		15				



Jacumba Valley Ranch  
8: Carrizo Gorge Road & Access 4

















Existing AM with Typical Operations Traffic

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	0	0	7	2	5
Future Volume (Veh/h)	3	0	0	7	2	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.56	0.56	0.56	0.56	0.56	0.56
Hourly flow rate (vph)	5	0	0	13	4	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	22	8	13			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	22	8	13			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	100			
cM capacity (veh/h)	995	1073	1606			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	5	13	13			
Volume Left	5	0	0			
Volume Right	0	0	9			
cSH	995	1606	1700			
Volume to Capacity	0.01	0.00	0.01			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	8.6	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.6	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay		1.4				
Intersection Capacity Utilization		13.3%		ICU Level of Service		A
Analysis Period (min)		15				



Jacumba Valley Ranch  
9: Access 5 & Old Highway 80

Existing AM with Typical Operations Traffic

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	11	0	0	4	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	11	0	0	4	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Hourly flow rate (vph)	0	20	0	0	7	0	0	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	7			20			27	27	20	27	27	7
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	7			20			27	27	20	27	27	7
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1614			1596			983	866	1058	983	866	1075
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	20	7	0	0								
Volume Left	0	0	0	0								
Volume Right	0	0	0	0								
cSH	1614	1596	1700	1700								
Volume to Capacity	0.00	0.00	0.00	0.00								
Queue Length 95th (ft)	0	0	0	0								
Control Delay (s)	0.0	0.0	0.0	0.0								
Lane LOS			A	A								
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS			A	A								
Intersection Summary												
Average Delay			0.0									
Intersection Capacity Utilization			6.7%	ICU Level of Service					A			
Analysis Period (min)			15									


















## 1: I-8 Access Road &amp; I-8 WB On Ramp/I-8 WB Off Ramp

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↖	↗	
Traffic Volume (veh/h)	0	0	21	0	26	0
Future Volume (Veh/h)	0	0	21	0	26	0
Sign Control	Stop			Stop	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	0	0	29	0	36	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	72	0	72	72	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	72	0	72	72	0	
tC, single (s)	6.5	6.2	7.1	6.5	4.1	
tC, 2 stage (s)						
tF (s)	4.0	3.3	3.5	4.0	2.2	
p0 queue free %	100	100	97	100	98	
cM capacity (veh/h)	800	1085	904	800	1623	
Direction, Lane #	WB 1	NB 1				
Volume Total	29	36				
Volume Left	29	36				
Volume Right	0	0				
cSH	904	1623				
Volume to Capacity	0.03	0.02				
Queue Length 95th (ft)	2	2				
Control Delay (s)	9.1	7.3				
Lane LOS	A	A				
Approach Delay (s)	9.1	7.3				
Approach LOS	A					
Intersection Summary						
Average Delay		8.1				
Intersection Capacity Utilization		13.9%	ICU Level of Service	A		
Analysis Period (min)		15				



















## 2: I-8 Access Road &amp; I-8 EB Off Ramp/I-8 EB On Ramp

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	40	0	0	0	0	26	42	0	21	0
Future Volume (Veh/h)	0	1	40	0	0	0	0	26	42	0	21	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1	43	0	0	0	0	28	46	0	23	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	74	97	23	118	74	51	23			74		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	74	97	23	118	74	51	23			74		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	96	100	100	100	100			100		
cM capacity (veh/h)	916	793	1054	823	816	1017	1592			1526		
Direction, Lane #	EB 1	NB 1	SB 1									
Volume Total	44	74	23									
Volume Left	0	0	0									
Volume Right	43	46	0									
cSH	1046	1700	1526									
Volume to Capacity	0.04	0.04	0.00									
Queue Length 95th (ft)	3	0	0									
Control Delay (s)	8.6	0.0	0.0									
Lane LOS	A											
Approach Delay (s)	8.6	0.0	0.0									
Approach LOS	A											
Intersection Summary												
Average Delay			2.7									
Intersection Capacity Utilization			13.9%			ICU Level of Service				A		
Analysis Period (min)			15									



Jacumba Valley Ranch  
3: Driveway/I-8 Access Road & Carrizo Gorge Road

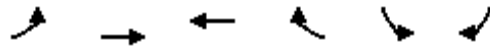
Existing PM with Typical Operations Traffic





												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	4	0	0	4	31	1	25	1	11	38	13
Future Volume (Veh/h)	8	4	0	0	4	31	1	25	1	11	38	13
Sign Control		Yield			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	9	5	0	0	5	36	1	29	1	13	44	15
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	148	110	52	112	116	30	59			30		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	148	110	52	112	116	30	59			30		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	99	100	100	99	97	100			99		
cM capacity (veh/h)	783	774	1016	856	767	1045	1545			1583		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	14	41	31	72								
Volume Left	9	0	1	13								
Volume Right	0	36	1	15								
cSH	780	1001	1545	1583								
Volume to Capacity	0.02	0.04	0.00	0.01								
Queue Length 95th (ft)	1	3	0	1								
Control Delay (s)	9.7	8.8	0.2	1.4								
Lane LOS	A	A	A	A								
Approach Delay (s)	9.7	8.8	0.2	1.4								
Approach LOS	A	A										
Intersection Summary												
Average Delay			3.8									
Intersection Capacity Utilization			21.7%		ICU Level of Service				A			
Analysis Period (min)			15									



Jacumba Valley Ranch  
4: Old Highway 80 & Carrizo Gorge Road

Existing PM with Typical Operations Traffic












Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	4	4	0	0	11
Future Volume (Veh/h)	10	4	4	0	0	11
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	15	6	6	0	0	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						3
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	6				42	6
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	6				42	6
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	98
cM capacity (veh/h)	1615				960	1077
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	21	6	17			
Volume Left	15	0	0			
Volume Right	0	0	17			
cSH	1615	1700	269			
Volume to Capacity	0.01	0.00	0.06			
Queue Length 95th (ft)	1	0	5			
Control Delay (s)	5.2	0.0	19.3			
Lane LOS	A		C			
Approach Delay (s)	5.2	0.0	19.3			
Approach LOS			C			
Intersection Summary						
Average Delay			9.9			
Intersection Capacity Utilization			13.3%		ICU Level of Service	
Analysis Period (min)			15		A	



Jacumba Valley Ranch  
5: Carrizo Gorge Road & Access 1










Existing PM with Typical Operations Traffic

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	15	0	0	14
Future Volume (Veh/h)	0	0	15	0	0	14
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.58	0.58	0.58	0.58	0.58	0.58
Hourly flow rate (vph)	0	0	26	0	0	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	50	26			26	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	50	26			26	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	959	1050			1588	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	26	24			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1588			
Volume to Capacity	0.00	0.02	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			



Jacumba Valley Ranch  
6: Carrizo Gorge Road & Access 2










Existing PM with Typical Operations Traffic

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	15	14	0
Future Volume (Veh/h)	0	0	0	15	14	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.58	0.58	0.58	0.58	0.58	0.58
Hourly flow rate (vph)	0	0	0	26	24	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	50	24	24			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	50	24	24			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	959	1052	1591			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	26	24			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1591	1700			
Volume to Capacity	0.00	0.00	0.01			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay		0.0				
Intersection Capacity Utilization		13.3%		ICU Level of Service		A
Analysis Period (min)		15				



Jacumba Valley Ranch  
7: Carrizo Gorge Road & Access 3










Existing PM with Typical Operations Traffic

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	15	0	0	14
Future Volume (Veh/h)	0	0	15	0	0	14
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.58	0.58	0.58	0.58	0.58	0.58
Hourly flow rate (vph)	0	0	26	0	0	24
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			837			
pX, platoon unblocked						
vC, conflicting volume	50	26			26	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	50	26			26	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	959	1050			1588	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	26	24			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1588			
Volume to Capacity	0.00	0.02	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			6.7%	ICU Level of Service	A	
Analysis Period (min)			15			



Jacumba Valley Ranch  
8: Carrizo Gorge Road & Access 4

















Existing PM with Typical Operations Traffic

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	0	0	10	11	3
Future Volume (Veh/h)	5	0	0	10	11	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.58	0.58	0.58	0.58	0.58	0.58
Hourly flow rate (vph)	9	0	0	17	19	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	38	22	24			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	38	22	24			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	100			
cM capacity (veh/h)	973	1056	1591			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	9	17	24			
Volume Left	9	0	0			
Volume Right	0	0	5			
cSH	973	1591	1700			
Volume to Capacity	0.01	0.00	0.01			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.7	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.7	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			



Jacumba Valley Ranch  
9: Access 5 & Old Highway 80

Existing PM with Typical Operations Traffic

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	14	0	0	15	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	14	0	0	15	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Hourly flow rate (vph)	0	21	0	0	23	0	0	0	0	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	23			21			44	44	21	44	44	23
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	23			21			44	44	21	44	44	23
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1592			1595			958	848	1056	958	848	1054
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	21	23	0	0								
Volume Left	0	0	0	0								
Volume Right	0	0	0	0								
cSH	1592	1595	1700	1700								
Volume to Capacity	0.00	0.00	0.00	0.00								
Queue Length 95th (ft)	0	0	0	0								
Control Delay (s)	0.0	0.0	0.0	0.0								
Lane LOS			A	A								
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS			A	A								
Intersection Summary												
Average Delay			0.0									
Intersection Capacity Utilization			6.7%	ICU Level of Service					A			
Analysis Period (min)			15									