APPENDIX H.1

Access Analysis

(August 2021)

El Camino Real Senior Living

Access Analysis

August 2021

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1.0 Introduction

Based on the City of San Diego's new SB 743-compliant CEQA Significance Thresholds for Transportation implemented via the City of San Diego Transportation Study Manual (September 2020), the Proposed Project is considered to be a small project, and may be presumed to have a less than significant transportation VMT impact. The Proposed Project proposes an addendum to the previously approved *St. John Garabed Church Final Environmental Impact Report* (St. John Church FEIR), October 2014, which did not analyze this project's traffic at its access point. Therefore, the purpose of this access analysis is to evaluate the effect in which the proposed El Camino Real Assisted Living Facility Project (Proposed Project) (PTS #675732) will have on the surrounding local transportation network, as well as determine if additional improvements to the transportation network will be needed. Discussion regarding consistency with the operational analysis results of the St. John Church TIS is also provided in this analysis.

1.1 Project Description

The El Camino Real Assisted Living Facility Project (Proposed Project) is located on 13860 El Camino Real, south of the proposed St. John Garabed Armenian Church (St. John Church) project and east of Interstate 5, within Subarea II of the North City Future Urbanizing Area (NCFUA) of the City of San Diego. The Proposed Project intends to develop a 105,568 SF, three story 105-unit nursing home facility for assisted living consisting of 18 memory care accommodations (20 beds) and 87 assisted living accommodations (105 beds). Figure 1.1 displays the Proposed Project's regional location.

The Proposed Project is consistent with the underlying AR-1-1 (Agricultural Residential) zoning and is requesting the following discretionary approvals:

- Uncodified Ordinance
- Conditional Use Permit (CUP) Amendment
- Site Development Permit (SDP) Amendment
- Neighborhood Use Permit (NUP)

Access to the project site will be provided via the driveway currently under construction by the adjacent St. John Church. This driveway as described in the *St. John Garabed Armenian Church Traffic Impact Study* (St. John Church TIS), July 2013, will allow for right-in/right-out access off El Camino Real and operate as a side-street stop-controlled intersection, with El Camino Real as uncontrolled and the driveway as stop-controlled. Figure 1.2 displays the Proposed Project site plan.

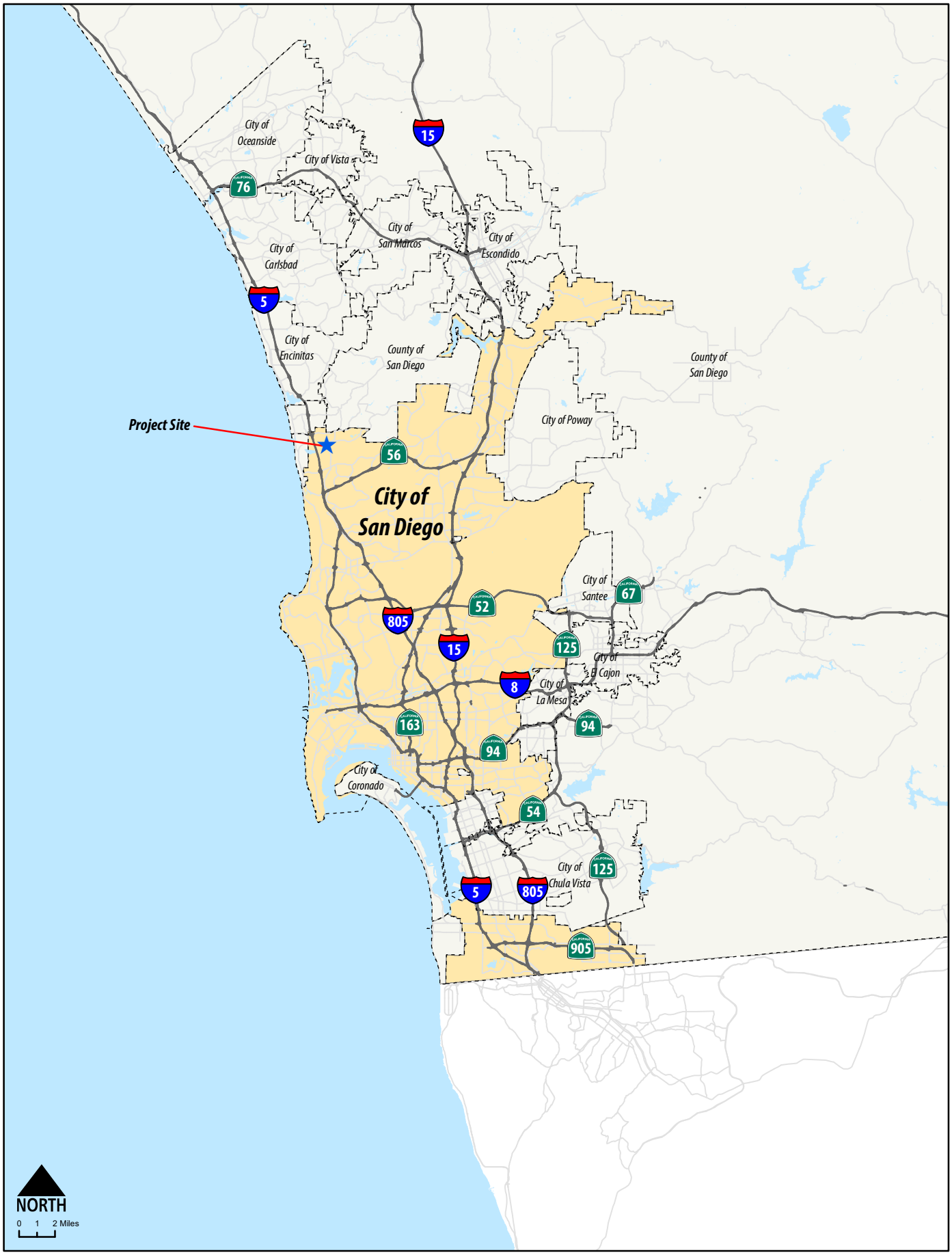

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Figure 1.1
Project Regional Location

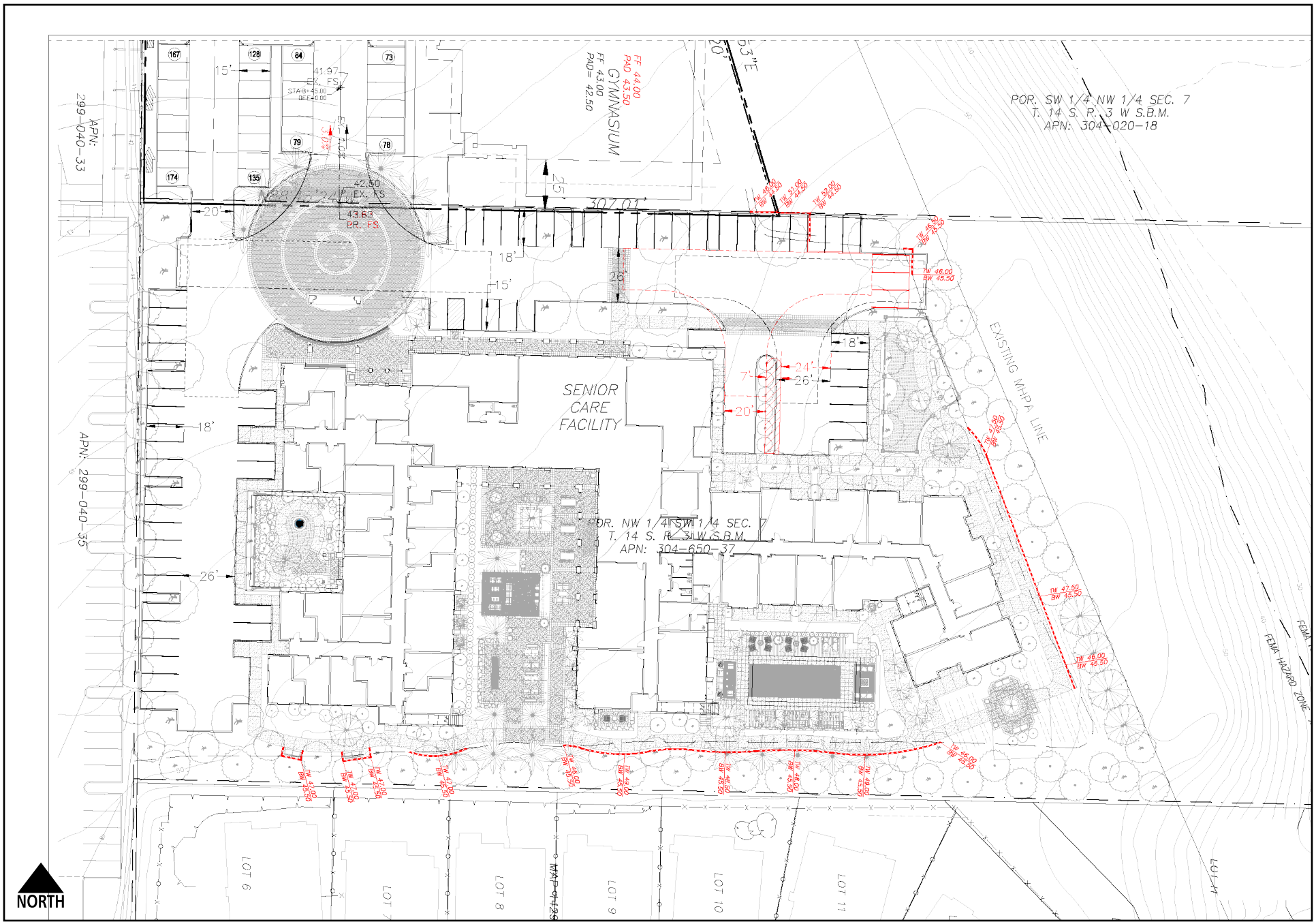

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Figure 1.2
Proposed Project Site Plan

1.2 Report Organization

Following this introductory chapter, the report is organized into the following chapters:

2.0 *Analysis Methodology and Thresholds* – This chapter reviews the methods utilized to evaluate the Proposed Project's effect on the local transportation network, in accordance with the standards and requirements used for the St. John Church TIS.

3.0 *Proposed Project* – This chapter describes the Proposed Project's land uses and associated trip generation. Additional information such as trip distribution patterns and project trip assignment are also included in this chapter, which are used to determine the project study area.

4.0 *Project Setting* – This chapter provides a qualitative description of the transportation facilities and services located within the Proposed Project study area including roadway facilities, active transportation facilities, and transit services.

5.0 *Existing Conditions* – This chapter describes and evaluates the existing transportation network. The operations of the vehicular, pedestrian, bicycle, and transit facilities within the study area are evaluated and substandard facilities are identified. LOS analysis results are also provided for existing vehicular traffic conditions.

6.0 *Near-Term Year 2024 Conditions* – This chapter describes and evaluates the effect in which near-term developments, that are anticipated to contribute traffic within the project study area, will have on the surrounding transportation network. LOS analysis results are also provided for Near-Term Year 2024 Base and Near-Term Year 2024 Base with Project vehicular traffic conditions. The necessary features required to improve any identified substandard facilities to standard levels are also provided.

7.0 *Horizon Year Conditions* – This chapter describes projected long-range future conditions of the transportation network within the study area.

8.0 *Determination of Consistency with Previous FEIR* – This section determines if the analysis results presented in this access analysis are consistent with the operational analysis results of the St. John Church TIS.

2.0 Analysis Methodology and Thresholds

This study was performed in accordance with the operational analysis presented in the St. John Church TIS. The project information form (PIF) is included in **Appendix A**. Detailed information on analysis methodologies, standards, and thresholds are discussed in the following sections.

2.1 LOS Definition

LOS is a quantitative measure describing operational conditions within a traffic stream, and the motorist's and/or passengers' perception of operations. A LOS definition generally describes these conditions in terms of such factors as delay, speed, travel time, freedom to maneuver, interruptions in traffic flow, queuing, comfort, and convenience. **Table 2.1** describes generalized definitions of the various LOS categories (A through F) as applied to roadway operations.

Table 2.1 LOS Definitions

LOS Category	Definition of Operation
A	This LOS represents a completely free-flow condition, where the operation of vehicles is virtually unaffected by the presence of other vehicles and only constrained by the geometric features of the highway and by driver preferences.
B	This LOS represents a relatively free-flow condition, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.
C	At this LOS, the influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles.
D	At this LOS, the ability to maneuver is notably restricted due to traffic congestion, and only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
E	This LOS represents operations at or near capacity. LOS E is an unstable level, with vehicles operating with minimum spacing for maintaining uniform flow. At LOS E, disruptions cannot be dissipated readily thus causing deterioration down to LOS F.
F	At this LOS, forced or breakdown of traffic flow occurs, although operations appear to be at capacity, queues form behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages.

Source: Highway Capacity Manual 6th Edition

2.2 Roadway Segment LOS Standards and Thresholds

Roadway segment LOS standards and thresholds provide the basis for analysis of arterial roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast ADT volumes. **Table 2.2** presents the roadway segment capacity and LOS standards for the City of San Diego. These standards were utilized to analyze roadways evaluated in this report.

Table 2.2 City of San Diego Roadway Segment Daily Capacity and LOS Standards

Street Classification	Proposed LOS/ADT Thresholds				
	A	B	C	D	E
Major Arterial (4-lane, divided)	< 15,000	< 21,000	< 30,000	**< 35,000**	< 40,000

Source: City of San Diego TSM

Note:
Bold numbers indicate the ADT thresholds for acceptable LOS.

These standards are generally used as long-range planning guidelines to determine the functional classification of roadways. The actual capacity of a roadway facility varies according to its physical

attributes. Typically, the performance and LOS of a roadway segment is heavily influenced by the ability of its intersections to accommodate peak hour traffic volumes. For the purposes of this traffic analysis, LOS D is considered acceptable for circulation element roadway segments within the City of San Diego.

2.3 Peak Hour Intersection LOS Standards and Thresholds

This section presents the methodologies used to perform peak hour intersection capacity analysis at the signalized and unsignalized intersections within the study area. The following assumptions were utilized in conducting all intersection LOS analyses:

- *Peak Hour Factor (PHF)* – Calculated from historic peak hour intersection count data, included in Appendix B. A PHF of 0.95 or existing PHF (whichever is greater) was used for Horizon Year conditions and for all new driveways.
- *Signal Timing* – Used traffic signal timing/phasing plans from the City of San Diego (March 2021). Signal timings were optimized under Horizon Year conditions. Existing signal timing/phasing plans are provided in Appendix C.
- *Conflicting Pedestrians and Pedestrian Calls* – Used pedestrian count data from the February 2012 peak hour intersection count data for all scenarios.
- *Heavy Truck Percentage* – No truck routes within study area; therefore, 3% trucks on all intersection movements were used for all scenarios.
- *Lane Utilization Factor* – No unusual lane utilization was observed in the field; therefore, HCM 6th Edition defaults were used for all scenarios.

2.3.1 Signalized Intersections

The analysis of signalized intersections utilized the operational analysis procedure as outlined in the Highway Capacity Manual (HCM) 6th Edition signalized (Chapter 19) intersection analysis methodology. This method defines LOS in terms of delay, or more specifically, average stopped delay per vehicle. Delay is a measure of driver and/or passenger discomfort, frustration, fuel consumption and lost travel time. This technique uses 1,900 vehicles per hour per lane (VPHPL) as the maximum saturation volume of an intersection. This saturation volume is adjusted to account for lane width, on-street parking, pedestrians, traffic composition (i.e., percentage trucks) and shared lane movements (i.e., through and right-turn movements originating from the same lane). The LOS criteria used for the analysis of signalized intersections are described in Table 2.3, identifying the thresholds of control delays and the associated LOS. The computerized analysis of intersection operations was performed utilizing the Synchro Version 10 traffic analysis software by Trafficware Ltd.

Table 2.3 Signalized Intersection LOS Operation Analysis Method

Average Stopped Delay Per Vehicle (Seconds)	LOS Characteristics
<10	LOS A describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
>10– 20	LOS B describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
>20 – 35	LOS C describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
>35– 55	LOS D describes operations with high vehicle delay, resulting from some combination of unfavorable progression, long cycle lengths, or high vehicle volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.
>55 – 80	LOS E is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.
>80	LOS F describes a condition of excessively high vehicle delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the LOS D capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.

Source: Highway Capacity Manual 6th Edition

2.3.2 Unsignalized Intersections

Unsignalized intersections were analyzed using the HCM 6th Edition side-street stop (Chapter 20) and all-way stop (Chapter 21) intersection analysis methodology. The computerized analysis of intersection operations was performed utilizing the Synchro Version 10 traffic analysis software by Trafficware Ltd.

LOS was determined as follows:

- *Side-street stop intersections*: Reported for the worst-case movement

The LOS criteria used for the analysis of unsignalized intersections are described in **Table 2.4**.

Table 2.4 LOS Criteria for Stop-Controlled Unsignalized Intersections

Average Stopped Delay Per Vehicle (Seconds)	LOS
0 – 10	A
> 10 – 15	B
> 15 – 25	C
> 25 – 35	D
> 35 – 50	E
> 50	F

Source: Highway Capacity Manual 6th Edition

3.0 Proposed Project

This chapter describes the Proposed Project, including the Proposed Project's trip generation, as well as specific information needed for the analysis including the trip distribution patterns and project trip assignment.

3.1 Project Trip Generation, Distribution, and Assignment

Project Trip Generation

Weekday project trip generation estimates were derived utilizing the trip generation rates outlined in Table 1 of the *City of San Diego Land Use Code – Trip Generation Manual, May 2003*. Appendix C of the City's trip generation manual defines a Congregate Care facility as:

"A facility that typically consists of one or more multi-unit buildings designed for elderly living."

Similarly, the City's trip generation manual defines a Convalescent Hospital as:

"Convalescent hospitals are freestanding institutions designed to provide medical care for patients with long- term illnesses. Normally such hospitals do not provide emergency room medical treatment."

As such, it was determined that both Congregate Care facility and Convalescent Hospital are the appropriate trip generation rates for the Proposed Project. **Table 3.1** displays the anticipated trip generation for the proposed project.

Table 3.1 Proposed Project Trip Generation

				AM					PM				
Land Use	Units	Trip Rate	ADT	%	Trips	Split	In	Out	%	Trips	Split	In	Out
Congregate Care Facility	87 DU	2 / DU	174	3%	6	(6:4)	4	2	8%	14	(5:5)	7	7
Convalescent/Nursing	20 beds	3 / bed	60	7%	4	(6:4)	2	2	7%	4	(4:6)	2	2
		Total	**234**	**-**	**10**	**-**	**6**	**4**	**-**	**18**	**-**	**9**	**9**

Note:
DU = Dwelling Unit

As shown, in Table 3.1, the Proposed Project would generate a total of 234 daily weekday trips, with 10 occurring in the AM peak hour (6 inbound, 4 outbound) and 18 occurring in the PM peak hour (9 inbound, 9 outbound).

Per the St. John Church TIS, the St. John Church would generate more trips during the weekend than during a typical weekday. The Proposed Project is also expected to generate trips during the weekend, primarily due to people visiting family and guests residing at the Proposed Project. Therefore, from a trip generation perspective, the worst-case scenario, and consequently the highest number of vehicles utilizing the driveway shared by both projects, would occur when trips for the Proposed Project and the St. John Church are combined. Therefore, an analysis was conducted to evaluate traffic conditions during the weekend peak hour under Near-Term Year 2024 scenario. LOS analysis results during the weekend peak hour are discussed in Section 6.0.

It should be noted that the City's trip generation manual does not provide weekend trip generation rates. However, the *ITE Trip Generation Manual, 10th Edition* provides weekday and weekend trip generation rates for a continuing care retirement community. Weekday trip generation rates were observed to be higher than weekend trip generation rates. In other words, the ITE Trip Generation Manual estimates that a continuing care retirement community generates more trips during a typical weekday than during a weekend day. Since the Proposed Project land uses would operate similar to a continuing care retirement community, it was assumed the Proposed Project would also generate more trips during a weekday than during a weekend day. As such, and for a conservative analysis, the Proposed Project's Sunday peak hour trip generation is assumed to be identical to the weekday PM peak hour trip generation, which is the peak hour that generates the most project trips during a typical weekday, as shown previously in Table 3.1.

Project Trip Distribution

The trip distribution for the Proposed Project was developed based on the geographical location of the project, the characteristics of the proposed land uses, and nearest freeway facilities. **Figure 3.1** displays the Proposed Project trip distribution patterns associated with the Proposed Project land uses.

Project Trip Assignment

Based upon the project trip distribution patterns, daily and AM/PM peak hour project trips were assigned to the adjacent roadway network, as displayed in **Figure 3.2**.

3.2 Project Study Area

To demonstrate consistency with the operational analysis results of the St. John Church TIS, the study area for this analysis is the same as the roadway segments and intersections analyzed in that study:

Roadway Segments

- El Camino Real, between San Dieguito Road and Sea Country Lane

Under Existing conditions, the driveway that will provide access to the Proposed Project and the adjacent St. John Church is under construction. This driveway is anticipated to be completed prior to the Proposed Project's opening year, 2024. Therefore, under future scenarios, Near-Term Year 2024 and Horizon Year, the roadway segment of El Camino Real between San Dieguito Road and Sea Country Lane is divided into two (2) segments as follows:

- El Camino Real, between San Dieguito Road and Project Driveway
- El Camino Real, between Project Driveway and Sea Country Lane

Intersections

1. El Camino Real & San Dieguito Road (Signal)
2. El Camino Real & Sea Country Lane (Signal)
3. El Camino Real & Project Driveway (Side-street stop-controlled)[1]

[1] Project driveway is currently under construction and expected to be completed prior to the Proposed Project's opening year, 2024. Therefore, it is only analyzed under Near-Term Year 2024 and Horizon Year scenarios.

Figure 3.4 displays the project study area.

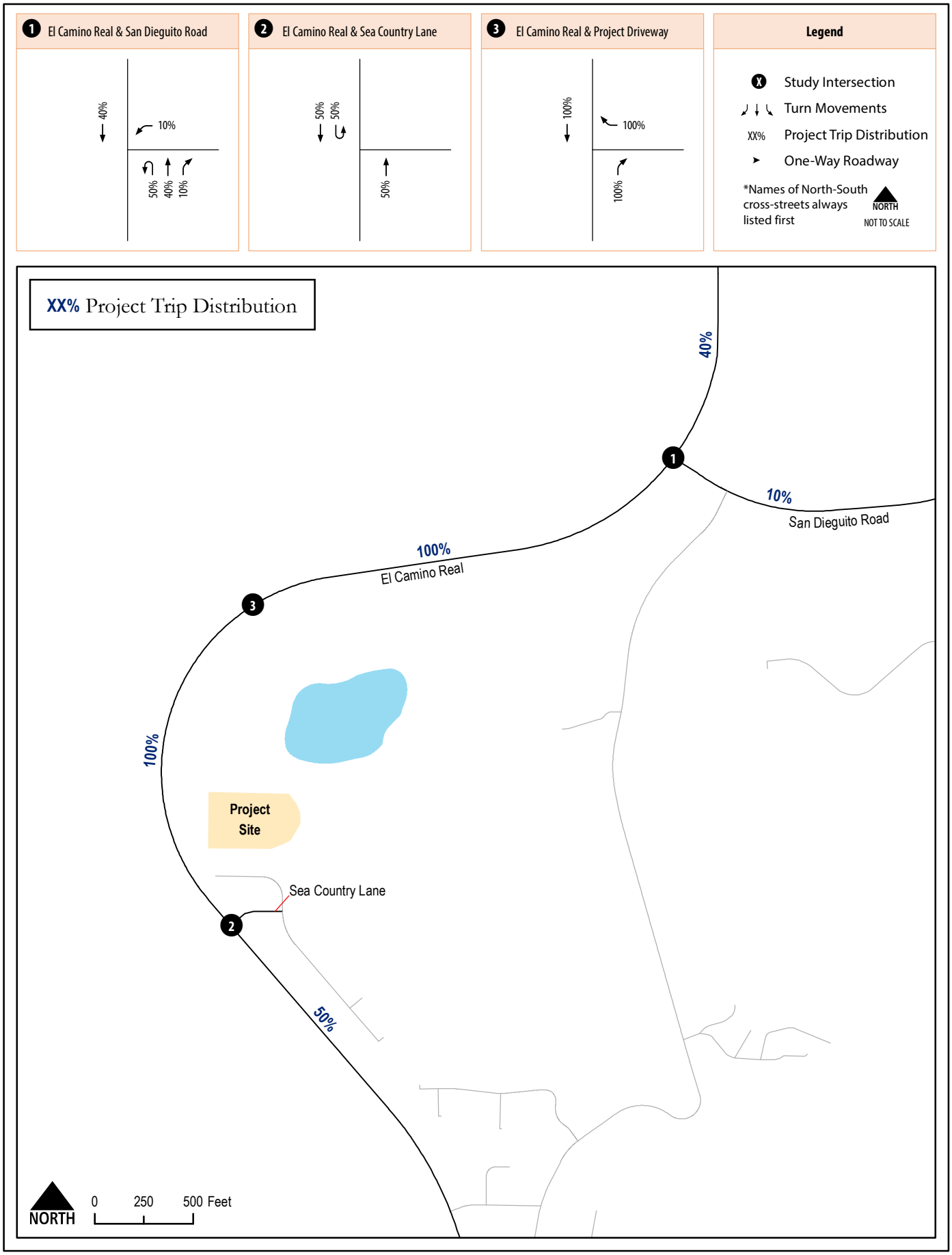

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Figure 3.1
Project Trip Distribution

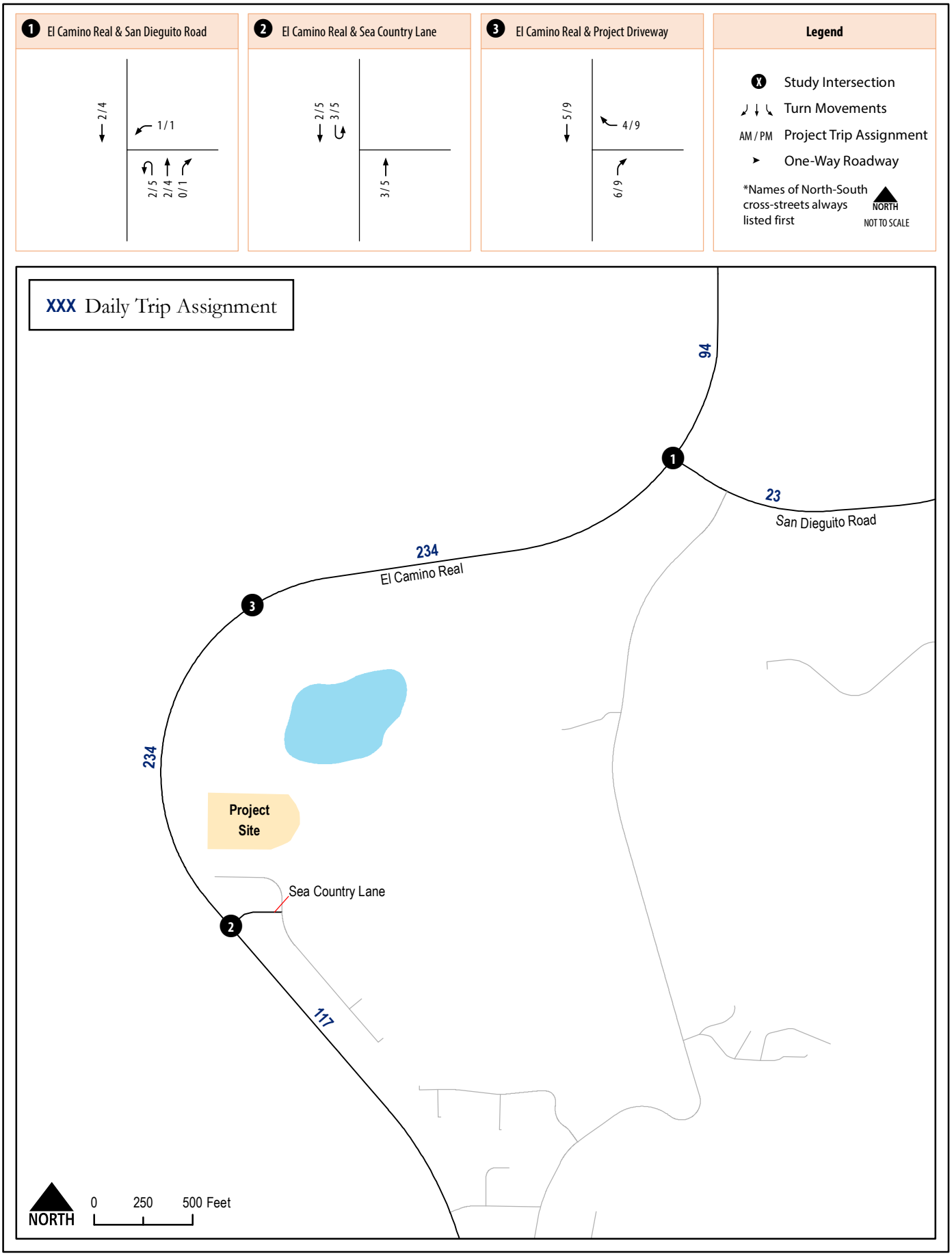

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Figure 3.2
Project Trip Assignment (Weekday)

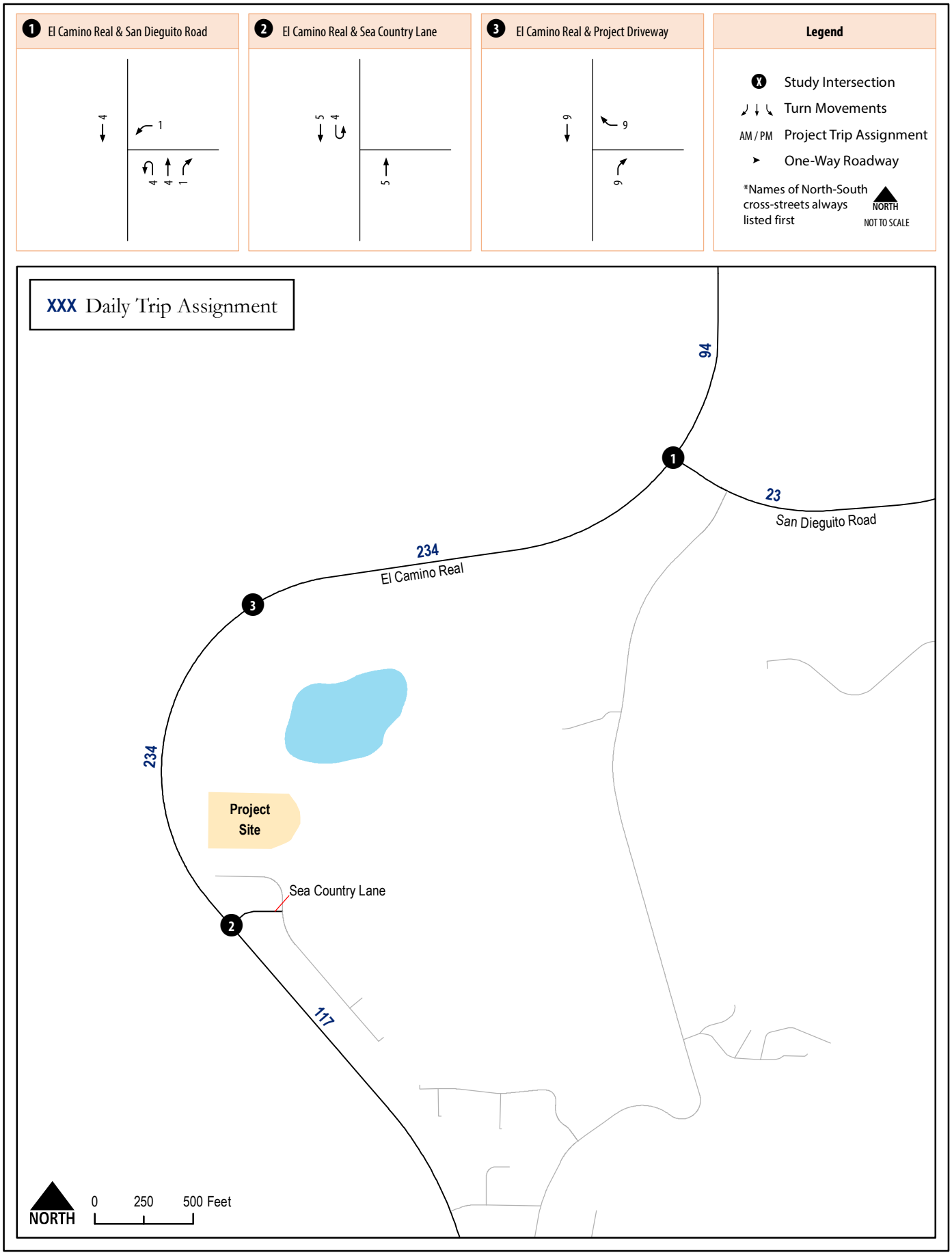

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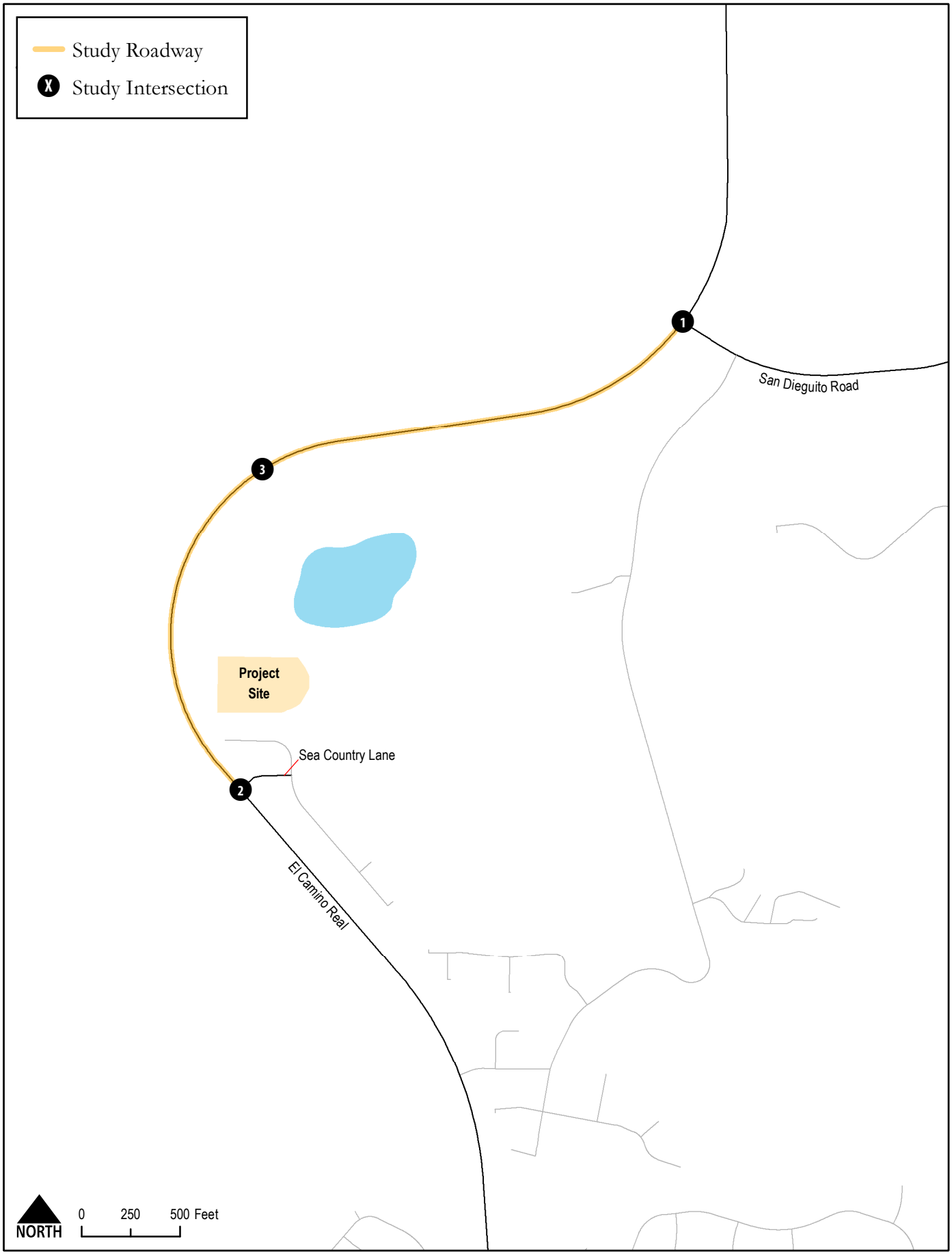
Figure 3.3
Project Trip Assignment (Weekend)



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Local Mobility Analysis

Figure 3.4
Project Study Area

4.0 Project Setting

This chapter provides a qualitative description of the transportation network facilities within the Proposed Project study area. This includes roadway facilities, active transportation facilities, as well as transit facilities and services.

4.1 Vehicular Facilities

Descriptions of all major transportation network facilities located within ½ mile distance of the project site are provided below.

North-South Roadways

El Camino Real – El Camino Real between San Dieguito Road and Sea Country Lane is a 4-lane roadway with a raised median. Contiguous sidewalks exist along the eastern side of El Camino Real, but there are no existing sidewalks along the western side. Class II Bike Lanes are provided along both directions throughout the segment. Parking is prohibited on both sides of the roadway in this area and the posted speed limit is 50 miles per hour. The North City Future Urbanizing Area (NCFUA) Framework Plan classifies El Camino Real as a 4-lane major arterial between San Dieguito Road and Sea Country Lane. This segment is at its ultimate classification per the NCFUA Framework Plan.

East-West Roadways

San Dieguito Road – San Dieguito Road is a 2-lane undivided roadway between El Camino Real and further east. There are no existing sidewalks on either side of San Dieguito Road. Class II Bike Lanes are provided along both directions throughout the roadway. Parking is prohibited on both sides of the roadway in this area and the posted speed limit is 45 miles per hour. The NCFUA Framework Plan classifies San Dieguito Road as a 2-lane collector from El Camino Real to the east. This segment is at its ultimate classification per the NCFUA Framework Plan.

4.2 Pedestrian Facilities

Pedestrian facilities within a ½ a mile walking distance of the Proposed Project site were observed. **Table 4.1** summarizes the existing physical characteristics of sidewalks along the project study area. Specifically, missing sidewalks, narrow sidewalks, and major obstructions are identified.

Table 4.1 Roadway Pedestrian Facilities and Conditions

Roadway	From	To	East Side / South Side		West Side / North Side	
			Sidewalk Type	Conditions	Sidewalk Type	Conditions
El Camino Real	San Dieguito Road	Sea Country Lane	Existing	No obstructions and no significant sidewalk deterioration	Missing	There are no existing sidewalks throughout the entire segment
San Dieguito Road	El Camino Real	Caminito Pacifica Trail	Missing	There are no existing sidewalks throughout the entire segment	Missing	There are no existing sidewalks throughout the entire segment

As shown in Table 4.1, three (3) sidewalk segments were identified to have missing sidewalks. It should be noted that due to construction of driveways along the east side of El Camino Real, there are minor obstructions. However, this is temporary in nature and no obstructions are anticipated post-construction. As such, Table 4.1 does not identify obstructions associated with driveway construction along the east side of El Camino Real between San Dieguito Road and Sea Country Lane.

Table 4.2 summarizes the existing physical characteristics of sidewalk ramps along the project frontage and at intersections within ½ mile walking distance from the project site. Specifically, major ramp obstructions and missing detectable surface warning (DSW) tactiles are reported.

Table 4.2 Intersection Missing Curb Ramps

North / South Roadway	East / West Roadway	Conditions
El Camino Real	San Dieguito Road	NW, NE, SW Curb Ramps Missing[1]

Notes:
[1] No Ped crossing in east/west direction on south leg at this T-intersection.

As shown in Table 4.2, the intersection of El Camino Real and San Dieguito Road was identified to have three (3) missing curb ramps. This is likely due to the No Ped crossing along the south leg as well as the missing sidewalks along the west side of El Camino Real and both sides of San Dieguito Road.

4.3 Bicycle Facilities

Bicycle facilities within a ½ a mile cycling distance of the Proposed Project site were observed. Table 4.3 summarizes the bicycle facilities fronting the Proposed Project, their respective ultimate classification, and present conditions.

Table 4.3 Bicycle Facilities and Conditions

Roadway	From	To	Facility	Conditions	Ultimate Classification
El Camino Real	San Dieguito Road	Sea Country Lane	NB: Class II SB: Class II	Continuous with no major obstructions or gaps.	Class II or III
San Dieguito Road	El Camino Real	Caminito Pacifica Trail	NB: Class II SB: Class II	Continuous with no major obstructions or gaps.	Class II or III

As shown in Table 4.3, the Proposed Project is surrounded by Class II Bike Lanes to the west along El Camino Real and to the north along San Dieguito Road. These bicycle facilities are continuous with no major obstructions or gaps.

4.4 Transit Facilities

There are no existing or planned transit facilities within a ½ mile of the Proposed Project.

4.5 Project Improvements

The Proposed Project does not include any transportation network improvements. Based on review of the NCFUA Framework Plan and the Proposed Project site plan, the Proposed Project does not interfere with community plan transportation network improvements. Proposed Project improvements are summarized below.

Project Driveways

- *El Camino Real & Project Driveway* – As mentioned previously, vehicular access to the Proposed Project will be provided by the driveway proposed for construction by the adjacent church project, St. John Church. This newly constructed driveway will be a three-legged intersection operating as a side-street stop-controlled intersection permitting right-in/right-out access only.

Pedestrian Facilities

No changes to the pedestrian network are proposed.

Bicycle Facilities

No changes to the bicycle network are proposed. Bicycle amenities such as bicycle parking and storage will be provided on site.

Transit Facilities

No changes to the transit network are proposed. However, the project applicant proposes to provide a shuttle to the Solana Beach Station. No other transit stop amenities are proposed.

5.0 Existing Conditions

This section provides an analysis of Existing traffic conditions without the Proposed Project. Traffic conditions under Existing with Project were not analyzed since the Existing with Project scenario is a hypothetical scenario that assumes the Proposed Project would be fully built out immediately, adding its associated buildout traffic volumes to the existing roadway volumes and infrastructure. As a result of this presumption, cumulative traffic volumes, future planned roadway network mitigation measures, and surrounding land use changes are not accounted for, which could result in either understating or overstating the Proposed Project's effect. For these reasons, the Existing with Project scenario is not included in this analysis.

5.1 Existing Roadway Network and Traffic Volumes

Figure 5.1 displays the study area roadway segment classifications and intersection geometrics under Existing conditions.

Traffic Volumes

Since current daily travel patterns do not reflect traffic conditions prior to COVID-19 restrictions, weekday traffic counts conducted in 2012 for the St. John Church TIS, included in Appendix B, were adjusted to better reflect traffic volumes under Existing conditions.

SANDAG Transportation Information Forecast Center (TFIC) traffic forecast volumes for Series 14 base year 2016 were observed to grow 13.84% to forecast year 2025, resulting in an annual growth rate of 1.54% per year over a nine-year period. Existing conditions traffic volumes were derived by applying this 1.54% annual growth rate to the February 2012 traffic counts from the St. John Church TIS, for a total growth of 13.84% over a nine-year period. The resulting daily roadway and AM/PM peak hour turning movement volumes for study area roadway segments and intersections are displayed in **Figure 5.2**. Traffic volume calculations are included in **Appendix D**.

5.2 Existing Traffic Conditions

LOS analyses under Existing conditions were conducted using the methodologies described in Section 2.0. Roadway segment and intersection LOS analysis results are discussed below.

5.2.1 Roadway Segment Analysis

Table 5.1 displays roadway segment LOS and analysis results for study roadway segments under Existing conditions.

Table 5.1 Roadway Segment LOS Results – Existing Conditions

Roadway	Segment	Functional Classification	Daily Volume	LOS Threshold (LOS E)	V/C	LOS
El Camino Real	San Dieguito Road to Sea Country Lane	4-Lane Major Arterial	15,151	40,000	0.396	B

Notes:
V/C = Volume / Capacity.

As shown in Table 5.1, El Camino Real between San Dieguito Road and Sea Country Lane currently operates at acceptable LOS B.

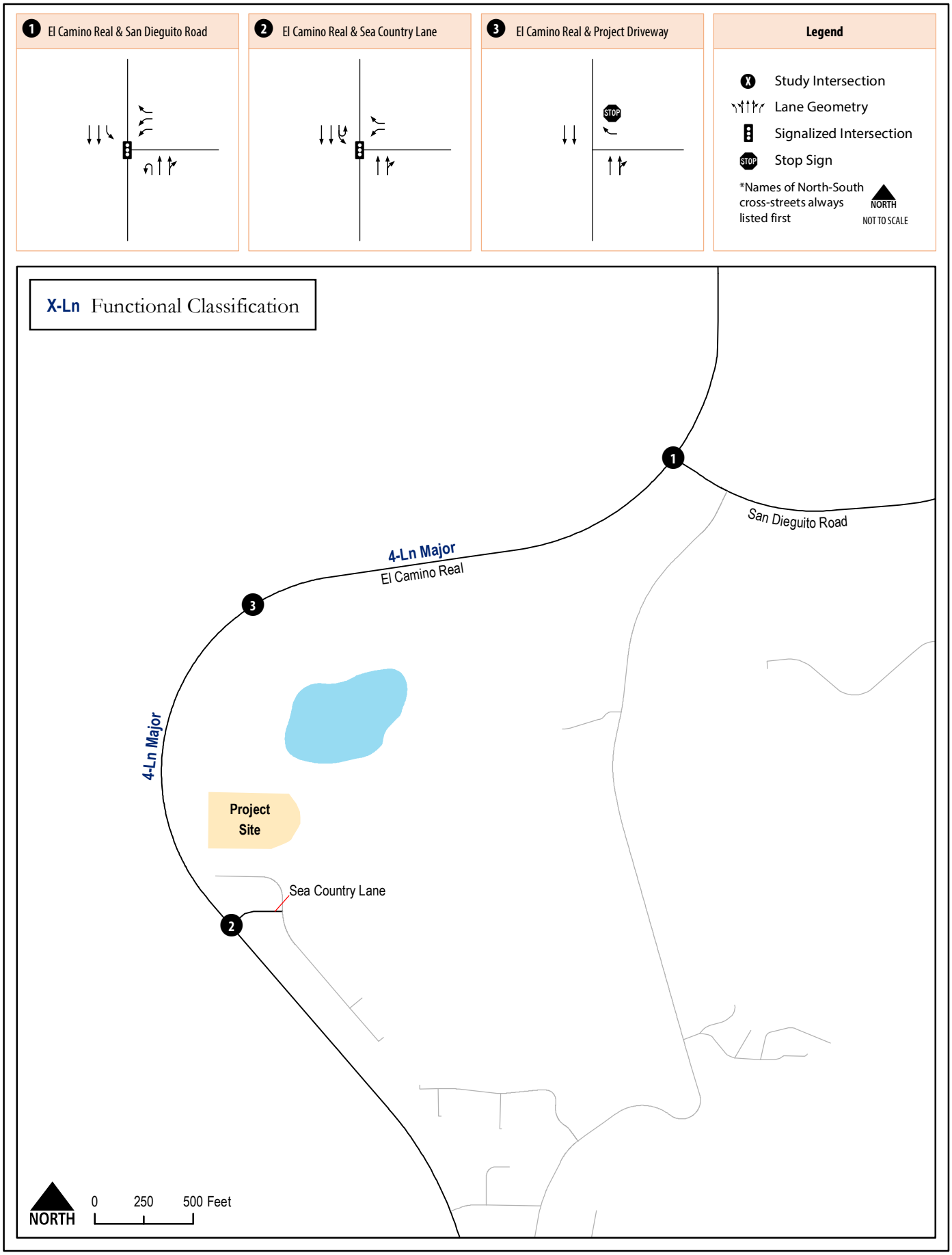

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Figure 5.1
Roadway Classifications and Intersection Geometrics
Existing Conditions

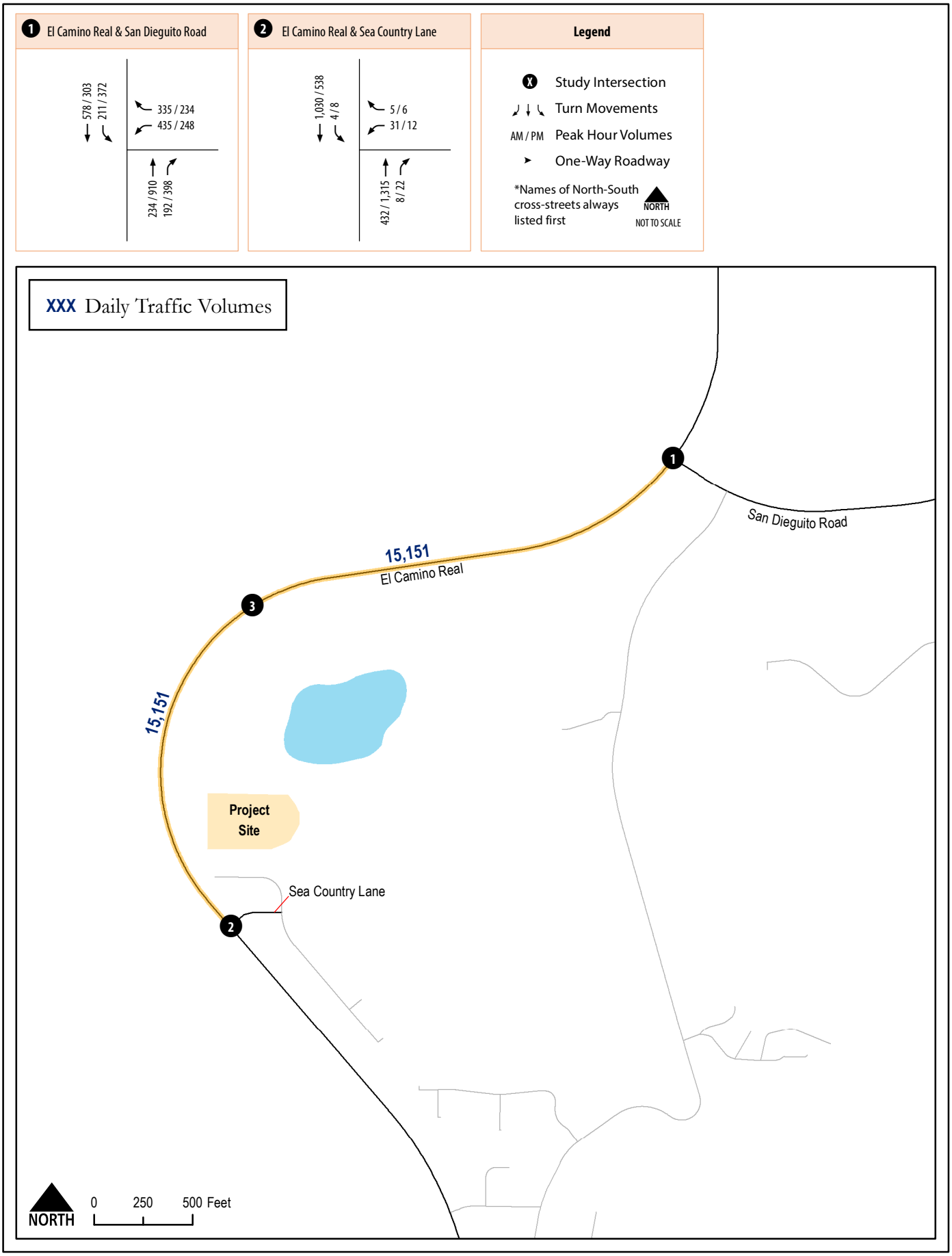

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Figure 5.2
Traffic Volumes
Existing Conditions

5.2.2 Intersection Analysis

Table 5.2 displays intersection LOS and average vehicle delay results for the study area intersections under Existing conditions. LOS calculation worksheets and signal timing inputs for Existing conditions are provided in Appendix E.

Table 5.2 Peak Hour Intersection LOS Results – Existing Conditions

ID #	Intersection	Control Type	AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1	El Camino Real & San Dieguito Road	Signal	14.7	B	41.4	D
2	El Camino Real & Sea Country Lane	Signal	4.8	A	5.1	A

As shown in Table 5.2, both study area intersections currently operate at an acceptable LOS D or better during both the AM and PM peak hours under Existing conditions.

6.0 Near-Term Year 2024 Base Conditions

This section provides an analysis of Year 2024 traffic conditions, the Proposed Project's opening year, both without and with the Proposed Project. The scenarios analyzed in this section include:

- Near-Term Year 2024 Base
- Near-Term Year 2024 Base with Project

It should be noted that the adjacent St. John Church project is anticipated to be complete by the Proposed Project's opening year, 2024. Since both projects are anticipated to generate project trips during the weekend, in addition to evaluating traffic conditions during a typical weekday this section includes an evaluation of traffic conditions during the weekend.

6.1 Near-Term Year 2024 Base Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Near-Term Year 2024 Base Conditions were assumed to be identical to existing roadway geometrics, as previously shown in Figure 5.1, with the exception of the following one (1) intersection:

3. *El Camino Real & Project Driveway* – The St. John Church project is currently in the process of constructing this driveway and it is assumed the driveway will be complete by the Proposed Project's opening year, 2024. This driveway would serve both the Proposed Project and the St. John Church, allow for right-in right-out access off El Camino Real, and operate as a side-street stop-controlled intersection, with El Camino Real as uncontrolled and the project driveway as stop-controlled.

Near-Term Year 2024 Base scenario traffic volumes were derived by applying the 1.54% annual growth rate, calculated previously in Section 5.1, to the February 2012 weekday and weekend traffic counts (included in Appendix B) conducted for the St. John Church TIS. This resulted in a total growth of 18.48% over a twelve-year period between year 2012 and year 2024. Additionally, since the St. John Church is anticipated to be complete by the Proposed Project's opening year, and thus contribute traffic within the project study area, trips generated by the St. John Church were added to the estimated year 2024 traffic volumes. Traffic volumes from the St. John Church TIS, including the St. John Church project trip assignment, are included in Appendix B. Traffic volume calculations for the Near-Term Year 2024 Base scenario are included in Appendix D.

Figure 6.1 and Figure 6.2 display the weekday and weekend average daily roadway and peak hour intersection volumes under Near-Term Year 2024 Base conditions, respectively.

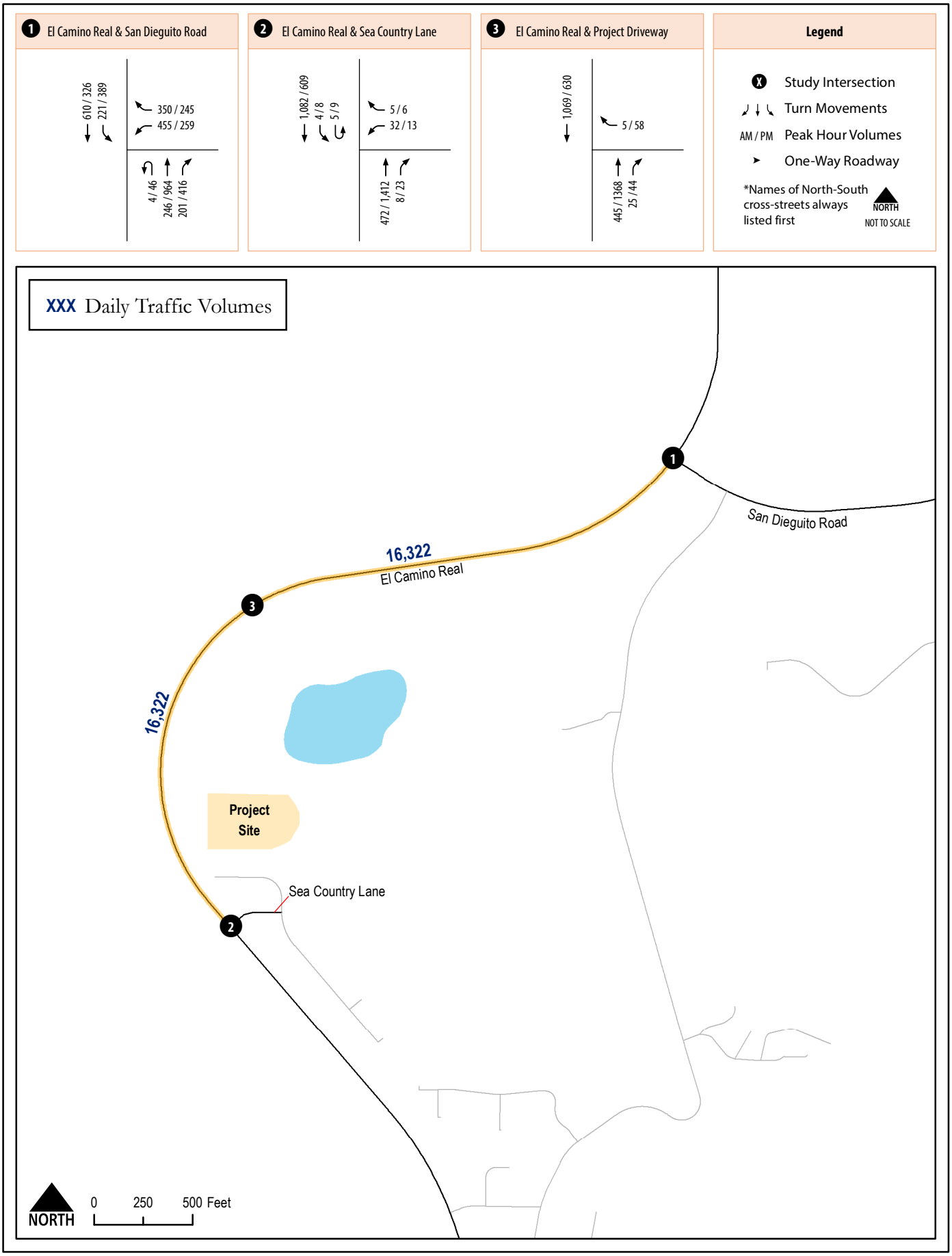

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Figure 6.1
Traffic Volumes
Near-Term Year 2024 Base Conditions (Weekday)

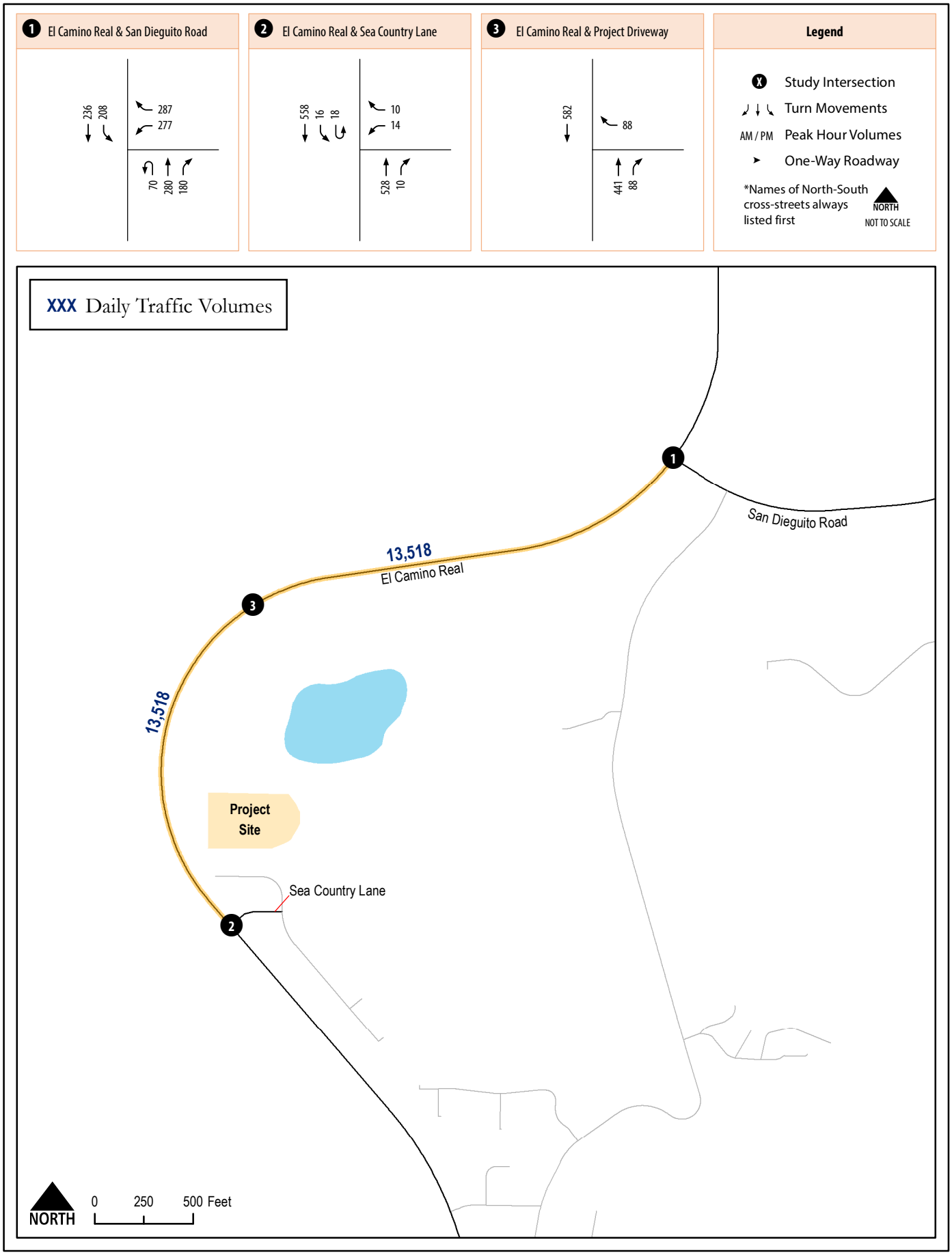

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Figure 6.2
Traffic Volumes
Near-Term Year 2024 Base Conditions (Weekend)

6.2 Near-Term Year 2024 Base Traffic Conditions

LOS analyses under Near-Term Year 2024 Base conditions were conducted using the methodologies described in Section 2.0. Roadway segment and intersection LOS analysis results are discussed separately below.

6.2.1 Roadway Segment Analysis (Weekday)

Table 6.1 displays the LOS analysis results for roadway segments under Near-Term Year 2024 Base conditions during the week.

Table 6.1 Roadway Segment LOS Results – Near-Term Year 2024 Base Conditions (Weekday)

Roadway	Segment	Functional Classification	Daily Volume	LOS Threshold (LOS E)	V/C	LOS
El Camino Real	San Dieguito Road to Project Driveway	4-Lane Major Arterial	16,322	40,000	0.408	B
El Camino Real	Project Driveway to Sea Country Lane	4-Lane Major Arterial	16,322	40,000	0.408	B

Note:
V/C = Volume / Capacity.

As shown in Table 6.1, El Camino Real between San Dieguito Road and Sea Country Lane is projected to operate at acceptable LOS B during the week under Near-Term Year 2024 Base conditions.

6.2.2 Roadway Segment Analysis (Weekend)

Table 6.2 displays the LOS analysis results for roadway segments under Near-Term Year 2024 Base conditions during the weekend.

Table 6.2 Roadway Segment LOS Results – Near-Term Year 2024 Base Conditions (Weekend)

Roadway	Segment	Functional Classification	Daily Volume	LOS Threshold (LOS E)	V/C	LOS
El Camino Real	San Dieguito Road to Project Driveway	4-Lane Major Arterial	13,518	40,000	0.338	A
El Camino Real	Project Driveway to Sea Country Lane	4-Lane Major Arterial	13,518	40,000	0.338	A

Note:
V/C = Volume / Capacity.

As shown in Table 6.2, El Camino Real between San Dieguito Road and Sea Country Lane is projected to operate at acceptable LOS A during the weekend under Near-Term Year 2024 Base conditions.

6.2.3 Intersection Analysis (Weekday)

Table 6.3 displays intersection LOS and average vehicle delay results for the study area intersections under Near-Term Year 2024 Base conditions during the weekday. LOS calculation worksheets and signal timing inputs for Near-Term Year 2024 Base conditions are provided in **Appendix F**.

Table 6.3 Peak Hour Intersection LOS Results – Near-Term Year 2024 Base Conditions (Weekday)

ID #	Intersection	Control Type	AM Peak Hour		PM Peak Hour	
			Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1	El Camino Real & San Dieguito Road	Signal	16.7	B	47.8	D
2	El Camino Real & Sea Country Lane	Signal	5.0	A	5.8	A
3	El Camino Real & Project Driveway	SSSC	10.2	B	18.7	C

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 6.3, all study area intersections are projected to operate at an acceptable LOS D or better during both weekday AM and PM peak hours under Near-Term Year 2024 Base conditions.

6.2.4 Intersection Analysis (Weekend)

Table 6.4 displays intersection LOS and average vehicle delay results for the study area intersections under Near-Term Year 2024 Base conditions during the weekend. LOS calculation worksheets and signal timing inputs for Near-Term Year 2024 Base conditions are provided in Appendix G.

Table 6.4 Peak Hour Intersection LOS Results – Near-Term Year 2024 Base Conditions (Weekend)

ID #	Intersection	Control Type	Sunday Peak Hour	
			Avg. Delay (sec.)	LOS
1	El Camino Real & San Dieguito Road	Signal	17.2	B
2	El Camino Real & Sea Country Lane	Signal	5.6	A
3	El Camino Real & Project Driveway	SSSC	11.2	B

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 6.4, all study area intersections are projected to operate at an acceptable LOS B or better during the weekend peak hour under Near-Term Year 2024 Base conditions.

6.3 Near-Term Year 2024 Base with Project Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Near-Term Year 2024 Base with Project conditions were assumed to be identical to the Near-Term Year 2024 Base conditions geometrics, previously discussed in Section 6.1.

Near-Term Year 2024 Base with Project traffic volumes were derived by adding the trips generated by the Proposed Project (as shown in Figure 3.2 and Figure 3.3) to the Near-Term Year 2024 Base traffic volumes (as shown in Figure 6.1 and Figure 6.2). Figure 6.3 and Figure 6.4 display the weekday and weekend average daily roadway and peak hour intersection volumes under Near-Term Year 2024 Base conditions, respectively.

6.4 Near-Term Year 2024 Base with Project Traffic Conditions

LOS analyses under Near-Term Year 2024 Base with Project conditions were conducted using the methodologies described in Section 2.0. Roadway segment and intersection LOS analysis results are discussed below.

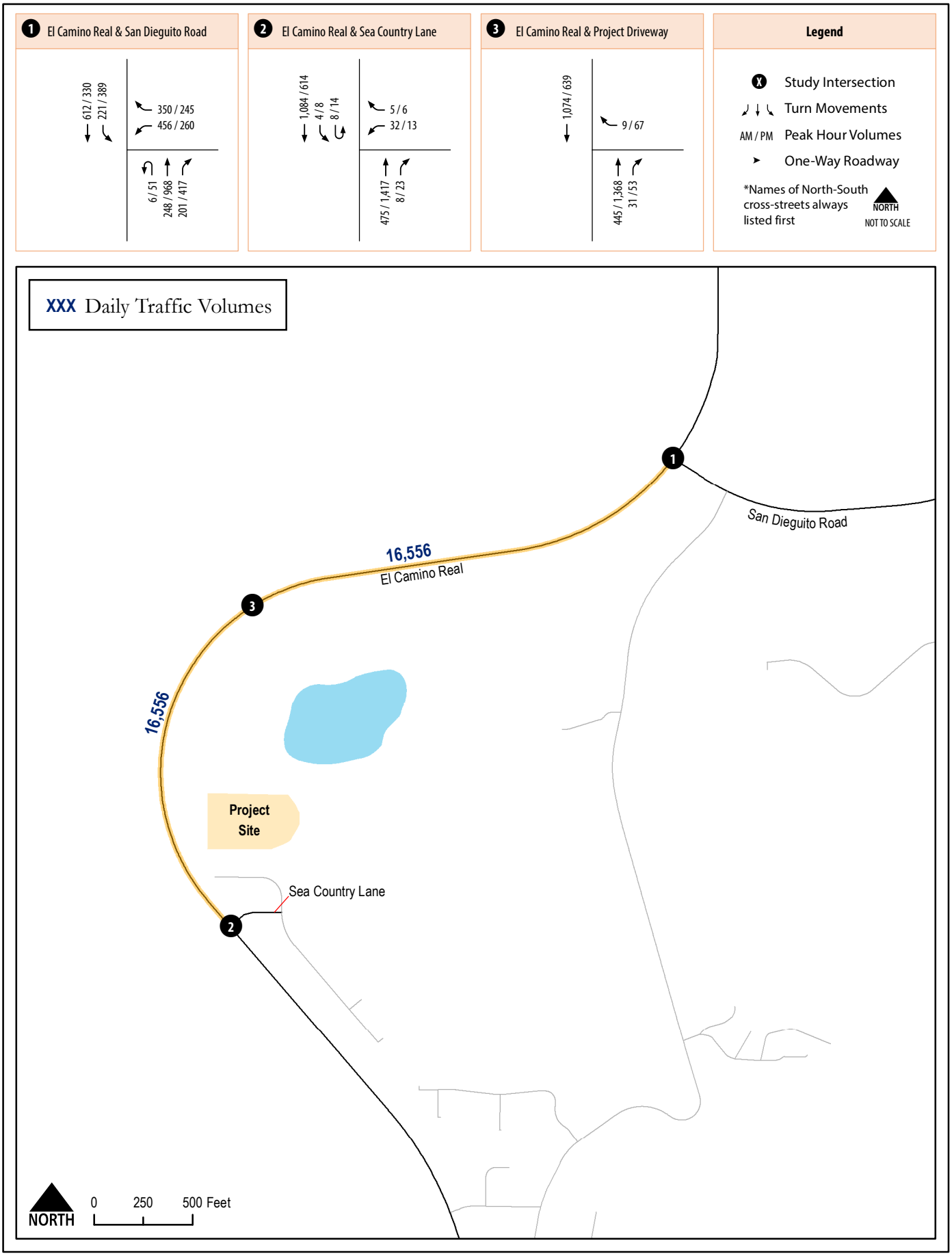

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Figure 6.3
Traffic Volumes
Near-Term Year 2024 Base with Project Conditions (Weekday)

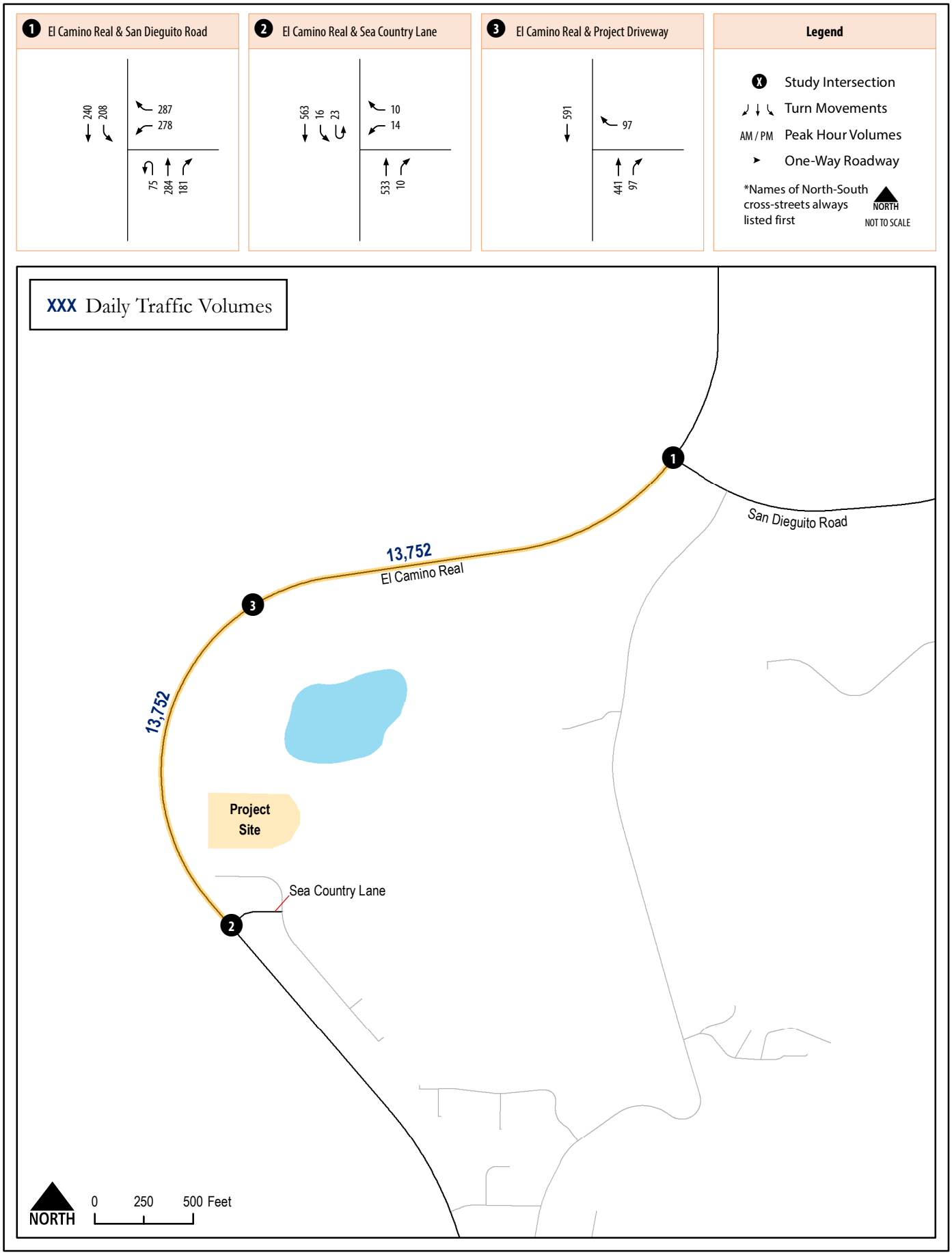

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Figure 6.4
Traffic Volumes
Near-Term Year 2024 Base with Project Conditions (Weekend)

6.4.1 Roadway Segment Analysis (Weekday)

Table 6.5 displays the LOS analysis results for study area roadway segments under Near-Term Year 2024 Base with Project during the week.

Table 6.5 Roadway Segment LOS Results – Near-Term Year 2024 Base with Project Conditions (Weekday)

Roadway	Segment	Functional Classification	ADT	LOS Threshold (LOS E)	V/C	LOS	LOS w/o Project	ΔV/C
El Camino Real	San Dieguito Road to Project Driveway	4-Lane Major Arterial	16,556	40,000	0.414	B	B	0.006
El Camino Real	Project Driveway to Sea Country Lane	4-Lane Major Arterial	16,556	40,000	0.414	B	B	0.006

Note:
V/C = Volume / Capacity.

As shown in Table 6.5, El Camino Real between San Dieguito Road and Sea Country Lane is projected to continue to operate at acceptable LOS B during the week under Near-Term Year 2024 Base with Project conditions.

6.4.2 Roadway Segment Analysis (Weekend)

Table 6.6 displays the LOS analysis results for study area roadway segments under Near-Term Year 2024 Base with Project conditions during the weekend.

Table 6.6 Roadway Segment LOS Results – Near-Term Year 2024 Base with Project Conditions (Weekend)

Roadway	Segment	Functional Classification	ADT	LOS Threshold (LOS E)	V/C	LOS	LOS w/o Project	ΔV/C
El Camino Real	San Dieguito Road to Project Driveway	4-Lane Major Arterial	13,752	40,000	0.344	A	A	0.006
El Camino Real	Project Driveway to Sea Country Lane	4-Lane Major Arterial	13,752	40,000	0.344	A	A	0.006

Note:
V/C = Volume / Capacity.

As shown in Table 6.6, El Camino Real between San Dieguito Road and Sea Country Lane is projected to continue to operate at acceptable LOS A during the weekend under Near-Term Year 2024 Base with Project conditions.

6.4.3 Intersection Analysis (Weekday)

Table 6.7 displays intersection LOS and average vehicle delay results for the study area intersections under Near-Term Year 2024 Base with Project conditions during the weekday. LOS calculation and signal timing input worksheets for Near-Term Year 2024 Base with Project conditions are provided in **Appendix H.**

Table 6.7 Peak Hour Intersection LOS Results – Near-Term Year 2024 Base with Project Conditions (Weekday)

#	Intersection	Control Type	AM Peak Hour Avg. Delay (sec)	AM Peak Hour LOS	PM Peak Hour Avg. Delay (sec)	PM Peak Hour LOS	Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Change in Delay (sec) AM/PM
1	El Camino Real & San Dieguito Road	Signal	16.8	B	47.9	D	16.7 / 47.8	B / D	0.1 / 0.1
2	El Camino Real & Sea Country Lane	Signal	5.0	A	6.0	A	5.0 / 5.8	A / A	0.0 / 0.2
3	El Camino Real & Project Driveway	SSSC	10.2	B	19.4	C	10.2 / 18.7	B / C	0.0 / 0.7

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 6.7, all study area intersections are projected to operate at an acceptable LOS D or better during both weekday AM and PM peak hours under Near-Term Year 2024 Base with Project conditions.

6.4.4 Intersection Analysis (Weekend)

Table 6.8 displays intersection LOS and average vehicle delay results for the study area intersections under Near-Term Year 2024 Base with Project conditions during the weekend. LOS calculation and signal timing input worksheets for Near-Term Year 2024 Base with Project conditions are provided in **Appendix I.**

Table 6.8 Peak Hour Intersection LOS Results – Near-Term Year 2024 Base with Project Conditions (Weekend)

#	Intersection	Control Type	Sunday Peak Hour Avg. Delay (sec)	Sunday Peak Hour LOS	Delay w/o Project (sec)	LOS w/o Project	Change in Delay (sec)
1	El Camino Real & San Dieguito Road	Signal	17.3	B	17.2	B	0.1
2	El Camino Real & Sea Country Lane	Signal	5.7	A	5.6	A	0.1
3	El Camino Real & Project Driveway	SSSC	11.4	B	11.2	B	0.2

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 6.8, all study area intersections are projected to operate at an acceptable LOS B or better during the weekend peak hour under Near-Term Year 2024 Base with Project conditions.

6.5 Determination of the Need for Off-Site Improvements to Accommodate Project Traffic

This section determines if the analysis results above are consistent with the operational analysis results of the St. John Garabed Church TIS.

6.5.1 Roadway Segment Improvements

Based upon the significance criteria presented in Section 2.7 of this report, the addition of Proposed Project traffic would not have an adverse effect on traffic operations along any of the study area roadway segments under Near-Term Year 2024 Base with Project conditions. Therefore, no roadway segment improvements will be required.

6.5.2 Intersection Improvements

Based upon the significance criteria presented in Section 2.7 of this report, the addition of Proposed Project traffic would not have an adverse effect on traffic operations at any of the study area intersections under Near-Term Year 2024 Base with Project conditions. Therefore, no intersection improvements will be required.

6.5.3 Pedestrian Improvements

Based on review of the NCFUA Framework Plan and the Proposed Project site plan, the Proposed Project does not interfere with existing or planned pedestrian facilities. Thus, no reductions to pedestrian facility quality are identified as a result of the Proposed Project. Therefore, no adverse effects to the pedestrian network were identified, and no pedestrian improvements will be required.

6.5.4 Bicycle Improvements

Based on review of the NCFUA Framework Plan and the Proposed Project site plan, the Proposed Project does not interfere with existing or planned bicycle facilities. Thus, no reductions to bicycle facility quality are identified as a result of the Proposed Project. Therefore, no adverse effects to the pedestrian network were identified, and no bicycle improvements will be required.

The Proposed Project will, however, provide bicycle amenities such as on-site bicycle parking and storage per the San Diego Municipal Code requirements.

6.5.5 Transit Improvements

There are no existing or planned transit facilities within ½ mile of the Proposed Project. Thus, no reductions to transit facility quality are identified as a result of the Proposed Project. Therefore, no adverse effects to the transit network were identified, and no transit improvements will be required.

Although no transit improvements will be required, the project applicant proposes to provide a shuttle to the Solana Beach Station.

7.0 Horizon Year Base Conditions

This section provides an analysis of Horizon Year Base traffic conditions both with and without the Proposed Project. The scenarios analyzed in this section include:

- Horizon Year Base
- Horizon Year Base with Project

7.1 Horizon Year Base Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Horizon Year Base Conditions were assumed to be identical to existing roadway geometrics, as previously shown in Figure 5.1, with the exception of the following one (1) intersection:

3. *El Camino Real & Project Driveway* – The St. John Church project is currently in the process of constructing this driveway and it is assumed the driveway will be complete by the Proposed Project's opening year, 2024. This driveway would serve both the Proposed Project and the St. John Church, allow for right-in right-out access off El Camino Real, and operate as a side-street stop-controlled intersection, with El Camino Real as uncontrolled and the project driveway as stop-controlled.

It is anticipated that traffic signals would be adjusted to accommodate growth in traffic volumes between the Proposed Project's opening year (Near-Term Year 2024) and Horizon Year. Thus, signal timings were optimized under Horizon Year Base conditions.

Traffic volumes for this scenario were obtained from the Horizon Year with Project section of the St. John Church TIS. Relevant excerpt of the church study is provided in Appendix B. **Figure 7.1** and **Figure 7.2** display the weekday and weekend average daily roadway and peak hour intersection volumes under Horizon Year Base conditions, respectively.

7.2 Horizon Year Base Traffic Conditions

LOS analyses under Horizon Year Base conditions were conducted using the methodologies described in Section 2.0. Roadway segment and intersection LOS analysis results are discussed separately below.

7.2.1 Roadway Segment Analysis (Weekday)

Table 7.1 displays the LOS analysis results for roadway segments under Horizon Year Base conditions during the week.

Table 7.1 Roadway Segment LOS Results – Horizon Year Base Conditions (Weekday)

Roadway	Segment	Functional Classification	Daily Volume	LOS Threshold (LOS E)	V/C	LOS
El Camino Real	San Dieguito Road to Project Driveway	4-Lane Major Arterial	30,757	40,000	0.769	D
El Camino Real	Project Driveway to Sea Country Lane	4-Lane Major Arterial	30,757	40,000	0.769	D

Note:
V/C = Volume / Capacity.

As shown in Table 7.1, El Camino Real between San Dieguito Road and Sea Country Lane is projected to operate at acceptable LOS D during the week under Horizon Year Base conditions.

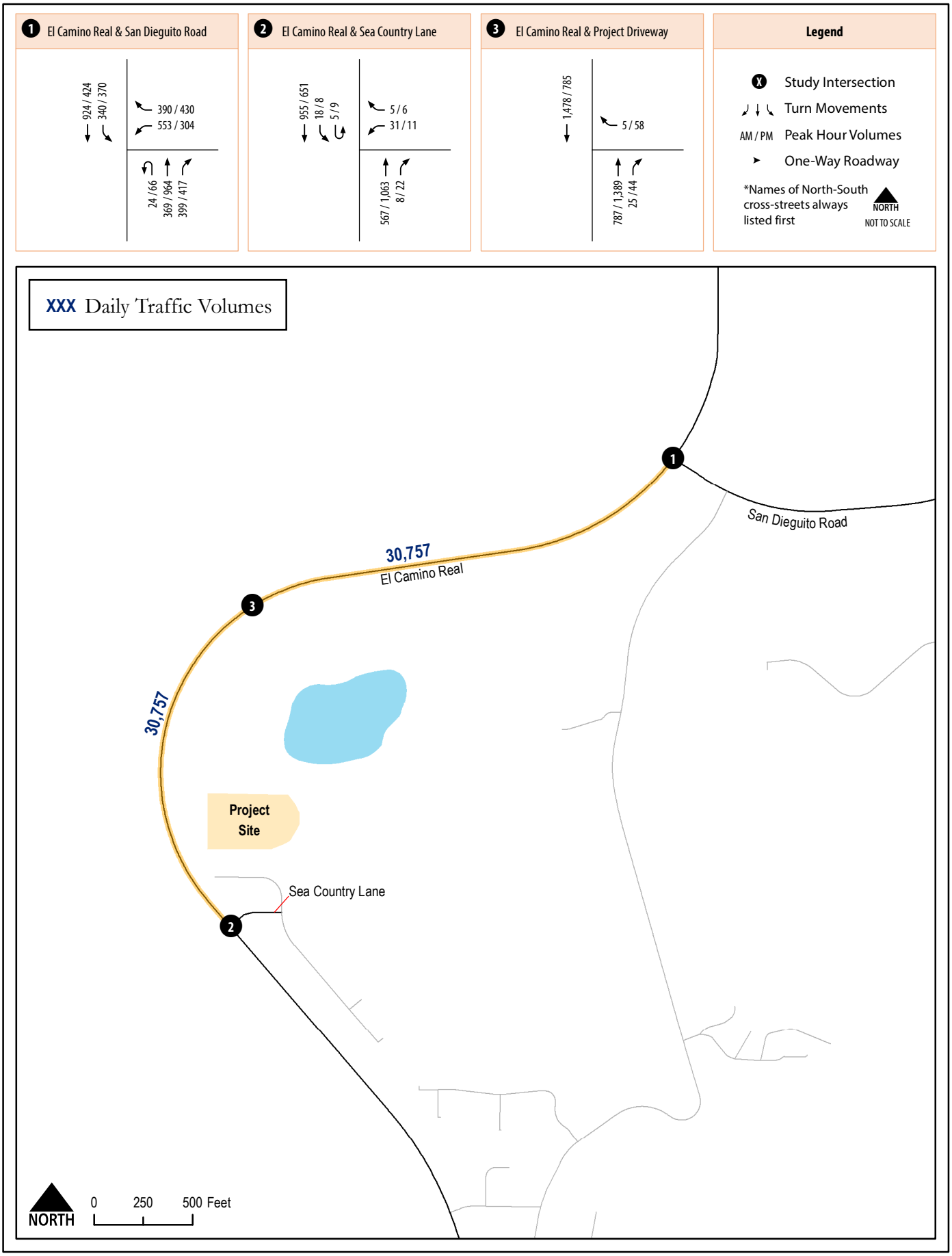

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Figure 7.1
Traffic Volumes
Horizon Year Base Conditions (Weekday)

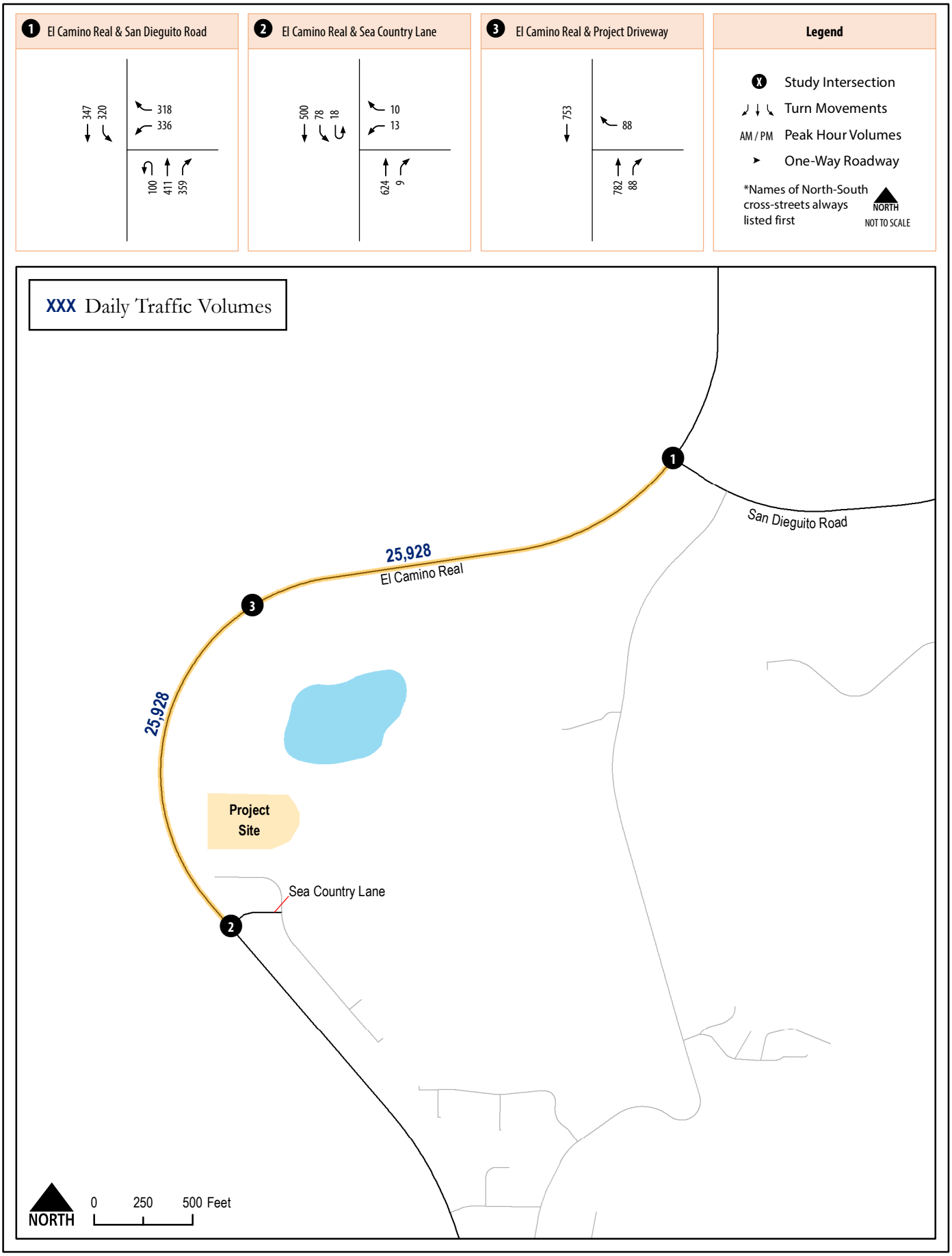

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Figure 7.2
Traffic Volumes
Horizon Year Base Conditions (Weekend)

7.2.2 Roadway Segment Analysis (Weekend)

Table 7.2 displays the LOS analysis results for roadway segments under Horizon Year Base conditions during the weekend.

Table 7.2 Roadway Segment LOS Results – Horizon Year Base Conditions (Weekend)

Roadway	Segment	Functional Classification	Daily Volume	LOS Threshold (LOS E)	V/C	LOS
El Camino Real	San Dieguito Road to Project Driveway	4-Lane Major Arterial	25,928	40,000	0.648	C
El Camino Real	Project Driveway to Sea Country Lane	4-Lane Major Arterial	25,928	40,000	0.648	C

Note:
V/C = Volume / Capacity.

As shown in Table 7.2, El Camino Real between San Dieguito Road and Sea Country Lane is projected to operate at acceptable LOS C during the weekend under Horizon Year Base conditions.

7.2.3 Intersection Analysis (Weekday)

Table 7.3 displays intersection LOS and average vehicle delay results for the study area intersections under Horizon Year Base conditions during the weekday. LOS calculation worksheets and signal timing inputs for Horizon Year Base conditions are provided in **Appendix J**.

Table 7.3 Peak Hour Intersection LOS Results – Horizon Year Base Conditions (Weekday)

			AM Peak Hour		PM Peak Hour	
ID #	Intersection	Control Type	Avg. Delay (sec.)	LOS	Avg. Delay (sec.)	LOS
1	El Camino Real & San Dieguito Road	Signal	24.0	C	53.5	D
2	El Camino Real & Sea Country Lane	Signal	5.1	A	4.8	A
3	El Camino Real & Project Driveway	SSSC	11.8	B	19.0	C

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 7.3, all study area intersections are projected to operate at an acceptable LOS D or better during both weekday AM and PM peak hours under Horizon Year Base conditions.

7.2.4 Intersection Analysis (Weekend)

Table 7.4 displays intersection LOS and average vehicle delay results for the study area intersections under Horizon Year Base conditions during the weekend. LOS calculation worksheets and signal timing inputs for Horizon Year Base conditions are provided in **Appendix K**.

Table 7.4 Peak Hour Intersection LOS Results – Horizon Year Base Conditions (Weekend)

			Sunday Peak Hour	
ID #	Intersection	Control Type	Avg. Delay (sec.)	LOS
1	El Camino Real & San Dieguito Road	Signal	22.6	C
2	El Camino Real & Sea Country Lane	Signal	6.5	A
3	El Camino Real & Project Driveway	SSSC	13.7	B

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 7.4, all study area intersections are projected to operate at an acceptable LOS C or better during the weekend peak hour under Horizon Year Base conditions.

7.3 Horizon Year Base with Project Roadway Network and Traffic Volumes

Roadway and intersection geometrics under Horizon Year Base with Project conditions were assumed to be identical to the Horizon Year Base conditions geometrics, previously discussed in Section 7.1.

Horizon Year Base with Project traffic volumes were derived by adding the trips generated by the Proposed Project (as shown in Figure 3.2 and Figure 3.3) to the Horizon Year Base traffic volumes (as shown in Figure 7.1 and Figure 7.2). **Figure 7.3** and **Figure 7.4** display the weekday and weekend average daily roadway and peak hour intersection volumes under Horizon Year Base conditions, respectively.

7.4 Horizon Year Base with Project Traffic Conditions

LOS analyses under Horizon Year Base with Project conditions were conducted using the methodologies described in Section 2.0. Roadway segment and intersection LOS analysis results are discussed below.

7.4.1 Roadway Segment Analysis (Weekday)

Table 7.5 displays the LOS analysis results for study area roadway segments under Horizon Year Base with Project conditions during the week.

Table 7.5 Roadway Segment LOS Results – Horizon Year Base with Project Conditions (Weekday)

Roadway	Segment	Functional Classification	ADT	LOS Threshold (LOS E)	V/C	LOS	LOS w/o Project	ΔV/C
El Camino Real	San Dieguito Road to Project Driveway	4-Lane Major Arterial	30,991	40,000	0.775	D	D	0.006
El Camino Real	Project Driveway to Sea Country Lane	4-Lane Major Arterial	30,991	40,000	0.775	D	D	0.006

Note:
V/C = Volume / Capacity.

As shown in Table 7.5, El Camino Real between San Dieguito Road and Sea Country Lane is projected to continue to operate at acceptable LOS D during the week under Horizon Year Base with Project conditions.

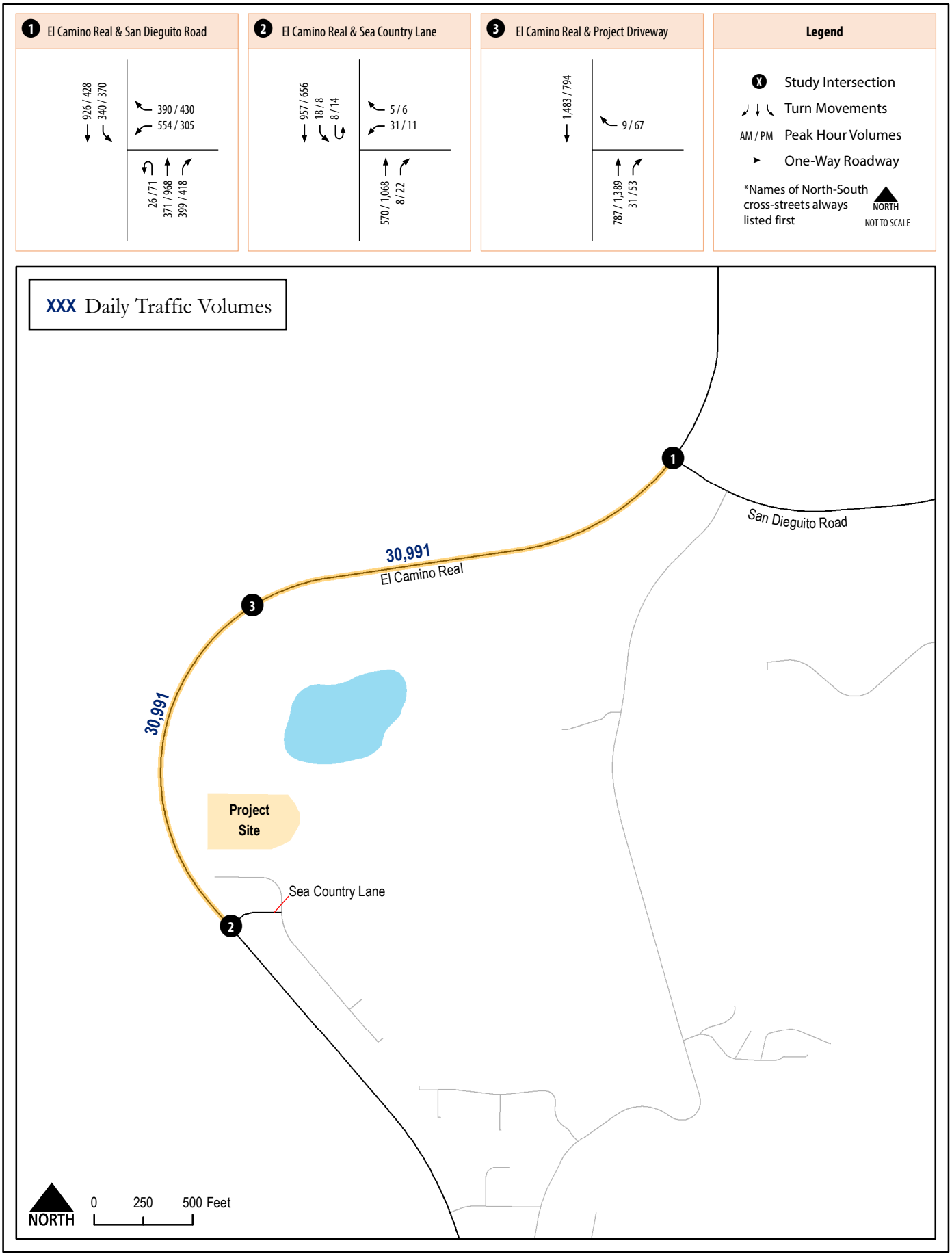

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Figure 7.3
Traffic Volumes
Horizon Year Base with Project Conditions (Weekday)

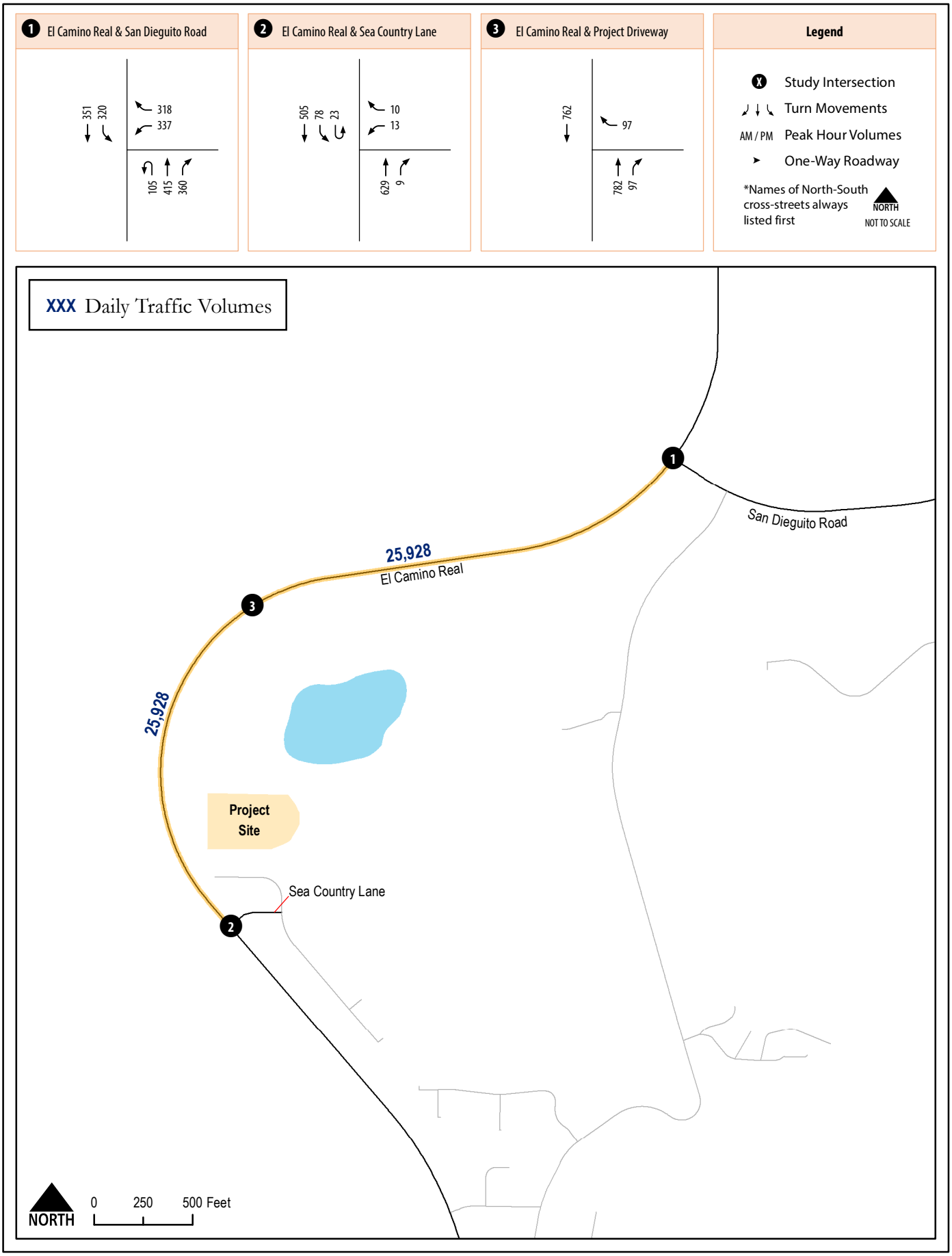

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Figure 7.4
Traffic Volumes
Horizon Year Base with Project Conditions (Weekend)

7.4.2 Roadway Segment Analysis (Weekend)

Table 7.6 displays the LOS analysis results for study area roadway segments under Horizon Year Base with Project conditions during the weekend.

Table 7.6 Roadway Segment LOS Results – Horizon Year Base with Project Conditions (Weekend)

Roadway	Segment	Functional Classification	ADT	LOS Threshold (LOS E)	V/C	LOS	LOS w/o Project	ΔV/C
El Camino Real	San Dieguito Road to Project Driveway	4-Lane Major Arterial	26,162	40,000	0.654	C	C	0.006
El Camino Real	Project Driveway to Sea Country Lane	4-Lane Major Arterial	26,162	40,000	0.654	C	C	0.006

Note:
V/C = Volume / Capacity.

As shown in Table 7.6, El Camino Real between San Dieguito Road and Sea Country Lane is projected to continue to operate at acceptable LOS C during the weekend under Horizon Year Base with Project conditions.

7.4.3 Intersection Analysis (Weekday)

Table 7.7 displays intersection LOS and average vehicle delay results for the study area intersections under Horizon Year Base with Project conditions during the weekday. LOS calculation and signal timing input worksheets for Horizon Year Base with Project conditions are provided in Appendix L.

Table 7.7 Peak Hour Intersection LOS Results – Horizon Year Base with Project Conditions (Weekday)

#	Intersection	Control Type	AM Peak Hour Avg. Delay (sec)	AM Peak Hour LOS	PM Peak Hour Avg. Delay (sec)	PM Peak Hour LOS	Delay w/o Project (sec) AM/PM	LOS w/o Project AM/PM	Change in Delay (sec) AM/PM
1	El Camino Real & San Dieguito Road	Signal	33.0	C	53.8	D	24.0 / 53.5	C / D	9.0 / 0.3
2	El Camino Real & Sea Country Lane	Signal	5.5	A	5.6	A	5.1 / 4.8	A / A	0.4 / 0.8
3	El Camino Real & Project Driveway	SSSC	11.9	B	19.7	C	11.8 / 19.0	B / C	0.1 / 0.7

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 7.7, all study area intersections are projected to operate at acceptable LOS D or better during both weekday AM and PM peak hours under Horizon Year Base with Project conditions.

7.4.4 Intersection Analysis (Weekend)

Table 7.8 displays intersection LOS and average vehicle delay results for the study area intersections under Horizon Year Base with Project conditions during the weekend. LOS calculation and signal timing input worksheets for Horizon Year Base with Project conditions are provided in Appendix M.

Table 7.8 Peak Hour Intersection LOS Results – Horizon Year Base with Project Conditions (Weekend)

#	Intersection	Control Type	Sunday Peak Hour		Delay w/o Project (sec)	LOS w/o Project	Change in Delay (sec)
			Avg. Delay (sec)	LOS			
1	El Camino Real & San Dieguito Road	Signal	22.8	C	22.6	C	0.2
2	El Camino Real & Sea Country Lane	Signal	6.6	A	6.5	A	0.1
3	El Camino Real & Project Driveway	SSSC	14.0	B	13.7	B	0.3

Note:
SSSC = Side-Street Stop-Controlled. For SSSC, the delay shown is the worst delay experienced by any of the approaches.

As shown in Table 7.8, all study area intersections are projected to operate at acceptable LOS C or better during the weekend peak hour under Horizon Year Base with Project conditions.

7.5 Determination of the Need for Off-Site Improvements to Accommodate Project Traffic

This section determines if the analysis results above are consistent with the operational analysis results of the St. John Garabed Church TIS.

7.5.1 Roadway Segment Improvements

Based upon the significance criteria presented in Section 2.7 of this report, the addition of Proposed Project traffic would not cause an adverse effect on traffic operations along any of the study area roadway segments under Horizon Year Base with Project conditions. Therefore, no roadway segment improvements will be required.

7.5.2 Intersection Improvements

Based upon the significance criteria presented in Section 2.7 of this report, the addition of Proposed Project traffic would not cause an adverse effect to traffic operations at any of the study area intersections under Horizon Year Base with Project conditions. Therefore, no intersection improvements will be required.

7.5.3 Pedestrian Improvements

Based on review of the NCFUA Framework Plan and the Proposed Project site plan, the Proposed Project does not interfere with existing or planned pedestrian facilities. Thus, no reductions to pedestrian facility quality are identified as a result of the Proposed Project. Therefore, no adverse effects to the pedestrian network were identified, and no pedestrian improvements will be required.

7.5.4 Bicycle Improvements

Based on review of the NCFUA Framework Plan and the Proposed Project site plan, the Proposed Project does not interfere with existing or planned bicycle facilities. Thus, no reductions to bicycle facility quality are identified as a result of the Proposed Project. Therefore, no adverse effects to the pedestrian network were identified, and no bicycle improvements will be required.

The Proposed Project will, however, provide bicycle amenities such as on-site bicycle parking and storage per the San Diego Municipal Code requirements.

7.5.5 Transit Improvements

There are no existing or planned transit facilities within ½ mile of the Proposed Project. Thus, no reductions to transit facility quality are identified as a result of the Proposed Project. Therefore, no adverse effects to the transit network were identified, and no transit improvements will be required.

Although no transit improvements will be required, the project applicant proposes to provide a shuttle to the Solana Beach Station.

8.0 Consistency with the St. John Church TIS

This section determines if the analysis results presented above are consistent with the findings of the St. John Church TIS.

The FEIR concluded that the St. John Church would not have a significant transportation related impact since the St. John Church would not cause any roadway segments or intersections to operate at a substandard LOS. Similarly, all intersections and roadway segments within the Proposed Project study area are anticipated to operate at LOS D or better. Thus, the Proposed Project would not have an adverse effect on roadway segments or intersections and would remain consistent with the operational analysis results of the St. John Church TIS.

Additionally, based on the City of San Diego's new SB 743-compliant CEQA Significance Thresholds for Transportation implemented via the City of San Diego TSM, the Proposed Project is considered to be a small project, and may be presumed to have a less than significant transportation VMT impact.

Appendix A
Project Information Form (PIF)

City of San Diego
Project Information Form

Project Information

Project Name:	El Camino Real Senior Living				
Project Applicant					
Name:	Nolan Weinberg, Development Associate, PMB Carmel Valley LLC				
Address:	3394 Carmel Mount Road Suite 200, San Diego, CA 92121				
Contact Information	Phone Number:	858.794.1900	Email:	NWeinberg@pmbllc.com	
Project Location and Context					
Project Address:	Approximately: 13860 El Camino Real, San Diego, CA 92130				
APN:	3046503700				
Driveway Cross Streets:	El Camino Real & Project Driveway. Project driveway currently under construction by the adjacent church project (St. John Garabed Armenian Church).				
Please attach a Project Location Map that clearly identifies project driveways and access points.	Attachment A – Project Regional Location and Attachment B – Project Site Plan				
Community Plan Area:	North City Future Urbanizing Area Subarea II Plan	Land Use Designation:	Very Low Density Residential and Environmental Tier	Zoning:	AR-1-1
Is any portion of the project located in a Parking Standards Transit Priority Area?: ☐ Yes ☒ No					

Project Description (with Proposed Land Uses and Intensities):

The Proposed Project intends to develop a 105,568 SF, three story 105-unit nursing home facility for assisted living consisting of 18 memory care accommodations and 87 assisted living accommodations. A conditional use permit is being requested for the Proposed Project.

The trip generation rate for "Congregate Care Facility" was used for assisted living units as it is the most applicable. Similarly, the trip generation rate for "Convalescent/Nursing" was used for memory care units.

Number of Parking Spaces:	Vehicle Spaces	Accessible Spaces	Bicycle Spaces *(racks and secure storage)*	Motorcycle Spaces
	61	3	12 short term + 4 long term	2

Identify any project features related to TDM and identify any transportation amenities or travel demand management measures that are required based on the San Diego Municipal Code Section 142.0528 (transportation amenities) or the Climate Action Plan Consistency Checklist. For example: transit pass subsidies, unbundled parking, shuttle services, car share, bicycle supportive features (bike repair station, bike lockers, etc.)

6 carpool/zero emissions vehicle + 4 EV capable parking space.

Please attach a project site plan that clearly identifies the following:

- Land use types and quantities, and number of parking spaces provided (vehicle, bicycle, motorcycle) clearly identified.
- Driveway locations and type (full access, partial access, right in/out only) identified.
- Pedestrian access, bicycle access and on-site pedestrian circulation clearly identified.
- Location/distance of closest existing transit stop, and proposed transit stops identified in RTIP (measured as walking distance to project entrance/or middle of parcel).

Please see Attachment B

City of San Diego
Project Information Form

Trip Generation Estimates (calculated using the process described in the TSM):	Unadjusted Driveway Trips		Total Net New Trips	
	Daily:	228	Daily:	228
	AM Peak Hour:	10	AM Peak Hour:	10
	PM Peak Hour:	18	PM Peak Hour:	18

Preliminary Screening Criteria

	CEQA Transportation Analysis Screening 1) Select the Land Uses that apply to your project 2) Answer the questions for each Land Use that applies to your project *(if "Yes" in any land use category below then that land use (or a portion of the land use) is screened from CEQA Transportation Analysis)*	Screened Out	Not Screened Out
		Yes	No
X	1. Redevelopment Project:		
	a. Does the project result in a net decrease in total Project VMT?		X
	b. Answer if yes to 1a. If the project replaces affordable housing with market rate housing, are there more market rate units planned than existing affordable units being replaced.		N/A
X	2. Residential Project:		
	a. Is the project in a VMT/Capita Efficient Area (per SANDAG screening maps)?		X
	b. Does the project include Affordable Housing? All affordable units are screened out.		X
	3. Commercial Employment Project:		
	• Is the project in a VMT/Employee Efficient Area? (per SANDAG screening maps?)		
	4. Industrial Employment Project		
	• Is the project in a VMT/Industrial Employee Efficient Area?		
	5. Retail/Public Facility/Recreational		
	• Is the project locally serving: - Retail OR Public Facility OR Recreational		
X	6. Small Project		
	• For all components of a project that are not screened out above (all 'No' in a land use category), what is the daily unadjusted driveway trip generation? 234 daily Trips Is it less than 300 daily trips? Yes	X	

Local Mobility Analysis		
Is your project's land use consistent with the Community Plan zoning?	☐ Consistent ☐ Generates less than 1,000 daily trips (unadjusted driveway trips)	☒ Inconsistent ☒ Generates less than 500 daily trips (unadjusted driveway trips)
If a project generates 1,000 or more daily trips (consistent with Community Plan Zoning) or 500 or more daily trips (inconsistent with Community Plan zoning), attach an exhibit showing the project's trip distribution percentages and project trip assignment using the process described in the TSM.		

City of San Diego
Project Information Form

LMA Attachment Information & Scoping

Consistent with the City of San Diego Transportation Study Manual (TSM), a Transportation Impact Analysis and a Local Mobility Analysis will not be required due to the amount of daily trips generated by the Proposed Project. Although the Proposed Project is inconsistent with the community plan, the average daily trips (228) generated by the Proposed Project is below 300 daily trips threshold, which screens the Proposed Project out from completing a Transportation Impact Analysis. Similarly, the average daily trips generated by the Proposed Project is less than 500 daily trips, which screens the Proposed Project out from completing a Local Mobility Analysis.

Access to the project site will be provided via the project driveway currently under construction by the adjacent church project. The project driveway, as described in the *St. John Garabed Armenian Church Traffic Impact Study*, July 2013, would allow for right-in right-out access off El Camino Real. Since the traffic study for the adjacent church project did not account for the trips generated by the Proposed Project, a Local Mobility Analysis will be conducted for the Proposed Project.

Trip Generation

A trip generation analysis was conducted to determine the number of vehicle trips expected to be generated from the Proposed Project. Trip generation rates were obtained from the City of San Diego's *Trip Generation Manual* (May 2003). Appendix C of the City's trip generation manual defines a Congregate Care facility as:

"A facility that typically consists of one or more multi-unit buildings designed for elderly living."

Similarly, the City's trip generation manual defines a Convalescent Hospital as:

"*Convalescent hospitals are freestanding institutions designed to provide medical care for patients with long-term illnesses. Normally such hospitals do not provide emergency room medical treatment."*

As such, it was determined that both Congregate Care facility and Convalescent Hospital are the appropriate trip generation rates for the Proposed Project. The Proposed Project description determine the Proposed Project trip Generation Table 1 (based on driveway rates).

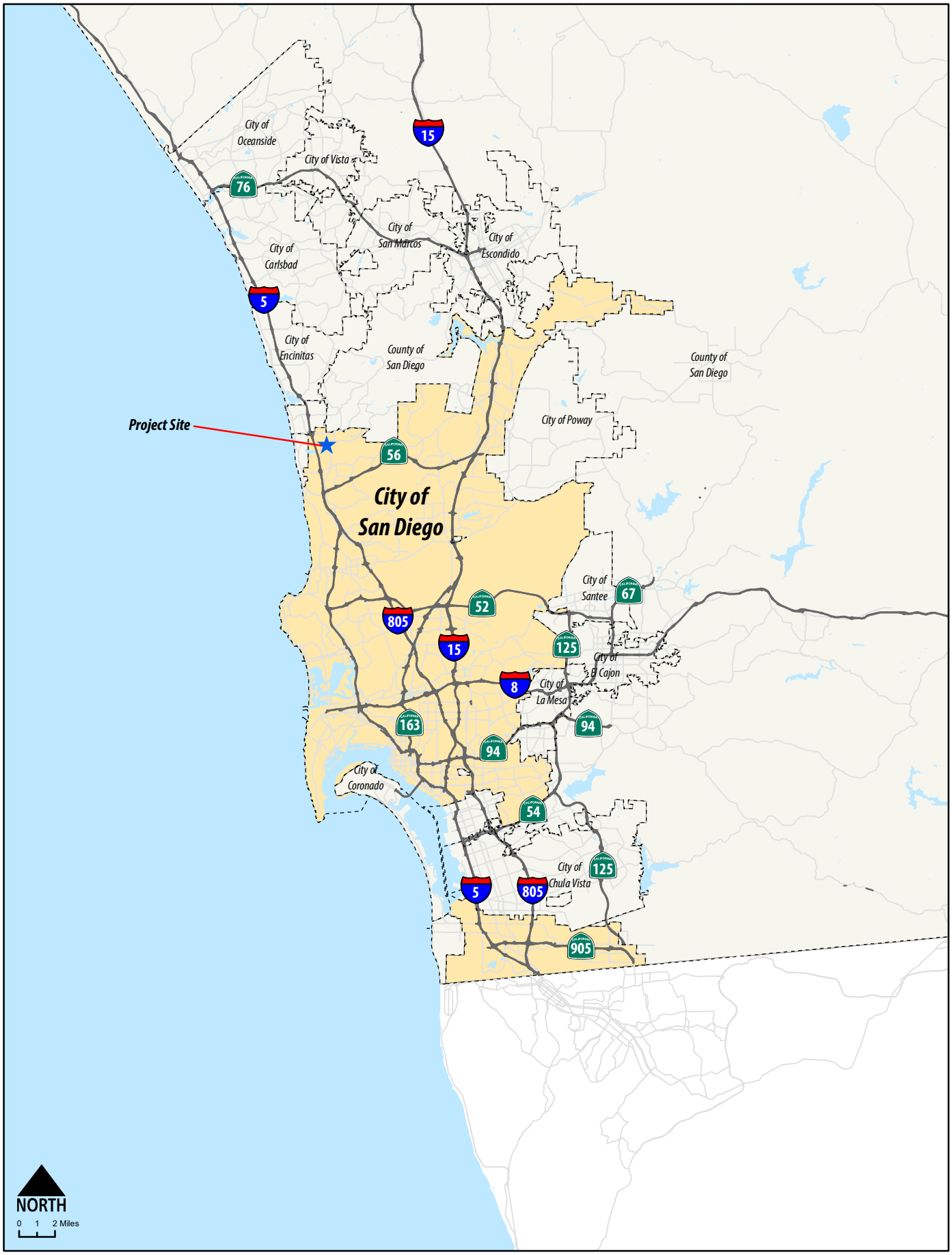
Table 1 – Proposed Project Trip Generation

Land Use	Units	Trip Rate	ADT	AM					PM				
				%	Trips	Split	In	Out	%	Trips	Split	In	Out
Congregate Care Facility	87 DU	2/DU	174	3%	6	(6:4)	4	2	8%	14	(5:5)	7	7
Convalescent/Nursing	18 beds	3/Bed	54	7%	4	(6:4)	2	2	7%	4	(4:6)	2	2
Total			228		10		6	4		18		9	9

Attachment:
The table below provide a summary of each of the attachments.

Name	Description	Attachment No.
Proposed Project Regional Location	Displays the Proposed Project's regional location	A
Proposed Project Site Plan	Displays the Proposed Project's site plan	B

Attachment A
Proposed Project Regional Location

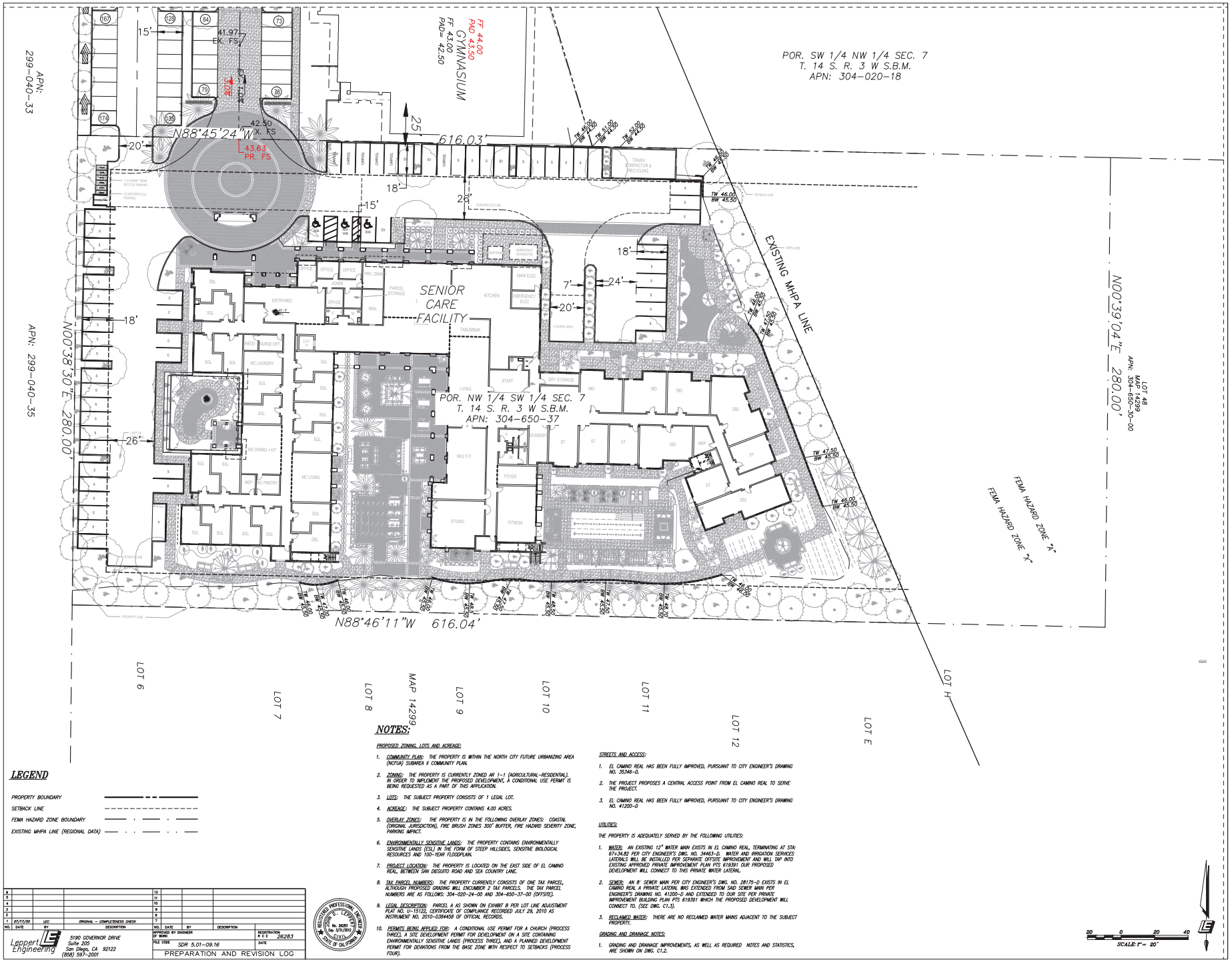


El Camino Real Senior Living

Attachment A
Project Regional Location

CHEN RYAN

Attachment B
Proposed Project Site Plan



LEGEND

- PROPERTY BOUNDARY
- SETBACK LINE
- FEMA HAZARD ZONE BOUNDARY
- EXISTING MHPA LINE (REGIONAL DATA)

NOTES:

PROPOSED ZONING, LOTS AND ACREAGE:

1. COMMUNITY PLAN: THE PROPERTY IS WITHIN THE NORTH CITY FUTURE URBANIZING AREA (NCFUA) SUBAREA II COMMUNITY PLAN.
2. ZONING: THE PROPERTY IS CURRENTLY ZONED AR 1-1 (AGRICULTURAL-RESIDENTIAL). IN ORDER TO IMPLEMENT THE PROPOSED DEVELOPMENT, A CONDITIONAL USE PERMIT IS BEING REQUESTED AS A PART OF THIS APPLICATION.
3. LOTS: THE SUBJECT PROPERTY CONSISTS OF 1 LEGAL LOT.
4. ACREAGE: THE SUBJECT PROPERTY CONTAINS 4.00 ACRES.
5. OVERLAY ZONES: THE PROPERTY IS IN THE FOLLOWING OVERLAY ZONES: COASTAL (ORIGINAL JURISDICTION), FIRE BRUSH ZONES 300' BUFFER, FIRE HAZARD SEVERITY ZONE, PARKING IMPACT.
6. ENVIRONMENTALLY SENSITIVE LANDS: THE PROPERTY CONTAINS ENVIRONMENTALLY SENSITIVE LANDS (ESL) IN THE FORM OF STEEP HILLSIDES, SENSITIVE BIOLOGICAL RESOURCES AND 100-YEAR FLOODPLAIN.
7. PROJECT LOCATION: THE PROPERTY IS LOCATED ON THE EAST SIDE OF EL CAMINO REAL, BETWEEN SAN DIEGUITO ROAD AND SEA COUNTRY LANE.
8. TAX PARCEL NUMBERS: THE PROPERTY CURRENTLY CONSISTS OF ONE TAX PARCEL, ALTHOUGH PROPOSED GRADING WILL ENCUMBER 2 TAX PARCELS. THE TAX PARCEL NUMBERS ARE AS FOLLOWS: 304-020-24-00 AND 304-650-37-00 (OFFSITE).
9. LEGAL DESCRIPTION: PARCEL A AS SHOWN ON EXHIBIT B PER LOT LINE ADJUSTMENT PLAT NO. U-15122, CERTIFICATE OF COMPLIANCE RECORDED JULY 29, 2010 AS INSTRUMENT NO. 2010-0394458 OF OFFICIAL RECORDS.
10. PERMITS BEING APPLIED FOR: A CONDITIONAL USE PERMIT FOR A CHURCH (PROCESS THREE), A SITE DEVELOPMENT PERMIT FOR DEVELOPMENT ON A SITE CONTAINING ENVIRONMENTALLY SENSITIVE LANDS (PROCESS THREE), AND A PLANNED DEVELOPMENT PERMIT FOR DEVIATIONS FROM THE BASE ZONE WITH RESPECT TO SETBACKS (PROCESS FOUR).

STREETS AND ACCESS:

1. EL CAMINO REAL HAS BEEN FULLY IMPROVED, PURSUANT TO CITY ENGINEER'S DRAWING NO. 35346-D.
2. THE PROJECT PROPOSES A CENTRAL ACCESS POINT FROM EL CAMINO REAL TO SERVE THE PROJECT.
3. EL CAMINO REAL HAS BEEN FULLY IMPROVED, PURSUANT TO CITY ENGINEER'S DRAWING NO. 41200-D

UTILITIES:

THE PROPERTY IS ADEQUATELY SERVED BY THE FOLLOWING UTILITIES:

1. WATER: AN EXISTING 12" WATER MAIN EXISTS IN EL CAMINO REAL, TERMINATING AT STA: 67+34.82 PER CITY ENGINEER'S DWG. NO. 34463-D. WATER AND IRRIGATION SERVICES LATERALS WILL BE INSTALLED PER SEPARATE OFFSITE IMPROVEMENT AND WILL TAP INTO EXISTING APPROVED PRIVATE IMPROVEMENT PLAN PTS 619391. OUR PROPOSED DEVELOPMENT WILL CONNECT TO THIS PRIVATE WATER LATERAL.
2. SEWER: AN 8" SEWER MAIN PER CITY ENGINEER'S DWG. NO. 28175-D EXISTS IN EL CAMINO REAL A PRIVATE LATERAL WAS EXTENDED FROM SAID SEWER MAIN PER ENGINEER'S DRAWING NO. 41200-D AND EXTENDED TO OUR SITE PER PRIVATE IMPROVEMENT BUILDING PLAN PTS 619391 WHICH THE PROPOSED DEVELOPMENT WILL CONNECT TO. (SEE DWG. C1.3).
3. RECLAIMED WATER: THERE ARE NO RECLAIMED WATER MAINS ADJACENT TO THE SUBJECT PROPERTY.

GRADING AND DRAINAGE NOTES:

1. GRADING AND DRAINAGE IMPROVEMENTS, AS WELL AS REQUIRED NOTES AND STATISTICS, ARE SHOWN ON DWG. C1.2.

NO.	DATE	BY	DESCRIPTION
6			
5			
4			
3			
2			
1	07/17/20	LEC	ORIGINAL – COMPLETENESS CHECK

NO.	DATE	BY	DESCRIPTION
13			
11			
10			
9			
8			
7			

APPROVED BY ENGINEER OF WORK — REGISTRATION R.C.E. 26283
FILE CODE SDR 5.01-09.16 — DATE

PREPARATION AND REVISION LOG

REGISTERED PROFESSIONAL ENGINEER — JOHN D. LEPPERT — No. 26283 (exp. 3/31/2021) — STATE OF CALIFORNIA

Leppert Engineering
5190 GOVERNOR DRIVE
Suite 205
San Diego, CA 92122
(858) 597-2001

CALLISONRTKL

CallisonRTKL Inc.

Consultant

Client/Owner/Project Address

Issue Drawing Log

REV #	DATE (MM.DD.YY)	ISSUE NAME

Seal

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION

Sheet Identification

SITE PLAN

C1.1

SHEET NO. 6 OF 25

SYMBOL LEGEND

ROOM NAME
150 SF — ROOM TAG W/ AREA

STRUCTURAL GRID - EXISTING

STRUCTURAL GRID - NEW

PARTITION TYPE TAG

CEILING TAG

CEILING TAG W/ HEIGHT

FLOOR TAG

DOOR TAG

LIFE SAFETY DOOR TAG

FURNITURE/FIXTURE/ CASEWORK TAG

GLAZING TAG

WINDOW TAG

REVISION DELTA

NOTE WITH LEADER

KEY NOTE

FINISH/MATERIAL TAG

LIGHTING TAG

PLUMBING TAG

SPECIALTY EQUIPMENT TAG

SPOT ELEVATION - ELEVATION VIEWS

SPOT ELEVATION - PLAN VIEWS

TRUE NORTH

NORTH ARROW

LEVEL/DATUM ELEVATION MARK

SECTION MARK

BUILDING SECTION MARK

DETAIL SECTION MARK

DETAIL CALLOUT MARK

INTERIOR ELEVATION MARK

EXTERIOR ELEVATION MARK

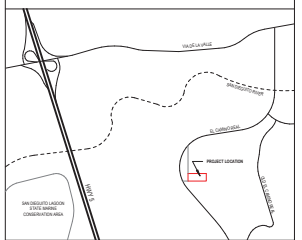
ABBREVIATIONS

A	AB	ANCHOR BOLT
	AC	ACOUSTICAL TILE
	AD	AREA DRAIN
	AFF	ABOVE FINISH FLOOR
	ALT	ALTERNATE
	ALUM	ALUMINUM
	ARCH	ARCHITECTURAL
	AU	ASH URN
	AV	AUDIO VISUAL
B	BAS	BASE AS SCHEDULED
	BD	BOARD
	BLDG	BUILDING
	BLKG	BLOCKING
	BM	BEAM OR BENCHMARK
	BNG	BEARING
	BOD	BOTTOM OF DECK
	BOT	BOTTOM
	BR	BACKER ROD
	BRDG	BRIDGING
	BUR	BUILT-UP ROOFING
	BW	BOTH WAYS
C	C	COURSE
	CAB	CABINET
	CEM	CEMENT OR CEMENTITIOUS
	CG	CORNER GUARD
	CIP	CAST-IN-PLACE
	CIR	CIRCLE
	CJ	CONTROL JOINT
	CLG	CEILING
	CM	CENTIMETER
	CMU	CONCRETE MASONRY UNIT
	COL	COLUMN
	CONC	CONCRETE
	CONST	CONSTRUCTION
	CONT	CONTINUOUS
	CORR	CORRIDOR
	CPT	CARPET
	CSK	COUNTERSINK OR COUNTERSUNK
	CT	CERAMIC TILE
D	D	DEPTH OR DEEP
	DBL	DOUBLE
	DEG	DEGREE
	DEMO	DEMOLITION
	DTL	DETAIL
	DF	DRINKING FOUNTAIN
	DIA	DIAMETER
	DIM	DIMENSION
	DN	DOWN
	DP	DAMPPROOFING
	DR	DOOR
	DS	DOWNSPOUT
	DTL	DETAIL
	DW	DISHWASHER
	DWG	DRAWING
	DWR	DRAWER
E	E	EAST
	EA	EACH
	EHB	ELECTRIC HAIR BLOWER
	EHD	ELECTRIC HAND DRYER
	EIFS	EXTERIOR INSULATING FINISH SYSTEM
	EJ	EXPANSION JOINT
	EL	ELEVATION (GRADE)
	ELEC	ELECTRICAL
	EQ	EQUAL
	EQ	EQUIPMENT
	ETS	EXPOSED TO STRUCTURE
	EW	EACH WAY
	EWC	ELECTRIC WATER COOLER
	EXP	EXPANSION OR EXPOSED
	EXIST	EXISTING
	EXT	EXTERIOR
	EXTD	EXTRUDED
F	FD	FLOOR DRAIN
	FE	FIRE EXTINGUISHER
	FEC	FIRE EXTINGUISHER CABINET
	FEX	FIRE EXTINGUISHER (NO CABINET)
	FFA	FURNITURE, FIXTURES & ACCESSORIES
	FFE	FURNITURE, FIXTURES & EQUIPMENT
	FF	FINISHED FLOOR
	FHC	FIRE HOSE CABINET
	FIN	FINISH
	FLR	FLOOR
	FLUOR	FLUORESCENT
	FP	FIREPROOFING
	FR	FIRE RETARDANT/ FIRE RESISTIVE
	FRP	FIBERGLASS REINFORCED POLYMER
	FT	FOOT/ FEET
	FTG	FOOTING
	FURN	FURNITURE
	FV	FIELD VERIFY
	FWC	FABRIC WALL COVERING
	FPHB	FREEZE-PROOF HOSE BIBB
G	GA	GAUGE
	GALV	GALVANIZED
	GB	GRAB BAR
	GFRC	GLASS FIBER REINFORCED CONCRETE
	GFRG	GLASS FIBER REINFORCED GYPSUM
	GL	GLASS
	GND	GROUND
	GR	GRADE
	GYP	GYPSUM
	GYP BD	GYPSUM BOARD
H	H	HIGH
	HB	HOSE BIBB
	HC	HOLLOW CORE
	HD	HOLD
	HBD	HARDBOARD
	HCTLT	HANDICAPPED ACCESSIBLE TOILET
	HDR	HEADER
	HDW	HARDWARE
	HDWD	HARDWOOD
	HM	HOLLOW METAL
	HOR	HORIZONTAL
	HPL	HIGH PRESSURE LAMINATE
	HR	HOUR
	HT	HEIGHT
	HVAC	HEATING, VENTILATION & AIR CONDITIONING
I	ID	INSIDE DIAMETER
	IN	INCH
	INCAN	INCANDESCENT
	INSUL	INSULATION
	INT	INTERIOR
J	JB	JUNCTION BOX
	JT	JOINT
K	KD	KNOCK DOWN
	KO	KNOCKOUT
L	L	LONG
	LAM	LAMINATED
	LAV	LAVATORY
	LB	LAG BOLT
	LF	LINEAR FOOT OR LINEAR FEET
	LLH	LONG LEG HORIZONTAL
	LLV	LONG LEG VERTICAL
	LT	LIGHT OR LIGHTING
E	E	EAST
	EA	EACH
	EHB	ELECTRIC HAIR BLOWER
	EHD	ELECTRIC HAND DRYER
	EIFS	EXTERIOR INSULATING FINISH SYSTEM
	EJ	EXPANSION JOINT
	EL	ELEVATION (GRADE)
	ELEC	ELECTRICAL
	EQ	EQUAL
	EQ	EQUIPMENT
	ETS	EXPOSED TO STRUCTURE
	EW	EACH WAY
	EWC	ELECTRIC WATER COOLER
	EXP	EXPANSION OR EXPOSED
	EXIST	EXISTING
	EXT	EXTERIOR
	EXTD	EXTRUDED
M	M	METER
	MACH	MACHINE
	MAS	MASONRY
	MATL	MATERIAL
	MAX	MAXIMUM
	MBH	MOP AND BROOM HOLDER
	MBR	MODIFIED BITUMEN ROOFING MEDICINE CABINET
	MECH	MECHANICAL
	MEMB	MEMBRANE
	MFR	MANUFACTURER
	MH	MANHOLE
	MIN	MINIMUM
	MIR-F	MIRROR-FRAMED EDGE
	MIR-G	MIRROR-GLASS EDGE
	MLD	MOLDING
	MM	MILLIMETER
	MO	MASONRY OPENING
	MS	MOP SINK
	MTD	MOUNTED
	MTG	MOUNTING
	MTL	METAL
N	N	NORTH
	NCOM	NONCOMBUSTIBLE
	NIC	NOT IN CONTRACT
	NOM	NOMINAL
	NPS	NOMINAL PIPE SIZE
	NTS	NOT TO SCALE
O	OC	ON CENTER
	OD	OUTSIDE DIAMETER
	OFCI	OWNER FURNISHED/ CONTRACTOR INSTALLED
	OFD	OVERFLOW DRAIN
	OFOI	OWNER FURNISHED/ OWNER INSTALLED
	OH	OPPOSITE HAND OR OVERHEAD
	OPG	OPENING
	OPP	OPPOSITE
	OPT	OPTION OR OPTIONAL
P	PC	PRECAST
	PCEM	PORTLAND CEMENT
	PA	PUBLIC ADDRESS SYSTEM
	PCF	POUNDS PER CUBIC FOOT
	PL	PLATE
	P.LAM	PLASTIC LAMINATE
	PLTR	LASTER
	PLBG	PLUMBING
	PLF	POUNDS PER LINEAR FOOT
	PMR	PROTECTED MEMBRANE ROOFING
	PNL	PANEL
	PNT	PAINT OR PAINTED
	POL	POLISHED
	PR	PAIR
	PSF	POUNDS PER SQUARE FOOT
	PSI	POUNDS PER SQUARE INCH
	PT	POINT
	PTD	PAPER TOWEL DISPENSER
	PTDWR	PAPER TOWEL DISPENSER/ WASTE RECEPTACLE
	PTM	PATCH TO MATCH
	PTN	PARTITION
	PVC	POLYVINYL CHLORIDE
	PVMT	PAVEMENT
	PWD	PLYWOOD
Q	QT	QUARRY TILE
	QTR	QUARTER
	QTY	QUANTITY
R	R	RADIUS OR RISER
	RA	RETURN AIR
	RCP	REFLECTED CEILING PLAN
	RD	ROOF DRAIN
	RE	REFER OR REFERENCE
	REFL	REFLECTED
	REG	REGISTER
	REINF	REINFORCEMENT
	REQ	REQUIRED
	RES	RESILIENT
	REV	REVERSE
	RH	ROBE HOOK
	RM	ROOM
	RO	ROUGH OPENING
	ROW	RIGHT-OF-WAY
	RSF	RESILIENT SHEET FLOORING
S	S	SOUTH
	SA	SUPPLY AIR
	SAN	SANITARY
	SB	SPLASH BLOCK
	SC	SOLID CORE OR SHOWER CURTAIN
	SCHED	SCHEDULE OR SCHEDULED
	SD	SOAP DISPENSER
	SECT	SECTION
	SF	SQUARE FOOT OR SQUARE FEET
	SFP	SPRAYED FIREPROOFING
	SH	SPRINKLER HEAD
	SHT	SHEET
	SHTG	SHEATHING
	SIM	SIMILAR
	SKLT	SKYLIGHT
	SND	SANITARY NAPKIN DISPOSAL
	SNV	SANITARY NAPKIN VENDOR
	SP	STANDPIPE
	SPEC	SPECIFIED OR SPECIFICATIONS
	SPR	SINGLE PLY ROOFING
	SQ	SQUARE
	SR	SHOWER ROD
	SRSC	SHOWER ROD/ SHOWER CURTAIN
	SS	STAINLESS STEEL
	ST	SOAP TRAY
	STA	STATION
	STC	SOUND TRANSMISSION CLASS
	STD	STANDARD
	STL	STEEL
	STOR	STORAGE
	STRU	STRUCTURE OR STRUCTURAL
	SUSP	SUSPENDED OR SUSPENSION
	SYM	SYMBOL
	SYN	SYNTHETIC
	SYS	SYSTEM
T	T	TREAD OR TOP
	TB	TOWEL BAR
	TBL	TOP OF BRICK LEDGE
	T&B	TOP AND BOTTOM
	TC	TOP OF CURB
	TD	TRENCH DRAIN
	TEL	TELEPHONE
	TERR	TERRAZZO
	T&G	TONGUE & GROOVE
	THK	THICK OR THICKNESS
	THRU	THROUGH
	TLT	TOILET
	TOC	TOP OF CONCRETE
	TOD	TOP OF DECK
	TOF	TOP OF FOOTING
	TOI	TOP OF INSULATION
	TOJ	TOP OF JOIST
	TOL	TOLERANCE
	TOP	TOP OF PARAPET
	TOS	TOP OF STEEL
	TOW	TOP OF WALL
	TPH	TOILET PAPER HOLDER
	TR	TELEPHONE RECEPTACLE
	TS	TOP OF SLAB
	TELE	TELEPHONE
	TTB	TERMINAL BOARD
	TV	TELEVISION
	TYP	TYPICAL
U	UCL	UNDER CABINET LIGHT
	ULAY	UNDERLAYMENT
	UNO	UNLESS NOTED OTHERWISE
	UR	URINAL
V	VB	VAPOR BARRIER
	VCT	VINYL COMPOSITION TILE
	VERT	VERTICAL
	VP	VENT PIPE
	VS	VENT SHAFT
	VT	VINYL TILE
	VWC	VINYL WALLCOVERING
W	W	WEST OR WIDE OR WIDTH
	WI	WITH
	WB	WIND BRACE OR BRACING
	WC	WATER CLOSET
	WCOT	WAINSCOT
	WD	WOOD
	WDO	WINDOW
	WH	WEEPHOLE
	WO	WINDOW OPENING
	W/O	WITHOUT
	WP	WATERPROOFING
	WR	WASTE RECEPTACLE
	WIR	WATER RESISTIVE OR RESISTANT
	WS	WEATHERSTRIPPING
	WT	WEIGHT
	WWF	WELDED WIRE FABRIC
Y	YD	YARD

=	EQUAL	&	AND
±	PLUS OR MINUS	L	ANGLE (RIGHT)
#	POUND OR NUMBER	L	ANGLE (ACUTE)
x	TIMES	@	AT
	DEGREES	CL	CENTERLINE

'	FOOT OR FEET
"	INCH
-	MINUS
+	PLUS

VICINITY MAP



NOTE: TRANSIT STOPS: THE PROJECT IS NOT ADJACENT TO TRANSIT. THE NEAREST TRANSIT STOP IS LOCATED 2 MILES FROM THE SITE ENTRY.

TRUE NORTH

SETBACK AND DEVELOPMENT REGULATIONS:

	AR-1-1 REQUIREMENTS	PROPOSED
MAX PERMITTED DENSITY:	1	N/A*
MIN LOT AREA:	10 ACRES	3.95 ACRES (172,480 SF)
MIN. LOT DIMENSIONS: WIDTH STREET FRONTAGE LOT DEPTH	 200' 200'	 280' N/A 616'
SETBACK REQUIREMENTS: FRONT SIDE REAR	 25' 20' 25'	 N/A 20' N/A
MAX. STRUCTURAL HEIGHT:	30' NOTE: ADDITIONAL HEIGHT ALLOWED PER SDMC 131.0344 IF THE FRONT, SIDE, AND REAR SETBACKS ARE EACH INCREASED BY 10 FT FOR EACH 10 FT OF STRUCTURE HEIGHT ABOVE 30 FT.	40'
MAX. LOT COVERAGE:	10%	*20% (34,525 SF BUILDING PAD
MIN. FLOOR AREA:	APPLIES (650 SF MIN FLOOR AREA PER DU)	N/A
REFUSE AND MATERIAL STORAGE:	APPLIES	COMPLIES
VISIBILITY AREA:	APPLIES	COMPLIES

* DOES NOT COMPLY. SEE CONDITIONAL USE PERMIT APPLICATION.

UNIT BREAKDOWNS:

MEMORY CARE:

UNIT TYPE	COUNT	MIN ... MAX AREA
MEMORY CARE		
DOUBLE	2	360 SF ... 584 SF
SINGLE	16	359 SF ... 360 SF
L 1	18	
MEMORY CARE:	18	

ASSISTED LIVING:

UNIT TYPE	COUNT	MIN ... MAX AREA
ASSISTED LIVING		
1 BED	4	621 SF ... 768 SF
2 BED	2	900 SF ... 953 SF
STUDIO	5	432 SF ... 471 SF
L 1	11	
1 BED	26	569 SF ... 973 SF
2 BED	6	900 SF ... 1,119 SF
STUDIO	5	432 SF ... 441 SF
L 2	37	
1 BED	27	579 SF ... 973 SF
2 BED	7	893 SF ... 1,124 SF
STUDIO	5	432 SF ... 441 SF
L 3	39	
ASSISTED LIVING	87	
TOTAL UNITS	105	

PARKING SUMMARY

PARKING REQUIREMENTS
PER SAN DIEGO MUNICIPAL CODE (SDMC) UNDER INTERMEDIATE CARE FACILITIES REQUIREMENTS

ASSISTED LIVING	34 SPACES 72 1BD/STUDIOS + 16 2BD = 87 UNITS (102 BEDS) (1 SPACES PER BED PER SDMC TABLE 142-05G)
MEMORY CARE	7 SPACES 16 SINGLES + 2 DOUBLES = 18 UNITS (20 BEDS) (1 SPACES PER BED PER SDMC TABLE 142-05G)
TOTAL	41 SPACES REQUIRED

PARKING PROVIDED

TOTAL	61 SPACES (INCLUDING 2 STANDARD/ACCESSIBLE STALLS AND 1 VAN ACCESSIBLE STALL)
SHORT TERM BICYCLE PARKING	12 SPACES PROVIDED 11 SPACES REQ'D PER SDMC SECTION 142.0530(E)(1)(A)
LONG TERM BICYCLE PARKING	8 SPACES PROVIDED 8 SPACES REQ'D PER SDMC SECTION 142.0530(E)(2)(A)
MOTORCYCLE PARKING	2 SPACES PROVIDED 2 SPACES REQ'D PER SDMC SECTION 142.0560(F)
ACCESSIBLE PARKING	3 SPACES PROVIDED 3 SPACES REQ'D PER CALIFORNIA BUILDING CODE (CBC) SECTION 11B-208 AND TABLE 11B-208.2
CARPOOL AND ZERO EMISSION PARKING	9 DESIGNATED FOR CARPOOL 9 DESIGNATED PARKING SPACES FOR CARPOOL AND ZERO EMISSIONS REQ'D PER SDMC SECTION 142.0530(D)
ELECTRIC VEHICLE CHARGING STATIONS	4 EV CAPABLE SPACES PROVIDED 4 SPACES REQ'D PER CALIFORNIA GREEN BUILDING CODE (CGBC) TABLE A 106.5.3.3
LOADING AREA	1 SPACES PROVIDED (NOT INCLUDED IN TOTAL PARKING) 1 SPACES REQ'D PER SDMC SECTION 142.1010 AND TABLE 142-10B

SEE SHEET A-101 FOR PARKING LOCATIONS AND DIMENSIONAL REQUIREMENTS

CALLISONRTKL

CallisonRTKL Inc.
333 S. HOPE STREET, C-200
LOS ANGELES, CA 90071
Tel: TEL.: 213-6336000
Fax: FAX: 213-6336060

Project No: 040-200022.00

Consultant

EL CAMINO REAL SENIOR LIVING

Client/Owner/Project Address

PMB CARMEL VALLEY LLC
3394 CARMEL MOUNTAIN ROAD
SUITE 200
SAN DIEGO, CA 92121

Issue Drawing Log

REV #	DATE (MM.DD.YY)	ISSUE NAME

Seal

NOT FOR REGULATORY APPROVAL, PERMITTING, OR CONSTRUCTION

Sheet Identification

PROJECT INFORMATION

G-001
SHEET NO. 2 OF 25

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Appendix B
St. John Church TIS Traffic Counts

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_4069_009 **Day:** THURSDAY

City: City of San Diego **Date:** 02/23/2012

AM

NS/EW Streets:	El Camino Real			El Camino Real			San Dieguito Rd			San Dieguito Rd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	0	0	2	0	1	
7:00 AM		15	21	32	71					58		54	251
7:15 AM		41	38	36	168					105		81	469
7:30 AM		59	37	47	140					104		79	466
7:45 AM		46	45	46	127					96		66	426
8:00 AM		59	48	56	72					77		68	380
8:15 AM		47	62	64	76					103		90	442
8:30 AM		46	58	50	71					77		99	401
8:45 AM		51	53	55	67					74		94	394
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	364	362	386	792	0	0	0	0	694	0	631	3229
APPROACH %'s :	0.00%	50.14%	49.86%	32.77%	67.23%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	52.38%	0.00%	47.62%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	205	168	185	507	0	0	0	0	382	0	294	1741
PEAK HR FACTOR :		0.871			0.848			0.000			0.909		0.928

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_4069_009 **Day:** THURSDAY

City: City of San Diego **Date:** 02/23/2012

PM

NS/EW Streets:	El Camino Real			El Camino Real			San Dieguito Rd			San Dieguito Rd			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	0	0	0	0	2	0	1	
4:00 PM		102	39	53	34					65		50	343
4:15 PM		107	59	67	63					49		63	408
4:30 PM		179	55	66	70					56		64	490
4:45 PM		173	69	84	66					59		44	495
5:00 PM		212	98	79	68					57		60	574
5:15 PM		231	106	74	68					43		57	579
5:30 PM		183	76	89	64					58		44	514
5:45 PM		161	71	68	70					52		47	469
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1348	573	580	503	0	0	0	0	439	0	429	3872
APPROACH %'s :	0.00%	70.17%	29.83%	53.55%	46.45%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	50.58%	0.00%	49.42%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	799	349	326	266	0	0	0	0	217	0	205	2162
PEAK HR FACTOR :		0.852			0.967			0.000			0.902		0.934

CONTROL : Signalized

ITM Peak Hour Summary

Prepared by:

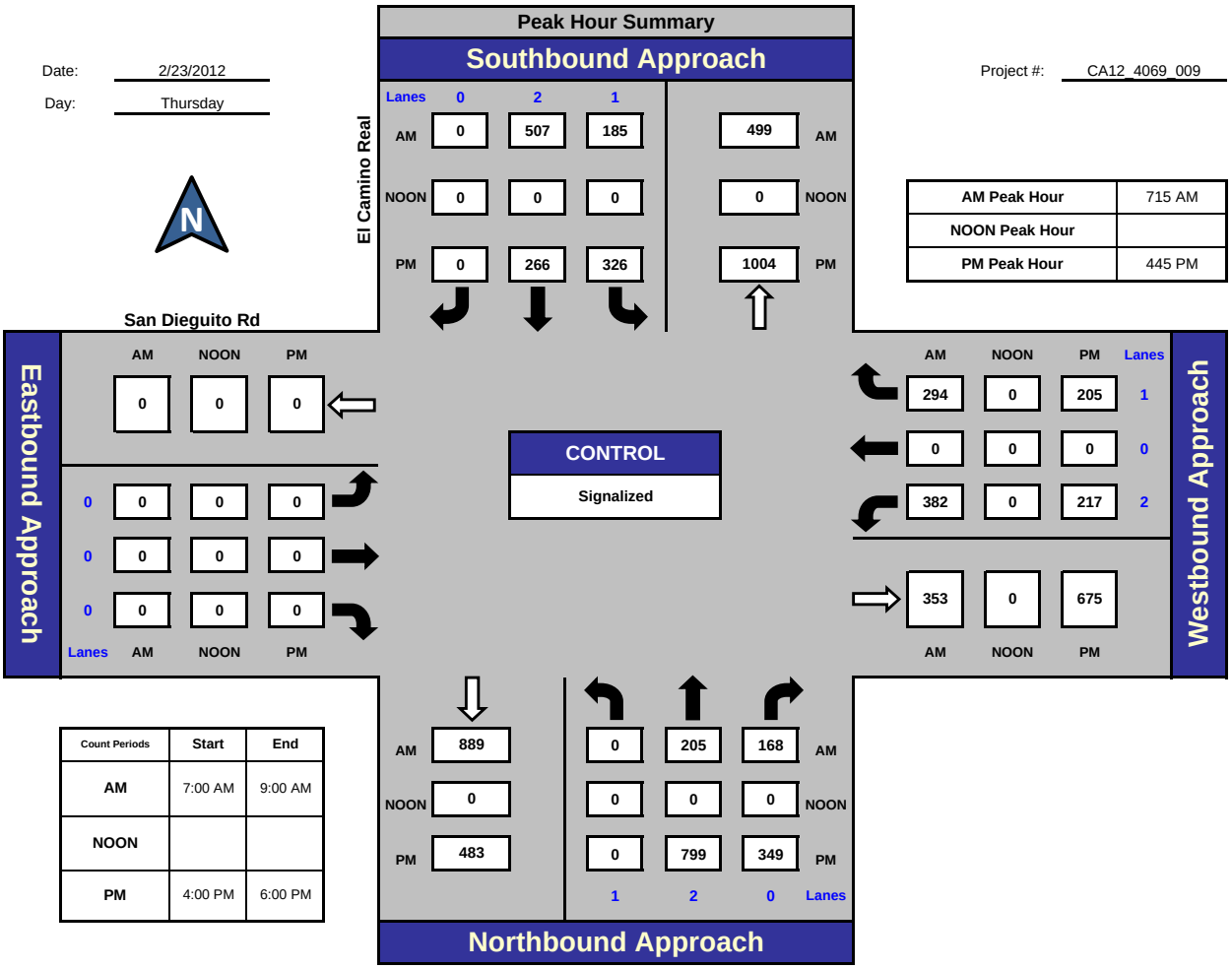
National Data & Surveying Services

El Camino Real and San Dieguito Rd , City of San Diego

Date: 2/23/2012

Day: Thursday

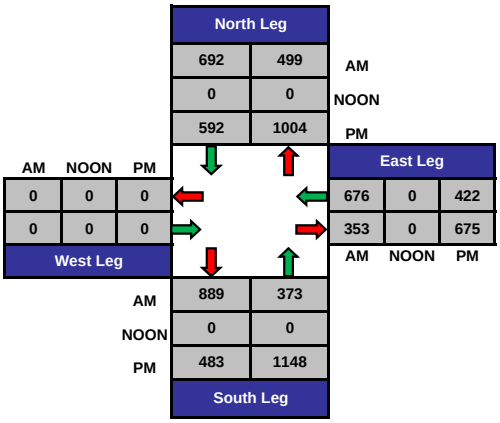
Project #: CA12_4069_009



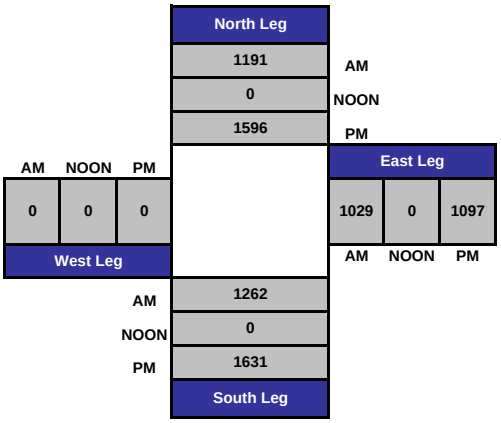
AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM

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

Total Ins & Outs



Total Volume Per Leg



Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_4069_010 **Day:** THURSDAY

City: City of San Diego **Date:** 02/23/2012

AM

NS/EW Streets:	El Camino Real			El Camino Real			Sea Country Ln			Sea Country Ln			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0	0	0	0	1	0	
7:00 AM		34	2	0	116					1		2	155
7:15 AM		82	0	1	273					5		1	362
7:30 AM		97	3	1	239					12		2	354
7:45 AM		82	2	0	242					4		1	331
8:00 AM		118	2	1	150					6		0	277
8:15 AM		103	1	2	171					4		3	284
8:30 AM		103	2	0	146					4		1	256
8:45 AM		103	5	1	144					1		2	256
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	722	17	6	1481	0	0	0	0	37	0	12	2275
APPROACH %'s :	0.00%	97.70%	2.30%	0.40%	99.60%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	75.51%	0.00%	24.49%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	379	7	3	904	0	0	0	0	27	0	4	1324
PEAK HR FACTOR :		0.804			0.828			0.000			0.554		0.914

CONTROL : 1-Way Stop (WB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA12_4069_010 **Day:** THURSDAY

City: City of San Diego **Date:** 02/23/2012

PM

NS/EW Streets:	El Camino Real			El Camino Real			Sea Country Ln			Sea Country Ln			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	2	0	0	0	0	0	1	0	
4:00 PM		141	8	0	90					4		1	244
4:15 PM		181	1	1	102					2		1	288
4:30 PM		205	4	0	143					2		1	355
4:45 PM		268	5	1	122					2		2	400
5:00 PM		292	7	2	115					2		2	420
5:15 PM		340	5	1	116					3		0	465
5:30 PM		255	2	3	119					3		1	383
5:45 PM		221	8	3	126					5		0	363
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1903	40	11	933	0	0	0	0	23	0	8	2918
APPROACH %'s :	0.00%	97.94%	2.06%	1.17%	98.83%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	74.19%	0.00%	25.81%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	1155	19	7	472	0	0	0	0	10	0	5	1668
PEAK HR FACTOR :		0.851			0.974			0.000			0.938		0.897

CONTROL : 1-Way Stop (WB)

ITM Peak Hour Summary

Prepared by:

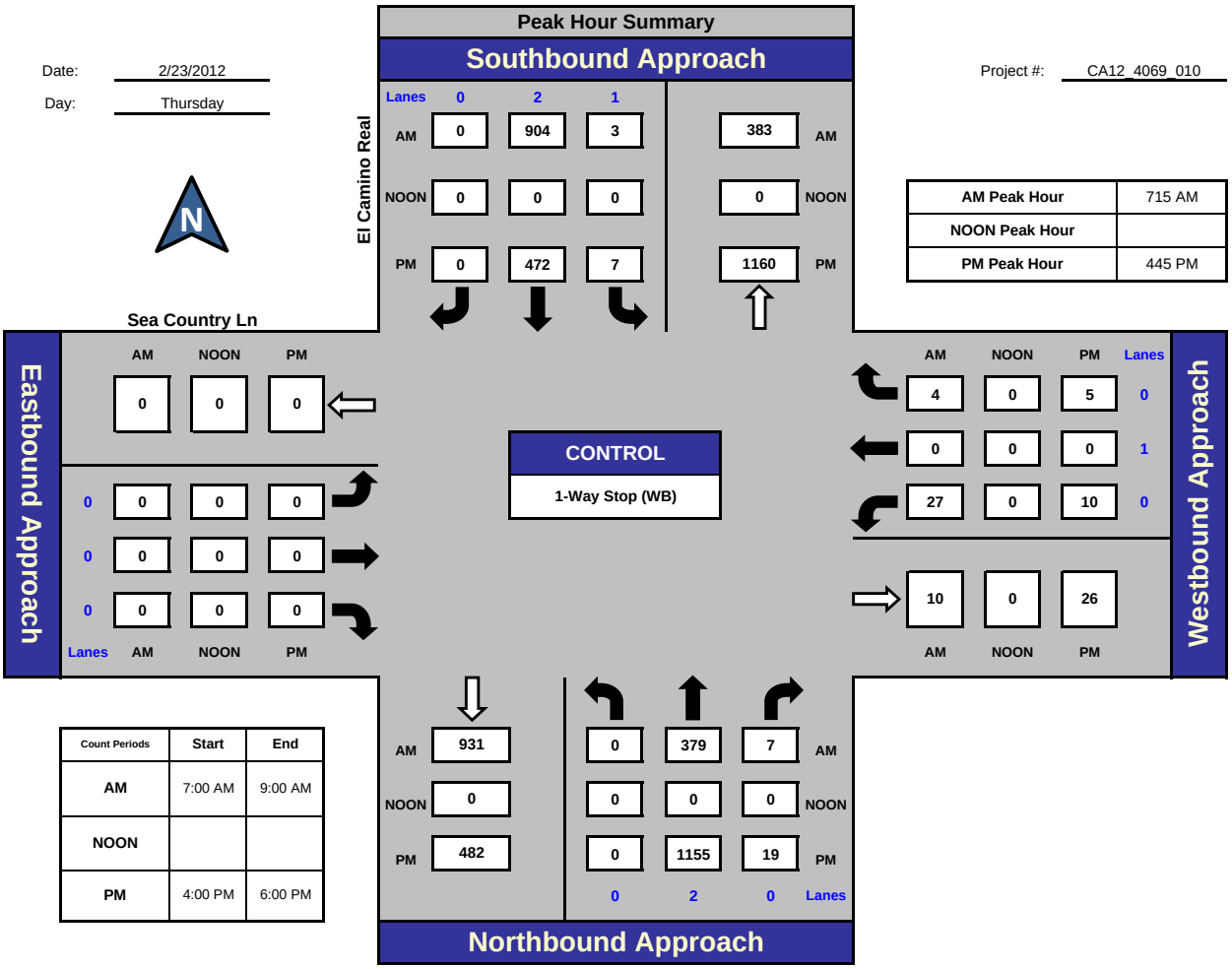
National Data & Surveying Services

El Camino Real and Sea Country Ln , City of San Diego

Date: 2/23/2012

Day: Thursday

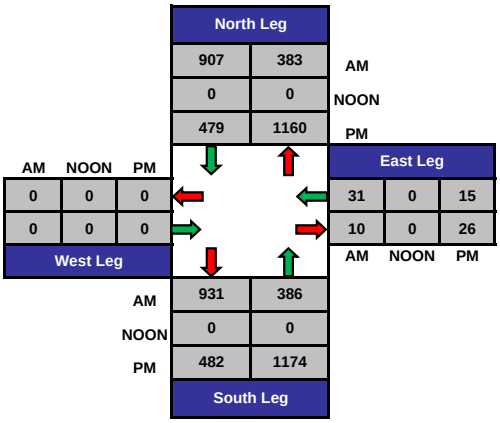
Project #: CA12_4069_010



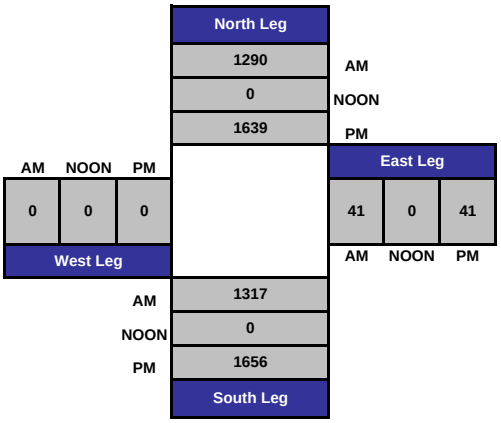
AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM

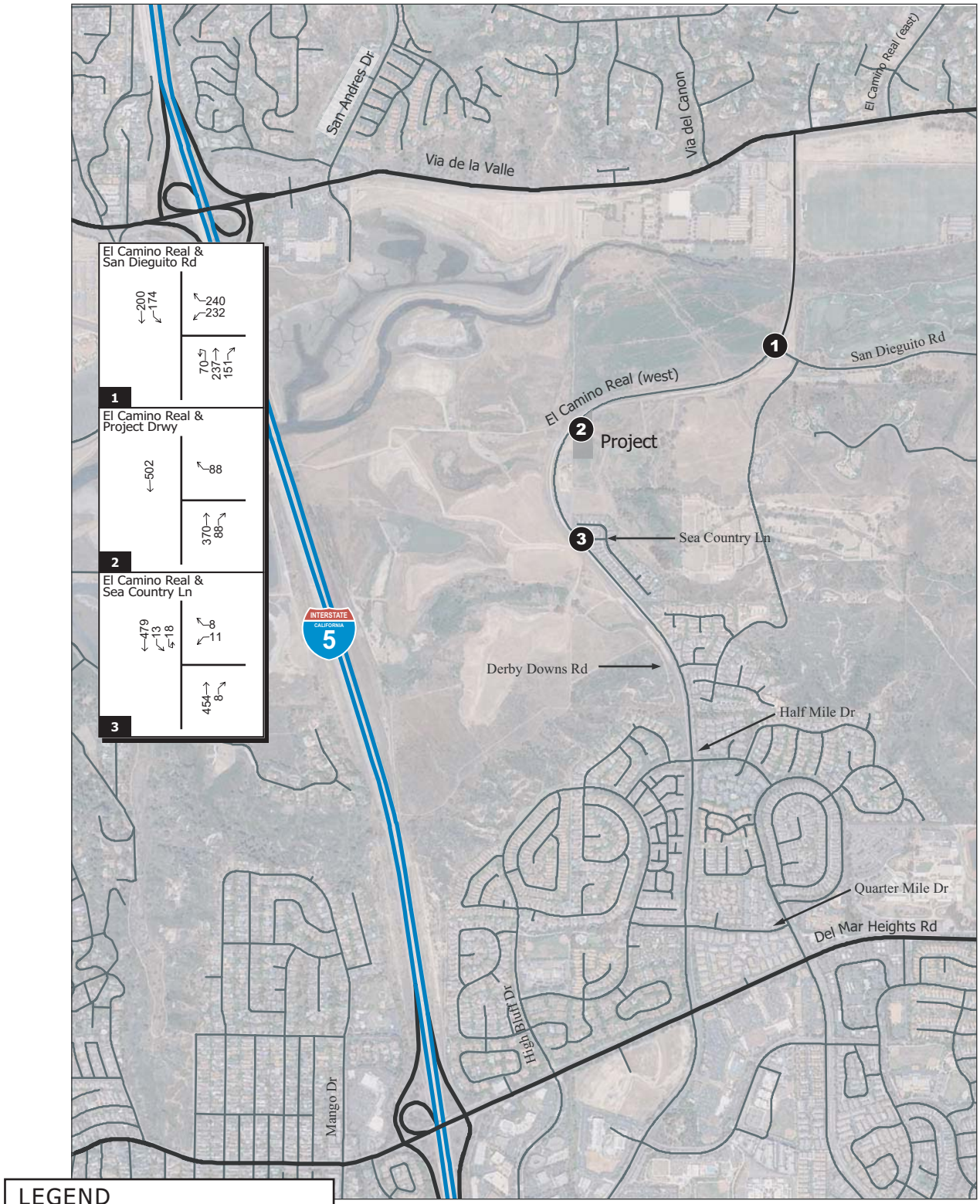
Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg





LEGEND

10 Sunday Peak Hour Trips

Note: U-turns will be occuring at San Dieguito Rd and Sea Country Lane

Figure 3-11
Existing Sunday Peak Hour Intersection Volumes With Project

N
Not To Scale

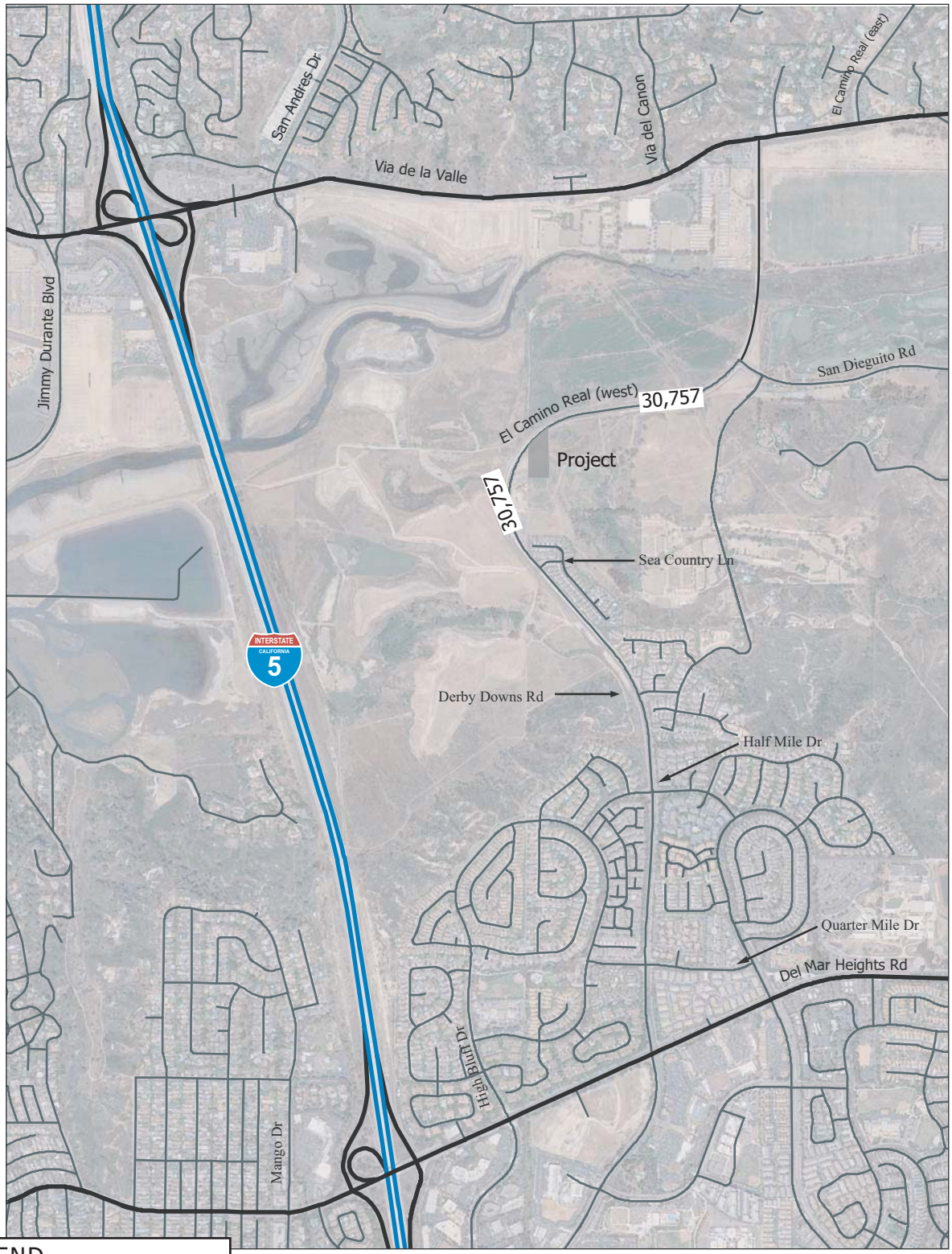


Figure 5-3
Horizon Year Weekday Roadway Segment Volumes WithProject

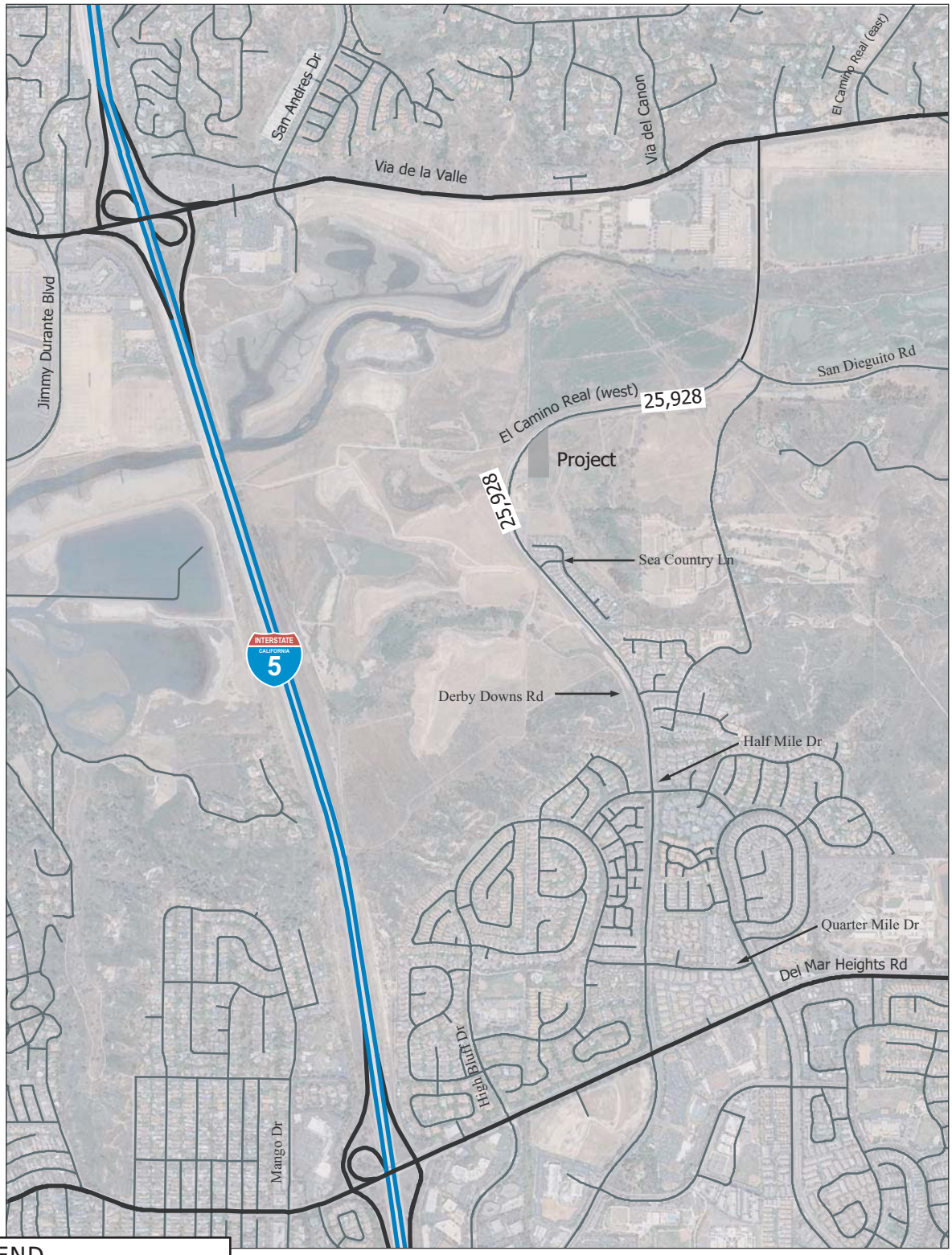
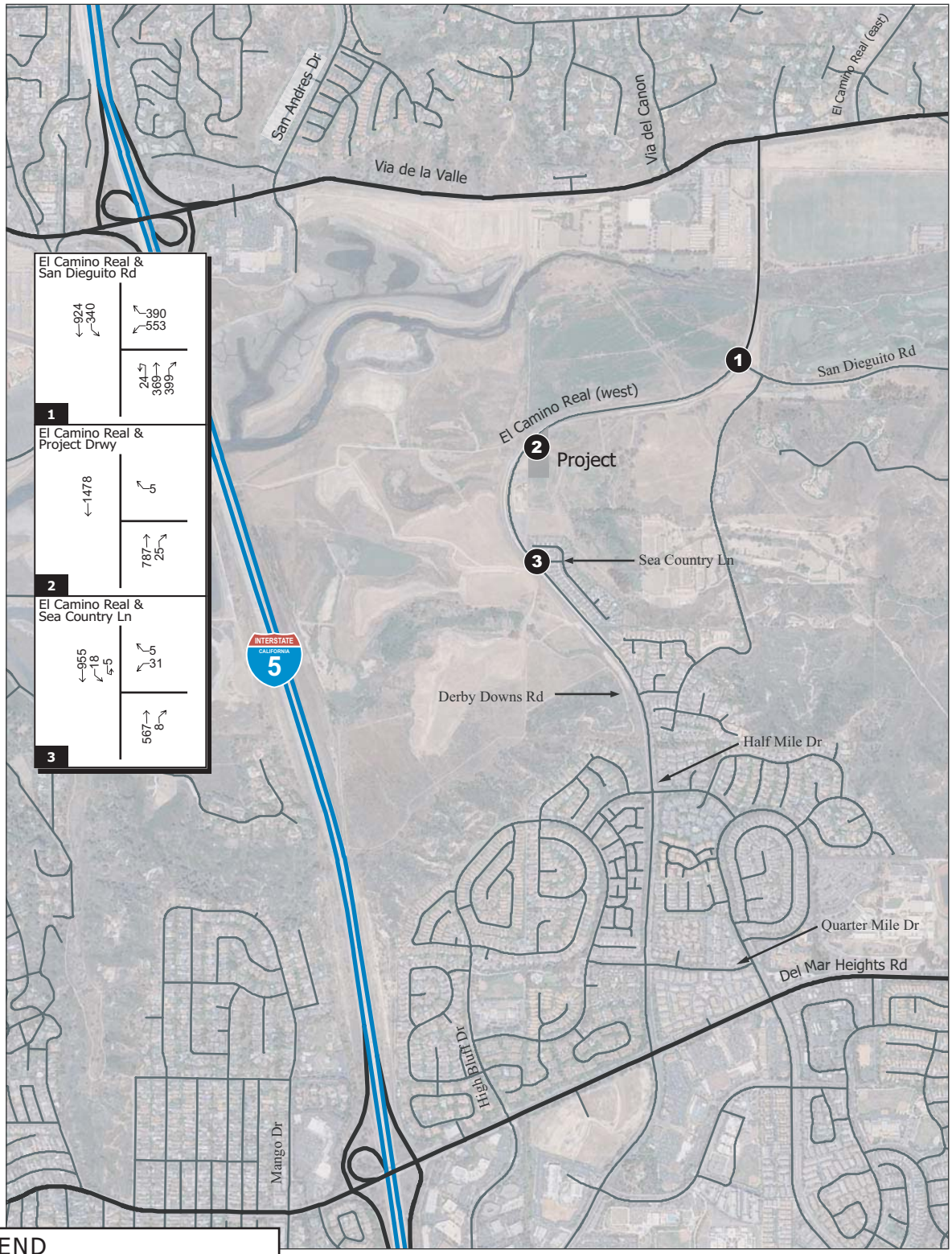


Figure 5-4
Horizon Year Weekend Roadway Segment Volumes With Project



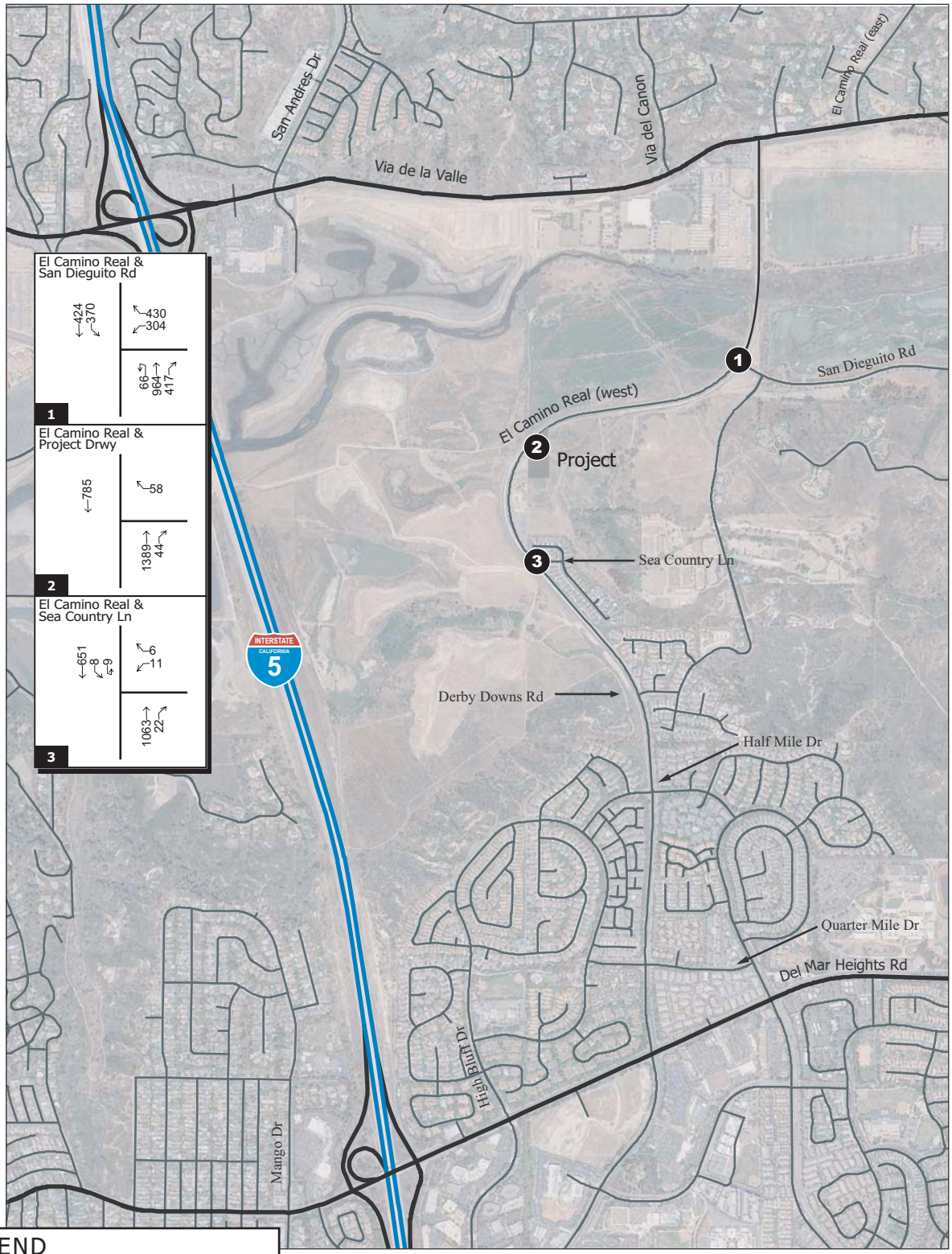
LEGEND

10 AM Peak Hour Trips

Note: U-turns will be occuring at San Dieguito Rd and Sea Country Lane

Figure 5-8
Horizon Year AM Peak Hour Intersection Volumes With Project

N
Not To Scale



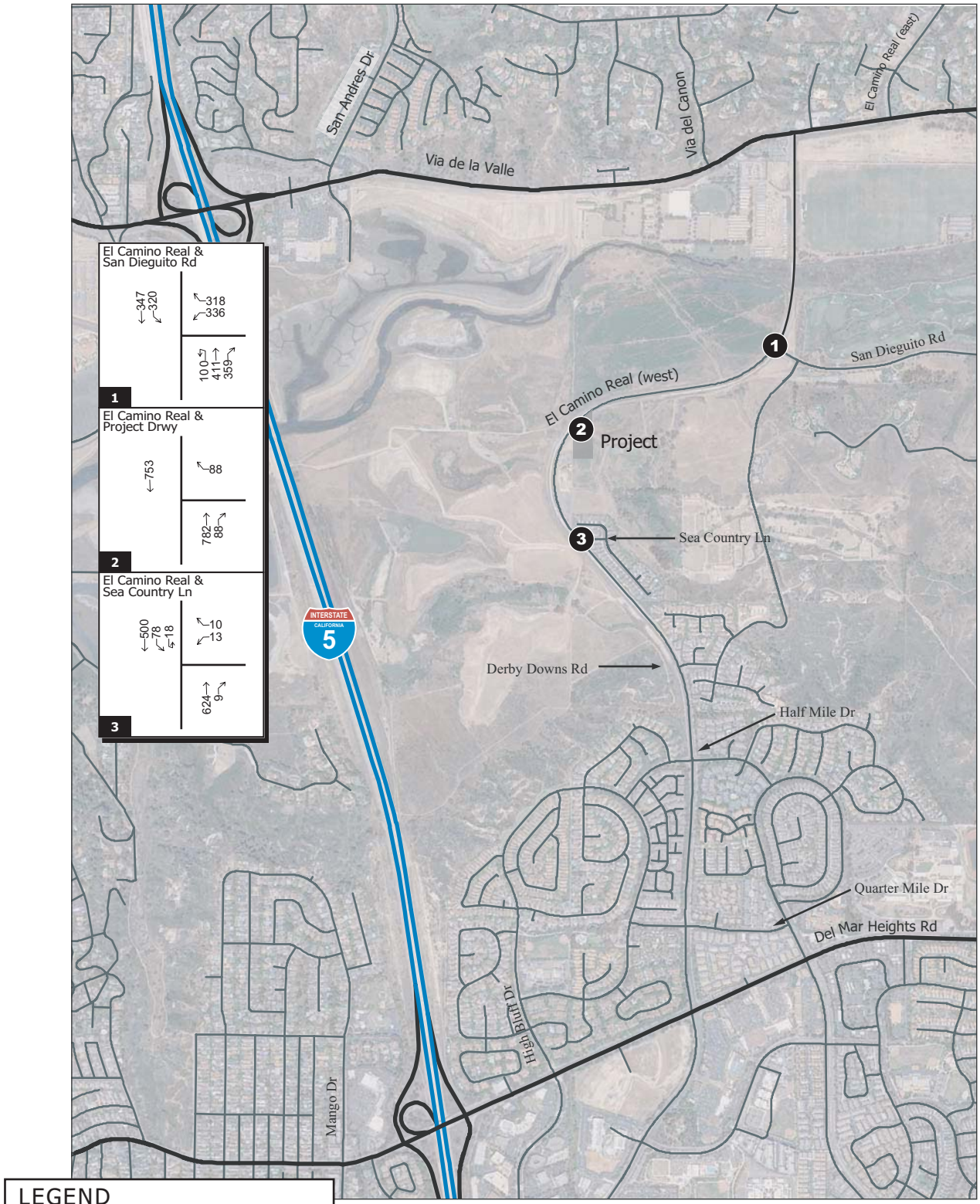
LEGEND

10 PM Peak Hour Trips

Note: U-turns will be occuring at San Dieguito Rd and Sea Country Lane

Figure 5-9
Horizon Year PM Peak Hour Intersection Volumes With Project

N
Not To Scale



LEGEND

10 Sunday Peak Hour Trips

Note: U-turns will be occuring at San Dieguito Rd and Sea Country Lane

Figure 5-10
Horizon Year Sunday Peak Hour Intersection Volumes With Project

N
Not To Scale

Appendix C
Signal Timing Sheets

INTERSECTION: EL CAMINO REAL & SAN DIEGUITO RD

233 Program

Group Assignment:
Field Master Assignment:
System Reference Number:

N/S Street: El Camino Real
E/W Street: San Dieguito Rd

Last Database Change:

Timing sheets by: JMV
Approved by: BC
Timing implemented on: 10/5/2010

		El Camino Real				El Camino Real			San Dieguito Rd
		Phase							
Row	Phase Numbers---->	1	2	3	4	5	6	7	8
0	Ped Walk		7						7
1	Ped FDW		15						18
2	Min Green	4	7			4	7		4
3	Type 3 Disconnect								
4	Added per Vehicle								
5	Veh Extension	2.0	5.6			2.0	5.6		2.0
6	Max Gap	2.0	5.6			2.0	5.6		2.0
7	Min Gap	2.0	0.2			2.0	0.2		2.0
8	Max Limit	30	60			30	60		40
9	Max Limit 2								
A	Adv. / Delay Walk								
B	PE Min Ped FDW								
C	Cond Serv Check								
D	Reduce Every		0.6				0.6		
E	Yellow Change	3.4	4.9			3.4	4.3		3.9
F	Red Clear	1.0	1.0			1.0	1.0		1.0

Phase Timing - Bank 1 <F/1+Phase+Row>

	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	
EV-B Clear	
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	
RR-2 Clear	
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing <F/1+E+Row>

	F	Row
Permit	12__56_8	0
Red Lock		1
Yellow Lock		2
Min Recall		3
Ped Recall		4
View Set Peds		5
Rest In Walk		6
Red Rest		7
Double Entry		8
Max Recall		9
Soft Recall	_2___6__	A
Max 2		B
Cond. Service		C
Man Cntrl Calls		D
Yellow Start	_2___6__	E
First Phases	_____8	F

Phase Functions <F/1+F+Row>

Current Calculated Cycle Length: C/0 + B + F

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1					
Phase 2					
Phase 3					
Phase 4					
Phase 5					
Phase 6					
Phase 7					
Phase 8					
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing <F/1+Column+Phase>

Drop Number		<C/0+0+0>
Zone Number		<C/0+0+1>
Area Number		<C/0+0+2>
Area Address		<C/0+0+3>
QuicNet Channel		(QuicNet)

Communication Addresses

Flash Start	0	<F/1+0+E>
Red Revert	5.0	<F/1+0+F>
All Red Start	0.0	<F/1+C+0>

Start / Revert Times

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

(Outputs specified in Assignable Outputs at E/127+A+E & F)

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

Exclusive Ped Phase

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Manual Plan	14	<C/0+A+1>
Manual Offset	0	<C/0+B+1>

Manual Selection

Free Lag	_2___6_8	<C/1+F+0>

How to Set Page Access Code:
F/1 -- C + 0 + F = 1
F + 9 + E = 1

Notes: 35346-18-D

Version: 233 RV
Rivision: San Diego 1

Overlap Assignments <E/29+Column+Row>

Row		Overlap 1	2	3	4	5	6	7	8
0	Load Switch Number								
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8									
9									
A									
B									
C									
D	Green Clear								
E	Yellow Change								
F	Red Clear								

Specials <F/2+F+Row>

	F	Row
Fast Green Flash Phase		0
Green Flash Phases		1
Flashing Walk Phases		2
Guaranteed Passage		3
Simultaneous Gap Term		4
Sequential Timing		5
Advance Walk Phases		6
Delay Walk Phases		7
External Recall		8
Start-up Overlap Green		9
Max Extension		A
Inhibit Ped Reservice		B
Semi-Actuated		C
Start-up Overlap Yellow		D
Start-up Vehicle Calls		E
Start-up Ped Calls		F

Configuration <E/125+E+Row>

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2 5
B	EV-B Phases	
C	EV-C Phases	1 6
D	EV-D Phases	8
E	Extra 1 Config. Bits	1 345
F	IC Select (Interconnect)	2

Configuration <E/125+F+Row>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	12345678
Ped for 2P Output	2
Ped for 6P Output	
Ped for 4P Output	
Ped for 8P Output	8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	

Preemption Priority <E/125+C+Row>

(* RR-1 is always Highest, and RR-2 is always Second Highest)

	C	Row
EV-A		0
EV-B		1
EV-C		2
EV-D		3
RR-1 *	- - -	4
RR-2 *	- - -	5
SE-1	0	6
SE-2	0	7
		8
		9
		A
		B
		C
		D
		E
		F

Coordination Transition Minimums <C/5+2+Row>

	2	Row
		0
Phase 1	0	1
Phase 2	0	2
Phase 3	0	3
Phase 4	0	4
Phase 5	0	5
Phase 6	0	6
Phase 7	0	7
Phase 8	0	8
		9
		A
		B
		C
		D
		E
		F

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Extra 2 Flags
1 = AWB During Initial
2 = LMU Installed
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

Time and Date

8-0 Hour, Minute, Day-of-Week
8-1 Day-of-Month, Year, Month
8-F Seconds

Daylight Savings Time

Begin Month	0	<C/5+2+A>
Begin Week	0	<C/5+2+B>
End Month	0	<C/5+2+C>
End Week	0	<C/5+2+D>

Daylight Savings Date:
If set to all zeros, standard dates will be used.

Version: 233 RV2
Revision: San Diego 1

Row	Detector Name	0 C1 Pin Number	1 Attributes	2 Phase(s)	3 Assign	1 Delay	3 Carry-Over
0	2I2U	39					1.8
1	6J2U	40					1.8
2		41					
3	8J6U	42				10.0	
4	2I2L	43					1.8
5	6J2L	44					1.8
6		45					
7		46					
8		47					
9		48					
A		49					
B		50					
C		55					
D		56					
E		57					
F		58					

Program Type:

	Ped / Phase / Overlap 1	2	3	4	5	6	7	8	Row
Walk									0
Don't Walk									1
Phase Green									2
Phase Yellow									3
Phase Red									4
Overlap Green									5
Overlap Yellow									6
Overlap Red									7

Redirect Phase Outputs <E/127+Column+Row>

Cabinet Type	0

<E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes)	20	<D/0+0+1>
Max ON (minutes)	60	<D/0+0+2>

Detector Failure Monitor

	D	Row
		0
Output Port 1		1
Output Port 2		2
Output Port 3		3
Output Port 4		4
Output Port 5		5
Output Port 6		6
Output Port 7		7

Dimming <E/125+D+Row>

Row	Detector Name	4 C1 Pin Number	5 Attributes	6 Phase(s)	7 Assign	2 Delay	4 Carry-Over
0		59					
1		60					
2		61					
3		62					
4	2I3U	63					1.8
5	6J3U	64					1.8
6		65					
7		66					
8		67					
9		68					
A		69					
B		70					
C		76					
D		77					
E		78					
F		79					

Detector Assignments <E/126+Column+Row> <D/0+Column+Row>

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

	D
Number of Digits	
1 st Digit	
2 ed Digit	
3 ed Digit	
4 th Digit	
5 th Digit	
6 th Digit	
7 th Digit	
8 th Digit	
9 th Digit	
10 th Digit	
11 th Digit	
12 th Digit	
13 th Digit	
14 th Digit	
15 th Digit	

<C/5+D+Row>

Dial-Back Telephone Number

Disable Alarms
1 = Stop Time
2 = Flash Sense
3 = Keyboard Entry
4 = Manual Plan
5 = Police Control
6 = External Alarm
7 = Detector Failure
8 =

	B	Row
DELAY-A	1	A
DELAY-B	1	B
DELAY-C	0	C
DELAY-D	0	D
DELAY-E	0	E
DELAY-F	0	F

<D/0+B+Row> (seconds)

Delay Logic Times

Omit Alarm	#NAME?

<C/5+F+0>

Disable Alarm Reporting

Time	0

<C/5+C+0>

Redial Time (minutes)
(View Redial Timer at E/2+D+6)

Row	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row
0	Spec. Funct. 1	NOT-3	Max 2	Pretimed	Set Monday	Dial 2 (7-Wire)	Sim Term	0
1	Spec. Funct. 2	NOT-4	System Det 1	Plan 1	Ext. Perm 1	Dial 3 (7-Wire)	EV-A	1
2	Spec. Funct. 3	OR-4 (a)	System Det 2	Plan 2	Ext. Perm 2	Offset 1 (7-Wire)	EV-B	2
3	Spec. Funct. 4	OR-4 (b)	System Det 3	Plan 3	Dimming	Offset 2 (7-Wire)	EV-C	3
4	NAND-3 (a)	OR-5 (a)	System Det 4	Plan 4	Set Clock	Offset 3 (7-Wire)	EV-D	4
5	NAND-3 (b)	OR-5 (b)	System Det 5	Plan 5	Stop Time	Free (7-Wire)	RR-1	5
6	NAND-4 (a)	OR-6 (a)	System Det 6	Plan 6	Flash Sense 81	Flash (7-Wire)	RR-2	6
7	NAND-4 (b)	OR-6 (b)	System Det 7	Plan 7	Manual Enable	Excl. Ped Omit	Spec. Event 1	7
8	OR-7 (a)	Fig 3 Diamond	System Det 8	Plan 8	Man. Advance	NOT-1	Spec. Event 2	8
9	OR-7 (b)	Fig 4 Diamond	Max Inhibit (nema)	Plan 9	External Alarm	NOT-2	External Lag	9
A	OR-7 (c)	AND-4 (a)	Force A (nema)	DELAY-A	Phase Bank 2	OR-1 (a)	AND-1 (a)	A
B	OR-7 (d)	AND-4 (b)	Force B (nema)	DELAY-B	Phase Bank 3	OR-1 (b)	AND-1 (b)	B
C	OR-8 (a)	NAND-1 (a)	C.N.A. (nema)	DELAY-C	Overlap Set 2	OR-2 (a)	AND-2 (a)	C
D	OR-8 (b)	NAND-1 (b)	Hold (nema)	DELAY-D	Overlap Set 3	OR-2 (b)	AND-2 (b)	D
E	OR-8 (c)	NAND-2 (a)	Max Recall	DELAY-E	Detector Set 2	OR-3 (a)	AND-3 (a)	E
F	OR-8 (d)	NAND-2 (b)	Min Recall	DELAY-F	Detector Set 3	OR-3 (b)	AND-3 (b)	F

Assignable Inputs **<E/126+Column+Row>**

Row	Column 9	Column A	Column B	Column C	Column D	Column E	Column F	Row
0	Phase ON - 1	Preempt Fail	Flasher 0	Free	NOT-1	TOD Out 1	Dial 2 (7-Wire)	0
1	Phase ON - 2	Sp Evnt Out 1	Flasher 1	Plan 1	OR-1	TOD Out 2	Dial 3 (7-Wire)	1
2	Phase ON - 3	Sp Evnt Out 2	Fast Flasher	Plan 2	OR-2	TOD Out 3	Offset 1 (7-Wire)	2
3	Phase ON - 4	Sp Evnt Out 3	Fig 3 Diamond	Plan 3	OR-3	TOD Out 4	Offset 2 (7-Wire)	3
4	Phase ON - 5	Sp Evnt Out 4	Fig 4 Diamond	Plan 4	AND-1	TOD Out 5	Offset 3 (7-Wire)	4
5	Phase ON - 6	Sp Evnt Out 5		Plan 5	AND-2	TOD Out 6	Free (7-Wire)	5
6	Phase ON - 7	Sp Evnt Out 6		Plan 6	AND-3	TOD Out 7	Flash (7-Wire)	6
7	Phase ON - 8	Sp Evnt Out 7		Plan 7	NOT-2	TOD Out 8	Preempt	7
8	Ph. Check - 1	Sp Evnt Out 8	NOT-3	Plan 8	EV-A	Adv. Warn - 1	Low Priority A	8
9	Ph. Check - 2		NOT-4	Plan 9	EV-B	Adv. Warn - 2	Low Priority B	9
A	Ph. Check - 3	Detector Fail	OR-4	Spec. Funct. 3	EV-C	DELAY-A	Low Priority C	A
B	Ph. Check - 4	Spec. Funct. 1	OR-5	Spec. Funct. 4	EV-D	DELAY-B	Low Priority D	B
C	Ph. Check - 5	Spec. Funct. 2	OR-6	NAND-3	RR-1	DELAY-C		C
D	Ph. Check - 6	Central Control	AND-4	NAND-4	RR-2	DELAY-D		D
E	Ph. Check - 7	Excl. Ped DW	NAND-1	OR-7	Spec. Event 1	DELAY-E		E
F	Ph. Check - 8	Excl. Ped WK	NAND-2	OR-8	Spec. Event 2	DELAY-F		F

Assignable Outputs **<E/127+Column+Row>**

INTERSECTION: EL CAMINO REAL & SEA COUNTRY LN — 233 Program

Group Assignment:
Field Master Assignment:
System Reference Number:

N/S Street: El Camino Real
E/W Street: Sea Country Ln

Last Database Change:

Timing sheets by: JMV
Approved by:
Timing implemented on: 8/30/2011 14:00

Row	Phase Numbers---->	1 (El Camino Real →)	2 (El Camino Real ↑)	3	4 (Sea Country Ln ←)	5	6 (El Camino Real ↓)	7	8 (Sea Country Ln ←)
0	Ped Walk		7		7				7
1	Ped FDW		15		19				18
2	Min Green	4	7		4		7		4
3	Type 3 Disconnect								
4	Added per Vehicle								
5	Veh Extension	2.0	5.2		0.5		5.1		2.0
6	Max Gap	2.0	5.2		0.5		5.1		2.0
7	Min Gap	2.0	0.2		0.5		0.2		2.0
8	Max Limit	30	60		26		60		40
9	Max Limit 2								
A	Adv. / Delay Walk								
B	PE Min Ped FDW								
C	Cond Serv Check								
D	Reduce Every		0.6				0.6		
E	Yellow Change	3.4	5.0		3.9		5.2		3.9
F	Red Clear	1.0	1.0		1.0		1.0		1.0

Phase Timing - Bank 1 <F/1+Phase+Row>

Row	E
RR-1 Delay	
RR-1 Clear	
EV-A Delay	0
EV-A Clear	0
EV-B Delay	
EV-B Clear	
EV-C Delay	0
EV-C Clear	0
EV-D Delay	0
EV-D Clear	0
RR-2 Delay	
RR-2 Clear	
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing <F/1+E+Row>

Row	F
Permit	12_4_6_8
Red Lock	
Yellow Lock	
Min Recall	_2___6__
Ped Recall	
View Set Peds	
Rest In Walk	
Red Rest	
Double Entry	___4___8
Max Recall	
Soft Recall	
Max 2	
Cond. Service	
Man Cntrl Calls	
Yellow Start	_2___6__
First Phases	_____8

Phase Functions <F/1+F+Row>

Current Calculated Cycle Length: C/0 + B + F

	9	A	B	C	D
	- - -	- - -	- - -	- - -	- - -
Phase 1					
Phase 2					
Phase 3					
Phase 4					
Phase 5					
Phase 6					
Phase 7					
Phase 8					
Max Initial					
Alternate Walk					
Alternate FDW					
Alternate Initial					
Alternate Extension					

Alternate Timing <F/1+Column+Phase>

Drop Number		<C/0+0+0>
Zone Number		<C/0+0+1>
Area Number		<C/0+0+2>
Area Address		<C/0+0+3>
QuicNet Channel		(QuicNet)

Communication Addresses

(Outputs specified in Assignable Outputs at E/127+A+E & F)

Exclusive Walk	0	<F/1+0+0>
Exclusive FDW	0	<F/1+0+1>
All Red Clear	0.0	<F/1+0+2>

Exclusive Ped Phase

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Flash Start	0	<F/1+0+E>
Red Revert	5.0	<F/1+0+F>
All Red Start	0.0	<F/1+C+0>

Start / Revert Times

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

Manual Plan	14	<C/0+A+1>
Manual Offset	0	<C/0+B+1>

Manual Selection

Free Lag	_2_4_6_8	<C/1+F+0>

How to Set Page Access Code:
F/1 -- C + 0 + F = 1

Notes: 35508-3-D

Row		Overlap 1	2	3	4	5	6	7	8
0	Load Switch Number								
1	Veh Set 1 - Phases								
2	Veh Set 2 - Phases								
3	Veh Set 3 - Phases								
4	Neg Veh Phases								
5	Neg Ped Phases								
6	Green Omit Phases								
7	Green Clear Omit Phs.								
8									
9									
A									
B									
C									
D	Green Clear								
E	Yellow Change								
F	Red Clear								

Overlap Assignments <E/29+Column+Row>

	F
Fast Green Flash Phase	
Green Flash Phases	
Flashing Walk Phases	
Guaranteed Passage	
Simultaneous Gap Term	
Sequential Timing	
Advance Walk Phases	
Delay Walk Phases	
External Recall	
Start-up Overlap Green	
Max Extension	
Inhibit Ped Reservice	
Semi-Actuated	
Start-up Overlap Yellow	
Start-up Vehicle Calls	
Start-up Ped Calls	

Specials <F/2+F+Row>

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

Row		E
0	Exclusive Phases	
1	RR-1 Clear Phases	
2	RR-2 Clear Phases	
3	RR-2 Limited Service	
4	Prot / Perm Phases	
5	Flash to PE Circuits	
6	Flash Entry Phases	
7	Disable Yellow Range	
8	Disable Ovp Yel Range	
9	Overlap Yellow Flash	
A	EV-A Phases	2
B	EV-B Phases	
C	EV-C Phases	6
D	EV-D Phases	8
E	Extra 1 Config. Bits	1_345
F	IC Select (Interconnect)	2

Configuration <E/125+E+Row>

	F
Ext. Permit 1 Phases	
Ext. Permit 2 Phases	
Exclusive Ped Assign	
Preempt Non-Lock	12345678
Ped for 2P Output	2
Ped for 6P Output	
Ped for 4P Output	4
Ped for 8P Output	8
Yellow Flash Phases	
Low Priority A Phases	
Low Priority B Phases	
Low Priority C Phases	
Low Priority D Phases	
Restricted Phases	
Extra 2 Config. Bits	3

Configuration <E/125+F+Row>

	C
EV-A	
EV-B	
EV-C	
EV-D	
RR-1 *	---
RR-2 *	---
SE-1	0
SE-2	0

<E/125+C+Row>

Preemption Priority

(* RR-1 is always Highest, and RR-2 is always Second Highest)

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

	2
Phase 1	0
Phase 2	0
Phase 3	0
Phase 4	0
Phase 5	0
Phase 6	0
Phase 7	0
Phase 8	0

<C/5+2+Row>

Coordination Transition Minimums

Row
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F

Extra 1 Flags
1 = TBC Type 1
2 = NEMA Ext. Coord
3 = Auto Daylight Savings
4 = EV Advance
5 = Extended Status
6 = International Ped
7 = Flash - Clear Outputs
8 = Split Ring

IC Select Flags
1 =
2 = Modem
3 = 7-Wire Slave
4 = Flash / Free
5 =
6 = Simplex Master
7 = 7-Wire Master
8 = Offset Interrupter

Extra 2 Flags
1 = AWB During Initial
2 = LMU Installed
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

Flash to PE & PE Non-Lock
1 = EV A 5 = RR 1
2 = EV B 6 = RR 2
3 = EV C 7 = SE 1
4 = EV D 8 = SE 2

8-0 Hour, Minute, Day-of-Week
8-1 Day-of-Month, Year, Month
8-F Seconds

Time and Date

Begin Month	0	<C/5+2+A>
Begin Week	0	<C/5+2+B>
End Month	0	<C/5+2+C>
End Week	0	<C/5+2+D>

Daylight Savings Time

Daylight Savings Date:
If set to all zeros, standard dates will be used.

INTERSECTION: EL CAMINO REAL & SEA COUNTRY LN

233 Program

Row	Detector Name	0 C1 Pin Number	1 Attributes	2 Phase(s)	3 Assign	1 Delay	3 Carry-Over
0	2I2U	39					1.8
1	6J2U	40					1.8
2		41					
3		42					
4	2I2L	43					1.8
5	6J2L	44					1.8
6		45					
7		46					
8		47					
9		48					
A		49					
B	8J8U	50					
C		55					
D	1I1U	56					
E		57					
F		58					

Row	Detector Name	4 C1 Pin Number	5 Attributes	6 Phase(s)	7 Assign	2 Delay	4 Carry-Over
0		59					
1		60					
2		61					
3		62					
4	2I3U	63					1.8
5	6J3U	64					1.8
6		65					
7		66					
8		67					
9		68					
A		69					
B		70					
C	2I3L	76					
D	6J3L	77					
E		78					
F	8J7L	79				10.0	

Detector Assignments <E/126+Column+Row> <D/0+Column+Row>

Program Type:

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Det. Assignments
1 = Det. Set 1
2 = Det. Set 2
3 = Det. Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

Row	Ped / Phase / Overlap 1	2	3	4	5	6	7	8	Row
Walk									0
Don't Walk									1
Phase Green									2
Phase Yellow									3
Phase Red									4
Overlap Green									5
Overlap Yellow									6
Overlap Red									7

Redirect Phase Outputs <E/127+Column+Row>

Cabinet Type	0

<E/125+D+0>

Enable Redirection
(Enable Redirection = 30)

Max OFF (minutes)	20	<D/0+0+1>
Max ON (minutes)	60	<D/0+0+2>

Detector Failure Monitor

Row	D
0	
1 Output Port 1	
2 Output Port 2	
3 Output Port 3	
4 Output Port 4	
5 Output Port 5	
6 Output Port 6	
7 Output Port 7	

Dimming <E/125+D+Row>

	D
Number of Digits	
1 st Digit	
2 ed Digit	
3 ed Digit	
4 th Digit	
5 th Digit	
6 th Digit	
7 th Digit	
8 th Digit	
9 th Digit	
10 th Digit	
11 th Digit	
12 th Digit	
13 th Digit	
14 th Digit	
15 th Digit	

<C/5+D+Row>

Dial-Back Telephone Number

Disable Alarms
1 = Stop Time
2 = Flash Sense
3 = Keyboard Entry
4 = Manual Plan
5 = Police Control
6 = External Alarm
7 = Detector Failure
8 =

Row	B
A DELAY-A	1
B DELAY-B	1
C DELAY-C	0
D DELAY-D	0
E DELAY-E	0
F DELAY-F	0

<D/0+B+Row> (seconds)

Delay Logic Times

Omit Alarm	#NAME?

<C/5+F+0>

Disable Alarm Reporting

Time	0	<C/5+C+0>

Redial Time (minutes)
(View Redial Timer at E/2+D+6)

Appendix D
Traffic Volume Calculations

TFIC Calcs					
Roadway Segment	**2016**	**2025**	**% Growth**	**# of Years**	**% Growth per Year**
El Camino Real, between San Dieguito Road and Sea Country Lane	15,900	18,100	13.84%	9	1.54%

Existing 2012 AM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1			205	168		185	507					382		294
2			379	7		3	904					27		4
3			373				889							
Church Project Trip Assignment AM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	4		1				5							
2			20		5		4							
3				25			9							5
Existing 2012 + 9-Year Growth AM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	0	0	234	192	0	211	578	0	0	0	0	435	0	335
2	0	0	432	8	0	4	1030	0	0	0	0	31	0	5
3	0	0	425	0	0	0	1013	0	0	0	0	0	0	0
Existing 2012 + 9-Year Growth + Church PTA AM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	4	0	235	192	0	211	583	0	0	0	0	435	0	335
2	0	0	452	8	5	4	1034	0	0	0	0	31	0	5
3	0	0	425	25	0	0	1022	0	0	0	0	0	0	5

Existing 2012 PM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1			799	349		326	266					217		205
2			1155	19		7	472					10		5
3			1148				483							
Church Project Trip Assignment PM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	46		12				9							
2			35		9		46							
3				44			55							58
Existing 2012 + 9-Year Growth PM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	0	0	910	398	0	372	303	0	0	0	0	248	0	234
2	0	0	1315	22	0	8	538	0	0	0	0	12	0	6
3	0	0	1307	0	0	0	550	0	0	0	0	0	0	0
Existing 2012 + 9-Year Growth + Church PTA PM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	46	0	922	398	0	372	312	0	0	0	0	248	0	234
2	0	0	1350	22	9	8	584	0	0	0	0	12	0	6
3	0	0	1307	44	0	0	605	0	0	0	0	0	0	58

Existing 2012 (Sunday)														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1			219	151		174	182					232		240
2			384	8		13	409					11		8
3			370				414							
Church Project Trip Assignment (Sunday)														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	70		18				18							
2			70		18		70							
3				88			88							88
Existing 2012 + 9-Year Growth (Sunday)														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	0	0	250	172	0	199	208	0	0	0	0	265	0	274
2	0	0	438	10	0	15	466	0	0	0	0	13	0	10
3	0	0	422	0	0	0	472	0	0	0	0	0	0	0
Existing 2012 + 9-Year Growth + Church PTA (Sunday)														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	70	0	268	172	0	199	226	0	0	0	0	265	0	274
2	0	0	508	10	18	15	536	0	0	0	0	13	0	10
3	0	0	422	88	0	0	560	0	0	0	0	0	0	88

Existing 2012 AM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1			205	168		185	507					382		294
2			379	7		3	904					27		4
3			373				889							
Church Project Trip Assignment AM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	4		1				5							
2			20		5		4							
3				25			9							5
Existing 2012 + 12-Year Growth AM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	0	0	243	199	0	220	601	0	0	0	0	453	0	349
2	0	0	449	9	0	4	1071	0	0	0	0	32	0	5
3	0	0	442	0	0	0	1054	0	0	0	0	0	0	0
Existing 2012 + 12-Year Growth + Church PTA AM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	4	0	244	199	0	220	606	0	0	0	0	453	0	349
2	0	0	469	9	5	4	1075	0	0	0	0	32	0	5
3	0	0	442	25	0	0	1063	0	0	0	0	0	0	5

Existing 2012 PM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1			799	349		326	266					217		205
2			1155	19		7	472					10		5
3			1148				483							
Church Project Trip Assignment PM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	46		12				9							
2			35		9		46							
3				44			55							58
Existing 2012 + 12-Year Growth PM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	0	0	947	414	0	387	316	0	0	0	0	258	0	243
2	0	0	1369	23	0	9	560	0	0	0	0	12	0	6
3	0	0	1360	0	0	0	573	0	0	0	0	0	0	0
Existing 2012 + 12-Year Growth + Church PTA AM														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	46	0	959	414	0	387	325	0	0	0	0	258	0	243
2	0	0	1404	23	9	9	606	0	0	0	0	12	0	6
3	0	0	1360	44	0	0	628	0	0	0	0	0	0	58

Existing 2012 (Sunday)														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1			219	151		174	182					232		240
2			384	8		13	409					11		8
3			370				414							
Church Project Trip Assignment (Sunday)														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	70		18				18							
2			70		18		70							
3				88			88							88
Existing 2012 + 12-Year Growth (Sunday)														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	0	0	260	179	0	207	216	0	0	0	0	275	0	285
2	0	0	455	10	0	16	485	0	0	0	0	14	0	10
3	0	0	439	0	0	0	491	0	0	0	0	0	0	0
Existing 2012 + 9-Year Growth + Church PTA (Sunday)														
Intersection	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	70	0	278	179	0	207	234	0	0	0	0	275	0	285
2	0	0	525	10	18	16	555	0	0	0	0	14	0	10
3	0	0	439	88	0	0	579	0	0	0	0	0	0	88

Appendix E
Existing Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	435	335	0	234	192	211	578
Future Volume (veh/h)	435	335	0	234	192	211	578
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			0.96	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No
Adj Sat Flow, veh/h/ln	1856	1856		1856	1856	1856	1856
Adj Flow Rate, veh/h	478	294		269	198	248	680
Peak Hour Factor	0.91	0.91		0.87	0.87	0.85	0.85
Percent Heavy Veh, %	3	3		3	3	3	3
Cap, veh/h	831	381		522	368	305	1882
Arrive On Green	0.24	0.24		0.27	0.27	0.17	0.53
Sat Flow, veh/h	3428	1572		2027	1363	1767	3618
Grp Volume(v), veh/h	478	294		244	223	248	680
Grp Sat Flow(s),veh/h/ln	1714	1572		1763	1535	1767	1763
Q Serve(g_s), s	5.9	8.4		5.7	6.0	6.5	5.4
Cycle Q Clear(g_c), s	5.9	8.4		5.7	6.0	6.5	5.4
Prop In Lane	1.00	1.00			0.89	1.00	
Lane Grp Cap(c), veh/h	831	381		476	414	305	1882
V/C Ratio(X)	0.58	0.77		0.51	0.54	0.81	0.36
Avail Cap(c_a), veh/h	1777	815		811	706	462	2295
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	17.0		14.9	15.0	19.2	6.5
Incr Delay (d2), s/veh	0.2	1.3		2.5	3.1	3.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.5		2.0	1.9	2.4	1.1
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	16.3	18.3		17.4	18.2	22.8	6.8
LnGrp LOS	B	B		B	B	C	A
Approach Vol, veh/h	772			467			928
Approach Delay, s/veh	17.1			17.8			11.1
Approach LOS	B			B			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.7	18.9				31.6		16.6
Change Period (Y+Rc), s	4.4	5.9				* 5.9		4.9
Max Green Setting (Gmax), s	12.6	22.2				* 31		25.0
Max Q Clear Time (g_c+I1), s	8.5	8.0				7.4		10.4
Green Ext Time (p_c), s	0.1	4.4				9.0		1.3

Intersection Summary	
HCM 6th Ctrl Delay	14.7
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	31	0	5	0	432	8	4	1030	0
Future Volume (veh/h)	0	0	0	31	0	5	0	432	8	4	1030	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	0	0	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	0	0	0	55	0	7	0	533	9	5	1241	0
Peak Hour Factor	0.92	0.92	0.92	0.56	0.56	0.56	0.81	0.81	0.81	0.83	0.83	0.83
Percent Heavy Veh, %	3	0	0	3	0	3	0	3	3	3	3	0
Cap, veh/h	5	0	0	82	0	0	0	1881	32	10	2308	0
Arrive On Green	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.53	0.53	0.01	0.65	0.00
Sat Flow, veh/h	1767	0		1767	55		0	3638	60	1767	3618	0
Grp Volume(v), veh/h	0	0.0		55	20.9		0	265	277	5	1241	0
Grp Sat Flow(s),veh/h/ln	1767			1767	C		0	1763	1842	1767	1763	0
Q Serve(g_s), s	0.0			1.1			0.0	3.1	3.1	0.1	7.0	0.0
Cycle Q Clear(g_c), s	0.0			1.1			0.0	3.1	3.1	0.1	7.0	0.0
Prop In Lane	1.00			1.00			0.00		0.03	1.00		0.00
Lane Grp Cap(c), veh/h	5			82			0	935	978	10	2308	0
V/C Ratio(X)	0.00			0.67			0.00	0.28	0.28	0.52	0.54	0.00
Avail Cap(c_a), veh/h	1237			1237			0	1120	1171	243	3123	0
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00			1.00			0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0			17.4			0.0	4.8	4.8	18.4	3.4	0.0
Incr Delay (d2), s/veh	0.0			3.4			0.0	0.4	0.4	15.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0			0.5			0.0	0.4	0.4	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0			20.9			0.0	5.2	5.2	33.8	3.9	0.0
LnGrp LOS	A			C			A	A	A	C	A	A
Approach Vol, veh/h								542			1246	
Approach Delay, s/veh								5.2			4.0	
Approach LOS								A			A	

Timer - Assigned Phs	1	2	3		6	7
Phs Duration (G+Y+Rc), s	4.6	25.9	6.6		30.5	0.0
Change Period (Y+Rc), s	4.4	* 6.2	4.9		6.2	4.9
Max Green Setting (Gmax), s	5.1	* 24	26.0		32.9	26.0
Max Q Clear Time (g_c+I1), s	2.1	5.1	3.1		9.0	0.0
Green Ext Time (p_c), s	0.0	5.3	0.1		15.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	4.8
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (veh/h)	248	234	0	910	398	372	303
Future Volume (veh/h)	248	234	0	910	398	372	303
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00			0.97	1.00	
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No
Adj Sat Flow, veh/h/ln	1856	1856		1856	1856	1856	1856
Adj Flow Rate, veh/h	276	186		1071	444	384	312
Peak Hour Factor	0.90	0.90		0.85	0.85	0.97	0.97
Percent Heavy Veh, %	3	3		3	3	3	3
Cap, veh/h	480	220		1179	476	411	2679
Arrive On Green	0.14	0.14		0.49	0.49	0.23	0.76
Sat Flow, veh/h	3428	1572		2516	978	1767	3618
Grp Volume(v), veh/h	276	186		771	744	384	312
Grp Sat Flow(s),veh/h/ln	1714	1572		1763	1639	1767	1763
Q Serve(g_s), s	8.1	12.5		43.1	46.1	23.0	2.5
Cycle Q Clear(g_c), s	8.1	12.5		43.1	46.1	23.0	2.5
Prop In Lane	1.00	1.00			0.60	1.00	
Lane Grp Cap(c), veh/h	480	220		858	797	411	2679
V/C Ratio(X)	0.58	0.85		0.90	0.93	0.93	0.12
Avail Cap(c_a), veh/h	797	366		864	803	439	2679
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	45.3		25.3	26.1	40.6	3.4
Incr Delay (d2), s/veh	0.4	4.1		13.3	18.4	25.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	4.9		19.1	19.9	12.3	0.6
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	43.8	49.4		38.6	44.5	66.2	3.5
LnGrp LOS	D	D		D	D	E	A
Approach Vol, veh/h	462			1515			696
Approach Delay, s/veh	46.1			41.5			38.1
Approach LOS	D			D			D

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	29.5	58.4				88.0		20.0
Change Period (Y+Rc), s	4.4	5.9				* 5.9		4.9
Max Green Setting (Gmax), s	26.8	52.9				* 76		25.1
Max Q Clear Time (g_c+I1), s	25.0	48.1				4.5		14.5
Green Ext Time (p_c), s	0.1	4.5				4.8		0.7

Intersection Summary	
HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	12	0	6	0	1315	22	8	538	0
Future Volume (veh/h)	0	0	0	12	0	6	0	1315	22	8	538	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	0	0	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	0	0	0	13	0	5	0	1547	25	8	555	0
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.85	0.85	0.85	0.97	0.97	0.97
Percent Heavy Veh, %	3	0	0	3	0	3	0	3	3	3	3	0
Cap, veh/h	3	0	0	23	0	0	0	2440	39	15	2745	0
Arrive On Green	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.69	0.69	0.01	0.78	0.00
Sat Flow, veh/h	1767	0		1767	13		0	3641	57	1767	3618	0
Grp Volume(v), veh/h	0	0.0		13	33.8		0	767	805	8	555	0
Grp Sat Flow(s),veh/h/ln	1767			1767	C		0	1763	1843	1767	1763	0
Q Serve(g_s), s	0.0			0.4			0.0	12.8	12.9	0.2	2.2	0.0
Cycle Q Clear(g_c), s	0.0			0.4			0.0	12.8	12.9	0.2	2.2	0.0
Prop In Lane	1.00			1.00			0.00		0.03	1.00		0.00
Lane Grp Cap(c), veh/h	3			23			0	1212	1267	15	2745	0
V/C Ratio(X)	0.00			0.56			0.00	0.63	0.63	0.54	0.20	0.00
Avail Cap(c_a), veh/h	866			866			0	1436	1501	172	3493	0
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00			1.00			0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0			26.1			0.0	4.6	4.6	26.3	1.6	0.0
Incr Delay (d2), s/veh	0.0			7.6			0.0	1.4	1.3	10.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0			0.2			0.0	1.6	1.7	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0			33.8			0.0	6.0	6.0	37.2	1.6	0.0
LnGrp LOS	A			C			A	A	A	D	A	A
Approach Vol, veh/h								1572			563	
Approach Delay, s/veh								6.0			2.1	
Approach LOS								A			A	

Timer - Assigned Phs	1	2	3		6	7
Phs Duration (G+Y+Rc), s	4.8	42.8	5.6		47.7	0.0
Change Period (Y+Rc), s	4.4	* 6.2	4.9		6.2	4.9
Max Green Setting (Gmax), s	5.3	* 43	26.1		52.8	26.1
Max Q Clear Time (g_c+I1), s	2.2	14.9	2.4		4.2	0.0
Green Ext Time (p_c), s	0.0	21.7	0.0		7.8	0.0

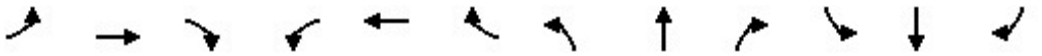
Intersection Summary	
HCM 6th Ctrl Delay	5.1
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Appendix F
Near-Term Year 2024 Base Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekday)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	455	0	350	4	246	201	221	610	0
Future Volume (veh/h)	0	0	0	455	0	350	4	246	201	221	610	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	0	1856	1856	1856	1856	1856	1856	0
Adj Flow Rate, veh/h				500	0	311	4	283	208	260	718	0
Peak Hour Factor				0.91	0.92	0.91	0.92	0.87	0.87	0.85	0.85	0.92
Percent Heavy Veh, %				3	0	3	3	3	3	3	3	0
Cap, veh/h				859	0	394	7	524	370	316	1572	0
Arrive On Green				0.25	0.00	0.25	0.00	0.27	0.27	0.18	0.45	0.00
Sat Flow, veh/h				3428	0	1572	1767	1932	1365	1767	3618	0
Grp Volume(v), veh/h				500	0	311	4	257	234	260	718	0
Grp Sat Flow(s),veh/h/ln				1714	0	1572	1767	1763	1534	1767	1763	0
Q Serve(g_s), s				6.5	0.0	9.4	0.1	6.3	6.7	7.2	7.2	0.0
Cycle Q Clear(g_c), s				6.5	0.0	9.4	0.1	6.3	6.7	7.2	7.2	0.0
Prop In Lane				1.00		1.00	1.00		0.89	1.00		0.00
Lane Grp Cap(c), veh/h				859	0	394	7	478	416	316	1572	0
V/C Ratio(X)				0.58	0.00	0.79	0.54	0.54	0.56	0.82	0.46	0.00
Avail Cap(c_a), veh/h				1688	0	774	139	771	671	439	2180	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				16.7	0.0	17.8	25.2	15.8	15.9	20.1	9.8	0.0
Incr Delay (d2), s/veh				0.2	0.0	1.4	20.5	2.7	3.4	6.2	0.6	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.1	0.0	2.9	0.1	2.3	2.2	2.9	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				16.9	0.0	19.1	45.7	18.5	19.3	26.2	10.4	0.0
LnGrp LOS				B	A	B	D	B	B	C	B	A
Approach Vol, veh/h					811			495			978	
Approach Delay, s/veh					17.8			19.1			14.6	
Approach LOS					B			B			B	

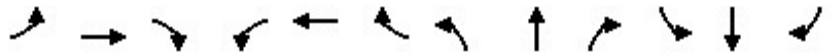
Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	13.5	19.7		4.6	28.5		17.6					
Change Period (Y+Rc), s	4.4	5.9		4.4	* 5.9		4.9					
Max Green Setting (Gmax), s	12.6	22.2		4.0	* 31		25.0					
Max Q Clear Time (g_c+I1), s	9.2	8.7		2.1	9.2		11.4					
Green Ext Time (p_c), s	0.1	4.5		0.0	9.2		1.3					

Intersection Summary		
HCM 6th Ctrl Delay		16.7
HCM 6th LOS		B

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	32	0	5	0	472	8	9	1082	0
Future Volume (veh/h)	0	0	0	32	0	5	0	472	8	9	1082	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	0	0	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	0	0	0	57	0	7	0	583	9	11	1304	0
Peak Hour Factor	0.92	0.92	0.92	0.56	0.56	0.56	0.81	0.81	0.81	0.83	0.83	0.83
Percent Heavy Veh, %	3	0	0	3	0	3	0	3	3	3	3	0
Cap, veh/h	5	0	0	84	0	0	0	1904	29	20	2336	0
Arrive On Green	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.54	0.54	0.01	0.66	0.00
Sat Flow, veh/h	1767	0		1767	57		0	3644	55	1767	3618	0
Grp Volume(v), veh/h	0	0.0		57	21.5		0	289	303	11	1304	0
Grp Sat Flow(s),veh/h/ln	1767			1767	C		0	1763	1843	1767	1763	0
Q Serve(g_s), s	0.0			1.2			0.0	3.5	3.5	0.2	7.6	0.0
Cycle Q Clear(g_c), s	0.0			1.2			0.0	3.5	3.5	0.2	7.6	0.0
Prop In Lane	1.00			1.00			0.00		0.03	1.00		0.00
Lane Grp Cap(c), veh/h	5			84			0	945	988	20	2336	0
V/C Ratio(X)	0.00			0.68			0.00	0.31	0.31	0.54	0.56	0.00
Avail Cap(c_a), veh/h	1200			1200			0	1087	1137	235	3031	0
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00			1.00			0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0			17.9			0.0	4.9	4.9	18.8	3.5	0.0
Incr Delay (d2), s/veh	0.0			3.6			0.0	0.4	0.4	8.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0			0.5			0.0	0.5	0.5	0.1	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0			21.5			0.0	5.4	5.3	26.8	3.9	0.0
LnGrp LOS	A			C			A	A	A	C	A	A
Approach Vol, veh/h								592			1315	
Approach Delay, s/veh								5.3			4.1	
Approach LOS								A			A	

Timer - Assigned Phs	1	2	3		6	7
Phs Duration (G+Y+Rc), s	4.8	26.7	6.7		31.6	0.0
Change Period (Y+Rc), s	4.4	* 6.2	4.9		6.2	4.9
Max Green Setting (Gmax), s	5.1	* 24	26.0		32.9	26.0
Max Q Clear Time (g_c+I1), s	2.2	5.5	3.2		9.6	0.0
Green Ext Time (p_c), s	0.0	5.8	0.1		15.8	0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

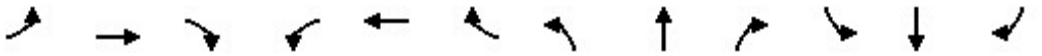
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	445	25	0	1069
Future Vol, veh/h	0	5	445	25	0	1069
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	5	484	27	0	1162

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	276	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	718	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	704	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	704	-
HCM Lane V/C Ratio	-	-	0.008	-
HCM Control Delay (s)	-	-	10.2	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	259	0	245	46	964	416	389	326	0
Future Volume (veh/h)	0	0	0	259	0	245	46	964	416	389	326	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	0	1856	1856	1856	1856	1856	1856	0
Adj Flow Rate, veh/h				288	0	194	50	1134	430	401	336	0
Peak Hour Factor				0.90	0.92	0.90	0.92	0.85	0.85	0.97	0.97	0.92
Percent Heavy Veh, %				3	0	3	3	3	3	3	3	0
Cap, veh/h				482	0	221	64	1260	464	423	2495	0
Arrive On Green				0.14	0.00	0.14	0.04	0.50	0.50	0.24	0.71	0.00
Sat Flow, veh/h				3428	0	1572	1767	2496	919	1767	3618	0
Grp Volume(v), veh/h				288	0	194	50	791	773	401	336	0
Grp Sat Flow(s),veh/h/ln				1714	0	1572	1767	1763	1653	1767	1763	0
Q Serve(g_s), s				10.4	0.0	15.9	3.7	53.1	57.3	29.4	4.1	0.0
Cycle Q Clear(g_c), s				10.4	0.0	15.9	3.7	53.1	57.3	29.4	4.1	0.0
Prop In Lane				1.00		1.00	1.00		0.56	1.00		0.00
Lane Grp Cap(c), veh/h				482	0	221	64	890	834	423	2495	0
V/C Ratio(X)				0.60	0.00	0.88	0.78	0.89	0.93	0.95	0.13	0.00
Avail Cap(c_a), veh/h				654	0	300	137	899	843	438	2495	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				53.1	0.0	55.5	62.9	29.3	30.3	49.3	6.2	0.0
Incr Delay (d2), s/veh				0.4	0.0	15.9	7.3	11.9	16.9	29.3	0.1	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	0.0	7.1	1.7	23.5	24.7	15.9	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				53.5	0.0	71.4	70.2	41.2	47.2	78.5	6.3	0.0
LnGrp LOS				D	A	E	E	D	D	E	A	A
Approach Vol, veh/h					482			1614			737	
Approach Delay, s/veh					60.7			45.0			45.6	
Approach LOS					E			D			D	

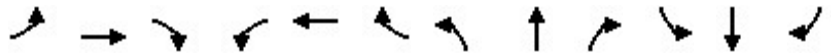
Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	35.9	72.3		9.2	99.0		23.4					
Change Period (Y+Rc), s	4.4	5.9		4.4	* 5.9		4.9					
Max Green Setting (Gmax), s	32.6	67.1		10.2	* 90		25.1					
Max Q Clear Time (g_c+I1), s	31.4	59.3		5.7	6.1		17.9					
Green Ext Time (p_c), s	0.1	7.2		0.0	5.2		0.6					

Intersection Summary		
HCM 6th Ctrl Delay		47.8
HCM 6th LOS		D

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	13	0	6	0	1412	23	17	609	0
Future Volume (veh/h)	0	0	0	13	0	6	0	1412	23	17	609	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	0	0	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	0	0	0	14	0	5	0	1661	26	18	628	0
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.85	0.85	0.85	0.97	0.97	0.97
Percent Heavy Veh, %	3	0	0	3	0	3	0	3	3	3	3	0
Cap, veh/h	3	0	0	25	0	0	0	2458	38	31	2778	0
Arrive On Green	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.69	0.69	0.02	0.79	0.00
Sat Flow, veh/h	1767	0		1767	14		0	3644	55	1767	3618	0
Grp Volume(v), veh/h	0	0.0		14	34.8		0	823	864	18	628	0
Grp Sat Flow(s),veh/h/ln	1767			1767	C		0	1763	1844	1767	1763	0
Q Serve(g_s), s	0.0			0.4			0.0	15.1	15.2	0.6	2.6	0.0
Cycle Q Clear(g_c), s	0.0			0.4			0.0	15.1	15.2	0.6	2.6	0.0
Prop In Lane	1.00			1.00			0.00		0.03	1.00		0.00
Lane Grp Cap(c), veh/h	3			25			0	1220	1276	31	2778	0
V/C Ratio(X)	0.00			0.57			0.00	0.67	0.68	0.58	0.23	0.00
Avail Cap(c_a), veh/h	819			819			0	1368	1430	164	3326	0
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00			1.00			0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0			27.5			0.0	5.0	5.0	27.3	1.5	0.0
Incr Delay (d2), s/veh	0.0			7.4			0.0	1.8	1.8	6.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0			0.2			0.0	2.2	2.3	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0			34.8			0.0	6.8	6.8	33.7	1.6	0.0
LnGrp LOS	A			C			A	A	A	C	A	A
Approach Vol, veh/h								1687			646	
Approach Delay, s/veh								6.8			2.5	
Approach LOS								A			A	

Timer - Assigned Phs	1	2	3		6	7
Phs Duration (G+Y+Rc), s	5.4	45.0	5.7		50.4	0.0
Change Period (Y+Rc), s	4.4	* 6.2	4.9		6.2	4.9
Max Green Setting (Gmax), s	5.3	* 44	26.0		52.9	26.0
Max Q Clear Time (g_c+I1), s	2.6	17.2	2.4		4.6	0.0
Green Ext Time (p_c), s	0.0	21.6	0.0		9.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.5

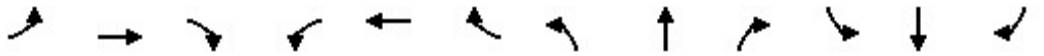
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	58	1368	44	0	630
Future Vol, veh/h	0	58	1368	44	0	630
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	63	1487	48	0	685

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	788	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	332	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	326	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	326	-
HCM Lane V/C Ratio	-	-	0.193	-
HCM Control Delay (s)	-	-	18.7	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.7	-

Appendix G
Near-Term Year 2024 Base Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekend)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	277	0	287	70	280	180	208	236	0
Future Volume (veh/h)	0	0	0	277	0	287	70	280	180	208	236	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	0	1856	1856	1856	1856	1856	1856	0
Adj Flow Rate, veh/h				330	0	271	76	304	174	260	295	0
Peak Hour Factor				0.84	0.92	0.84	0.92	0.92	0.92	0.80	0.80	0.92
Percent Heavy Veh, %				3	0	3	3	3	3	3	3	0
Cap, veh/h				768	0	352	95	590	327	319	1414	0
Arrive On Green				0.22	0.00	0.22	0.05	0.27	0.27	0.18	0.40	0.00
Sat Flow, veh/h				3428	0	1572	1767	2148	1190	1767	3618	0
Grp Volume(v), veh/h				330	0	271	76	248	230	260	295	0
Grp Sat Flow(s),veh/h/ln				1714	0	1572	1767	1763	1576	1767	1763	0
Q Serve(g_s), s				3.9	0.0	7.7	2.0	5.6	5.9	6.7	2.6	0.0
Cycle Q Clear(g_c), s				3.9	0.0	7.7	2.0	5.6	5.9	6.7	2.6	0.0
Prop In Lane				1.00		1.00	1.00		0.76	1.00		0.00
Lane Grp Cap(c), veh/h				768	0	352	95	484	433	319	1414	0
V/C Ratio(X)				0.43	0.00	0.77	0.80	0.51	0.53	0.82	0.21	0.00
Avail Cap(c_a), veh/h				1809	0	830	336	826	738	470	1965	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				15.8	0.0	17.2	22.2	14.5	14.6	18.7	9.3	0.0
Incr Delay (d2), s/veh				0.1	0.0	1.3	5.6	2.4	2.9	4.2	0.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.2	0.0	2.3	0.8	2.0	1.9	2.5	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				15.9	0.0	18.6	27.8	16.9	17.5	22.9	9.5	0.0
LnGrp LOS				B	A	B	C	B	B	C	A	A
Approach Vol, veh/h					601			554			555	
Approach Delay, s/veh					17.1			18.7			15.8	
Approach LOS					B			B			B	

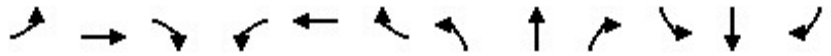
Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	12.9	18.9		7.0	24.9		15.5					
Change Period (Y+Rc), s	4.4	5.9		4.4	* 5.9		4.9					
Max Green Setting (Gmax), s	12.6	22.2		9.0	* 26		25.0					
Max Q Clear Time (g_c+I1), s	8.7	7.9		4.0	4.6		9.7					
Green Ext Time (p_c), s	0.1	4.5		0.0	3.4		1.0					

Intersection Summary		
HCM 6th Ctrl Delay		17.2
HCM 6th LOS		B

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	14	0	10	0	528	10	34	558	0
Future Volume (veh/h)	0	0	0	14	0	10	0	528	10	34	558	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	0	0	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	0	0	0	23	0	14	0	621	11	40	664	0
Peak Hour Factor	0.92	0.92	0.92	0.62	0.62	0.62	0.85	0.85	0.85	0.84	0.84	0.84
Percent Heavy Veh, %	3	0	0	3	0	3	0	3	3	3	3	0
Cap, veh/h	6	0	0	41	0	0	0	1457	26	67	2112	0
Arrive On Green	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.41	0.41	0.04	0.60	0.00
Sat Flow, veh/h	1767	0		1767	23		0	3634	63	1767	3618	0
Grp Volume(v), veh/h	0	0.0		23	18.6		0	309	323	40	664	0
Grp Sat Flow(s),veh/h/ln	1767			1767	B		0	1763	1841	1767	1763	0
Q Serve(g_s), s	0.0			0.4			0.0	3.7	3.7	0.7	2.7	0.0
Cycle Q Clear(g_c), s	0.0			0.4			0.0	3.7	3.7	0.7	2.7	0.0
Prop In Lane	1.00			1.00			0.00		0.03	1.00		0.00
Lane Grp Cap(c), veh/h	6			41			0	725	758	67	2112	0
V/C Ratio(X)	0.00			0.56			0.00	0.43	0.43	0.60	0.31	0.00
Avail Cap(c_a), veh/h	1563			1563			0	1361	1422	361	3946	0
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00			1.00			0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0			14.2			0.0	6.2	6.2	13.9	2.9	0.0
Incr Delay (d2), s/veh	0.0			4.3			0.0	0.9	0.9	3.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0			0.2			0.0	0.6	0.6	0.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0			18.6			0.0	7.1	7.1	17.1	3.1	0.0
LnGrp LOS	A			B			A	A	A	B	A	A
Approach Vol, veh/h								632			704	
Approach Delay, s/veh								7.1			3.9	
Approach LOS								A			A	

Timer - Assigned Phs	1	2	3		6	7
Phs Duration (G+Y+Rc), s	5.5	18.3	5.6		23.8	0.0
Change Period (Y+Rc), s	4.4	* 6.2	4.9		6.2	4.9
Max Green Setting (Gmax), s	6.6	* 23	26.0		32.9	26.0
Max Q Clear Time (g_c+I1), s	2.7	5.7	2.4		4.7	0.0
Green Ext Time (p_c), s	0.0	6.0	0.0		8.4	0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.8

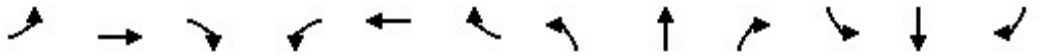
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	88	441	88	0	582
Future Vol, veh/h	0	88	441	88	0	582
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	96	479	96	0	633

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	308	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	685	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	672	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	672	-
HCM Lane V/C Ratio	-	-	0.142	-
HCM Control Delay (s)	-	-	11.2	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.5	-

Appendix H
Near-Term Year 2024 Base with Project Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekday)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	456	0	350	6	248	201	221	612	0
Future Volume (veh/h)	0	0	0	456	0	350	6	248	201	221	612	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	0	1856	1856	1856	1856	1856	1856	0
Adj Flow Rate, veh/h				501	0	311	7	285	208	260	720	0
Peak Hour Factor				0.91	0.92	0.91	0.92	0.87	0.87	0.85	0.85	0.92
Percent Heavy Veh, %				3	0	3	3	3	3	3	3	0
Cap, veh/h				859	0	394	13	527	370	316	1562	0
Arrive On Green				0.25	0.00	0.25	0.01	0.27	0.27	0.18	0.44	0.00
Sat Flow, veh/h				3428	0	1572	1767	1938	1360	1767	3618	0
Grp Volume(v), veh/h				501	0	311	7	258	235	260	720	0
Grp Sat Flow(s),veh/h/ln				1714	0	1572	1767	1763	1536	1767	1763	0
Q Serve(g_s), s				6.5	0.0	9.4	0.2	6.4	6.7	7.2	7.3	0.0
Cycle Q Clear(g_c), s				6.5	0.0	9.4	0.2	6.4	6.7	7.2	7.3	0.0
Prop In Lane				1.00		1.00	1.00		0.89	1.00		0.00
Lane Grp Cap(c), veh/h				859	0	394	13	479	417	316	1562	0
V/C Ratio(X)				0.58	0.00	0.79	0.53	0.54	0.56	0.82	0.46	0.00
Avail Cap(c_a), veh/h				1686	0	773	139	770	671	438	2178	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				16.7	0.0	17.8	25.1	15.8	15.9	20.1	9.9	0.0
Incr Delay (d2), s/veh				0.2	0.0	1.4	12.0	2.7	3.4	6.2	0.6	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.1	0.0	2.9	0.1	2.3	2.2	2.9	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				17.0	0.0	19.2	37.1	18.5	19.4	26.3	10.5	0.0
LnGrp LOS				B	A	B	D	B	B	C	B	A
Approach Vol, veh/h					812			500			980	
Approach Delay, s/veh					17.8			19.2			14.7	
Approach LOS					B			B			B	

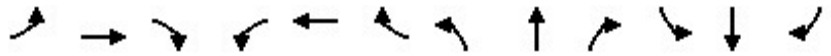
Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	13.5	19.7		4.8	28.4		17.6					
Change Period (Y+Rc), s	4.4	5.9		4.4	* 5.9		4.9					
Max Green Setting (Gmax), s	12.6	22.2		4.0	* 31		25.0					
Max Q Clear Time (g_c+I1), s	9.2	8.7		2.2	9.3		11.4					
Green Ext Time (p_c), s	0.1	4.5		0.0	9.2		1.3					

Intersection Summary		
HCM 6th Ctrl Delay		16.8
HCM 6th LOS		B

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	32	0	5	0	475	8	12	1084	0
Future Volume (veh/h)	0	0	0	32	0	5	0	475	8	12	1084	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	0	0	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	0	0	0	57	0	7	0	586	9	14	1306	0
Peak Hour Factor	0.92	0.92	0.92	0.56	0.56	0.56	0.81	0.81	0.81	0.83	0.83	0.83
Percent Heavy Veh, %	3	0	0	3	0	3	0	3	3	3	3	0
Cap, veh/h	5	0	0	84	0	0	0	1895	29	26	2337	0
Arrive On Green	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.53	0.53	0.01	0.66	0.00
Sat Flow, veh/h	1767	0		1767	57		0	3645	55	1767	3618	0
Grp Volume(v), veh/h	0	0.0		57	21.5		0	291	304	14	1306	0
Grp Sat Flow(s),veh/h/ln	1767			1767	C		0	1763	1844	1767	1763	0
Q Serve(g_s), s	0.0			1.2			0.0	3.5	3.5	0.3	7.6	0.0
Cycle Q Clear(g_c), s	0.0			1.2			0.0	3.5	3.5	0.3	7.6	0.0
Prop In Lane	1.00			1.00			0.00		0.03	1.00		0.00
Lane Grp Cap(c), veh/h	5			84			0	940	983	26	2337	0
V/C Ratio(X)	0.00			0.68			0.00	0.31	0.31	0.55	0.56	0.00
Avail Cap(c_a), veh/h	1199			1199			0	1086	1136	235	3028	0
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00			1.00			0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0			18.0			0.0	5.0	5.0	18.8	3.5	0.0
Incr Delay (d2), s/veh	0.0			3.6			0.0	0.4	0.4	6.6	0.5	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0			0.5			0.0	0.5	0.5	0.1	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0			21.5			0.0	5.4	5.4	25.4	3.9	0.0
LnGrp LOS	A			C			A	A	A	C	A	A
Approach Vol, veh/h								595			1320	
Approach Delay, s/veh								5.4			4.2	
Approach LOS								A			A	

Timer - Assigned Phs	1	2	3		6	7
Phs Duration (G+Y+Rc), s	5.0	26.6	6.7		31.6	0.0
Change Period (Y+Rc), s	4.4	* 6.2	4.9		6.2	4.9
Max Green Setting (Gmax), s	5.1	* 24	26.0		32.9	26.0
Max Q Clear Time (g_c+I1), s	2.3	5.5	3.2		9.6	0.0
Green Ext Time (p_c), s	0.0	5.8	0.1		15.8	0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.0
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

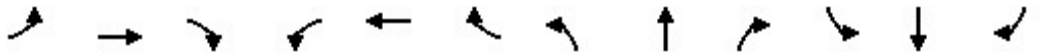
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	9	445	31	0	1074
Future Vol, veh/h	0	9	445	31	0	1074
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	10	484	34	0	1167

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	279	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	715	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	701	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	701	-
HCM Lane V/C Ratio	-	-	0.014	-
HCM Control Delay (s)	-	-	10.2	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	260	0	245	51	968	417	389	330	0
Future Volume (veh/h)	0	0	0	260	0	245	51	968	417	389	330	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	0	1856	1856	1856	1856	1856	1856	0
Adj Flow Rate, veh/h				289	0	194	55	1139	432	401	340	0
Peak Hour Factor				0.90	0.92	0.90	0.92	0.85	0.85	0.97	0.97	0.92
Percent Heavy Veh, %				3	0	3	3	3	3	3	3	0
Cap, veh/h				483	0	221	71	1255	462	424	2478	0
Arrive On Green				0.14	0.00	0.14	0.04	0.50	0.50	0.24	0.70	0.00
Sat Flow, veh/h				3428	0	1572	1767	2496	919	1767	3618	0
Grp Volume(v), veh/h				289	0	194	55	794	777	401	340	0
Grp Sat Flow(s),veh/h/ln				1714	0	1572	1767	1763	1653	1767	1763	0
Q Serve(g_s), s				10.3	0.0	15.8	4.0	53.2	57.5	29.1	4.1	0.0
Cycle Q Clear(g_c), s				10.3	0.0	15.8	4.0	53.2	57.5	29.1	4.1	0.0
Prop In Lane				1.00		1.00	1.00		0.56	1.00		0.00
Lane Grp Cap(c), veh/h				483	0	221	71	886	831	424	2478	0
V/C Ratio(X)				0.60	0.00	0.88	0.78	0.90	0.93	0.95	0.14	0.00
Avail Cap(c_a), veh/h				660	0	303	141	893	838	455	2478	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				52.6	0.0	54.9	62.0	29.3	30.4	48.7	6.4	0.0
Incr Delay (d2), s/veh				0.4	0.0	15.4	6.7	12.6	18.1	27.3	0.1	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	0.0	7.0	1.9	23.7	25.0	15.5	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				53.0	0.0	70.3	68.8	42.0	48.5	76.1	6.4	0.0
LnGrp LOS				D	A	E	E	D	D	E	A	A
Approach Vol, veh/h					483			1626			741	
Approach Delay, s/veh					60.0			46.0			44.1	
Approach LOS					E			D			D	

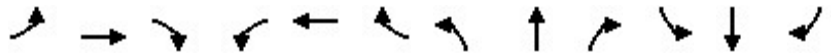
Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	35.7	71.5		9.6	97.6		23.3					
Change Period (Y+Rc), s	4.4	5.9		4.4	* 5.9		4.9					
Max Green Setting (Gmax), s	33.6	66.1		10.4	* 90		25.1					
Max Q Clear Time (g_c+I1), s	31.1	59.5		6.0	6.1		17.8					
Green Ext Time (p_c), s	0.2	6.1		0.0	5.3		0.6					

Intersection Summary		
HCM 6th Ctrl Delay		47.9
HCM 6th LOS		D

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	13	0	6	0	1417	23	22	614	0
Future Volume (veh/h)	0	0	0	13	0	6	0	1417	23	22	614	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	0	0	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	0	0	0	14	0	5	0	1667	26	23	633	0
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.85	0.85	0.85	0.97	0.97	0.97
Percent Heavy Veh, %	3	0	0	3	0	3	0	3	3	3	3	0
Cap, veh/h	3	0	0	25	0	0	0	2450	38	38	2783	0
Arrive On Green	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.69	0.69	0.02	0.79	0.00
Sat Flow, veh/h	1767	0		1767	14		0	3644	55	1767	3618	0
Grp Volume(v), veh/h	0	0.0		14	35.1		0	826	867	23	633	0
Grp Sat Flow(s),veh/h/ln	1767			1767	D		0	1763	1844	1767	1763	0
Q Serve(g_s), s	0.0			0.4			0.0	15.4	15.5	0.7	2.6	0.0
Cycle Q Clear(g_c), s	0.0			0.4			0.0	15.4	15.5	0.7	2.6	0.0
Prop In Lane	1.00			1.00			0.00		0.03	1.00		0.00
Lane Grp Cap(c), veh/h	3			25			0	1216	1272	38	2783	0
V/C Ratio(X)	0.00			0.57			0.00	0.68	0.68	0.61	0.23	0.00
Avail Cap(c_a), veh/h	814			814			0	1358	1420	163	3303	0
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00			1.00			0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0			27.7			0.0	5.1	5.1	27.4	1.5	0.0
Incr Delay (d2), s/veh	0.0			7.4			0.0	1.9	1.8	5.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0			0.2			0.0	2.3	2.4	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0			35.1			0.0	7.0	7.0	33.1	1.6	0.0
LnGrp LOS	A			D			A	A	A	C	A	A
Approach Vol, veh/h								1693			656	
Approach Delay, s/veh								7.0			2.7	
Approach LOS								A			A	

Timer - Assigned Phs	1	2	3		6	7
Phs Duration (G+Y+Rc), s	5.6	45.2	5.7		50.8	0.0
Change Period (Y+Rc), s	4.4	* 6.2	4.9		6.2	4.9
Max Green Setting (Gmax), s	5.3	* 44	26.0		52.9	26.0
Max Q Clear Time (g_c+I1), s	2.7	17.5	2.4		4.6	0.0
Green Ext Time (p_c), s	0.0	21.4	0.0		9.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	6.0
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.6

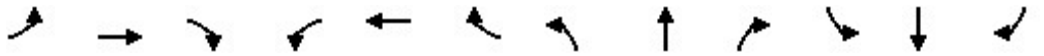
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	67	1368	53	0	639
Future Vol, veh/h	0	67	1368	53	0	639
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	73	1487	58	0	695

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	793	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	329	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	323	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	323	-
HCM Lane V/C Ratio	-	-	0.225	-
HCM Control Delay (s)	-	-	19.4	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.8	-

Appendix I
Near-Term Year 2024 Base with Project Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekend)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	278	0	287	75	284	181	208	240	0
Future Volume (veh/h)	0	0	0	278	0	287	75	284	181	208	240	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	0	1856	1856	1856	1856	1856	1856	0
Adj Flow Rate, veh/h				331	0	271	82	309	175	260	300	0
Peak Hour Factor				0.84	0.92	0.84	0.92	0.92	0.92	0.80	0.80	0.92
Percent Heavy Veh, %				3	0	3	3	3	3	3	3	0
Cap, veh/h				768	0	352	103	596	327	319	1403	0
Arrive On Green				0.22	0.00	0.22	0.06	0.28	0.28	0.18	0.40	0.00
Sat Flow, veh/h				3428	0	1572	1767	2157	1184	1767	3618	0
Grp Volume(v), veh/h				331	0	271	82	251	233	260	300	0
Grp Sat Flow(s),veh/h/ln				1714	0	1572	1767	1763	1578	1767	1763	0
Q Serve(g_s), s				3.9	0.0	7.7	2.2	5.7	6.0	6.7	2.7	0.0
Cycle Q Clear(g_c), s				3.9	0.0	7.7	2.2	5.7	6.0	6.7	2.7	0.0
Prop In Lane				1.00		1.00	1.00		0.75	1.00		0.00
Lane Grp Cap(c), veh/h				768	0	352	103	487	436	319	1403	0
V/C Ratio(X)				0.43	0.00	0.77	0.79	0.52	0.54	0.82	0.21	0.00
Avail Cap(c_a), veh/h				1802	0	826	338	823	736	468	1949	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				15.9	0.0	17.3	22.1	14.5	14.6	18.7	9.4	0.0
Incr Delay (d2), s/veh				0.1	0.0	1.4	5.1	2.4	3.0	4.3	0.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.2	0.0	2.3	0.9	2.0	1.9	2.5	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				16.0	0.0	18.7	27.2	17.0	17.6	23.1	9.6	0.0
LnGrp LOS				B	A	B	C	B	B	C	A	A
Approach Vol, veh/h					602			566			560	
Approach Delay, s/veh					17.2			18.7			15.9	
Approach LOS					B			B			B	

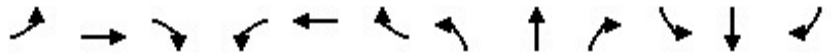
Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	13.0	19.0		7.2	24.8		15.6					
Change Period (Y+Rc), s	4.4	5.9		4.4	* 5.9		4.9					
Max Green Setting (Gmax), s	12.6	22.2		9.1	* 26		25.0					
Max Q Clear Time (g_c+I1), s	8.7	8.0		4.2	4.7		9.7					
Green Ext Time (p_c), s	0.1	4.6		0.0	3.5		1.0					

Intersection Summary		
HCM 6th Ctrl Delay		17.3
HCM 6th LOS		B

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	14	0	10	0	533	10	39	563	0
Future Volume (veh/h)	0	0	0	14	0	10	0	533	10	39	563	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	0	0	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	0	0	0	23	0	14	0	627	11	46	670	0
Peak Hour Factor	0.92	0.92	0.92	0.62	0.62	0.62	0.85	0.85	0.85	0.84	0.84	0.84
Percent Heavy Veh, %	3	0	0	3	0	3	0	3	3	3	3	0
Cap, veh/h	6	0	0	41	0	0	0	1457	26	75	2124	0
Arrive On Green	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.41	0.41	0.04	0.60	0.00
Sat Flow, veh/h	1767	0		1767	23		0	3635	62	1767	3618	0
Grp Volume(v), veh/h	0	0.0		23	18.7		0	312	326	46	670	0
Grp Sat Flow(s),veh/h/ln	1767			1767	B		0	1763	1842	1767	1763	0
Q Serve(g_s), s	0.0			0.4			0.0	3.8	3.8	0.8	2.8	0.0
Cycle Q Clear(g_c), s	0.0			0.4			0.0	3.8	3.8	0.8	2.8	0.0
Prop In Lane	1.00			1.00			0.00		0.03	1.00		0.00
Lane Grp Cap(c), veh/h	6			41			0	725	758	75	2124	0
V/C Ratio(X)	0.00			0.56			0.00	0.43	0.43	0.61	0.32	0.00
Avail Cap(c_a), veh/h	1550			1550			0	1344	1404	364	3912	0
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00			1.00			0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0			14.3			0.0	6.2	6.2	14.0	2.9	0.0
Incr Delay (d2), s/veh	0.0			4.4			0.0	1.0	0.9	3.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0			0.2			0.0	0.6	0.6	0.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0			18.7			0.0	7.2	7.2	16.9	3.1	0.0
LnGrp LOS	A			B			A	A	A	B	A	A
Approach Vol, veh/h								638			716	
Approach Delay, s/veh								7.2			4.0	
Approach LOS								A			A	

Timer - Assigned Phs	1	2	3		6	7
Phs Duration (G+Y+Rc), s	5.7	18.4	5.6		24.1	0.0
Change Period (Y+Rc), s	4.4	* 6.2	4.9		6.2	4.9
Max Green Setting (Gmax), s	6.1	* 23	26.0		32.9	26.0
Max Q Clear Time (g_c+I1), s	2.8	5.8	2.4		4.8	0.0
Green Ext Time (p_c), s	0.0	6.0	0.0		8.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.7
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.9

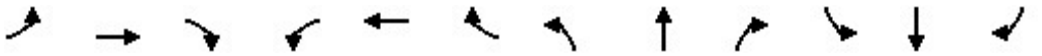
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	97	441	97	0	591
Future Vol, veh/h	0	97	441	97	0	591
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	105	479	105	0	642

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	312	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	681	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	668	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	668	-
HCM Lane V/C Ratio	-	-	0.158	-
HCM Control Delay (s)	-	-	11.4	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.6	-

Appendix J
Horizon Year Base Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekday)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	553	0	390	24	369	399	340	924	0
Future Volume (veh/h)	0	0	0	553	0	390	24	369	399	340	924	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	0	1856	1856	1856	1856	1856	1856	0
Adj Flow Rate, veh/h				582	0	316	26	388	367	358	973	0
Peak Hour Factor				0.95	0.92	0.95	0.92	0.95	0.95	0.95	0.95	0.92
Percent Heavy Veh, %				3	0	3	3	3	3	3	3	0
Cap, veh/h				828	0	380	39	536	458	403	1797	0
Arrive On Green				0.24	0.00	0.24	0.02	0.30	0.30	0.23	0.51	0.00
Sat Flow, veh/h				3428	0	1572	1767	1763	1506	1767	3618	0
Grp Volume(v), veh/h				582	0	316	26	388	367	358	973	0
Grp Sat Flow(s),veh/h/ln				1714	0	1572	1767	1763	1506	1767	1763	0
Q Serve(g_s), s				10.4	0.0	12.8	1.0	13.2	15.0	13.2	12.5	0.0
Cycle Q Clear(g_c), s				10.4	0.0	12.8	1.0	13.2	15.0	13.2	12.5	0.0
Prop In Lane				1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h				828	0	380	39	536	458	403	1797	0
V/C Ratio(X)				0.70	0.00	0.83	0.66	0.72	0.80	0.89	0.54	0.00
Avail Cap(c_a), veh/h				1277	0	586	147	583	498	463	1828	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				23.3	0.0	24.2	32.6	20.8	21.5	25.1	11.1	0.0
Incr Delay (d2), s/veh				0.4	0.0	3.4	6.8	6.3	11.3	15.8	0.8	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.8	0.0	4.5	0.5	5.5	5.9	6.5	3.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				23.7	0.0	27.6	39.3	27.1	32.8	40.9	11.9	0.0
LnGrp LOS				C	A	C	D	C	C	D	B	A
Approach Vol, veh/h					898			781			1331	
Approach Delay, s/veh					25.1			30.2			19.7	
Approach LOS					C			C			B	

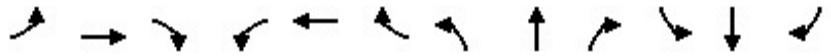
Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	19.7	26.3		5.9	40.1		21.1					
Change Period (Y+Rc), s	4.4	5.9		4.4	* 5.9		4.9					
Max Green Setting (Gmax), s	17.6	22.2		5.6	* 35		25.0					
Max Q Clear Time (g_c+I1), s	15.2	17.0		3.0	14.5		14.8					
Green Ext Time (p_c), s	0.2	3.2		0.0	11.8		1.4					

Intersection Summary		
HCM 6th Ctrl Delay		24.0
HCM 6th LOS		C

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	31	0	5	0	567	8	23	955	0
Future Volume (veh/h)	0	0	0	31	0	5	0	567	8	23	955	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	0	0	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	0	0	0	33	0	4	0	597	7	24	1005	0
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	0	0	3	0	3	0	3	3	3	3	0
Cap, veh/h	6	0	0	56	0	0	0	1638	19	42	2189	0
Arrive On Green	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.46	0.46	0.02	0.62	0.00
Sat Flow, veh/h	1767	0		1767	33		0	3660	42	1767	3618	0
Grp Volume(v), veh/h	0	0.0		33	18.9		0	295	309	24	1005	0
Grp Sat Flow(s),veh/h/ln	1767			1767	B		0	1763	1846	1767	1763	0
Q Serve(g_s), s	0.0			0.6			0.0	3.5	3.5	0.4	4.8	0.0
Cycle Q Clear(g_c), s	0.0			0.6			0.0	3.5	3.5	0.4	4.8	0.0
Prop In Lane	1.00			1.00			0.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h	6			56			0	810	848	42	2189	0
V/C Ratio(X)	0.00			0.59			0.00	0.36	0.36	0.57	0.46	0.00
Avail Cap(c_a), veh/h	1437			1437			0	1301	1363	282	3629	0
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00			1.00			0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0			15.3			0.0	5.6	5.6	15.4	3.2	0.0
Incr Delay (d2), s/veh	0.0			3.6			0.0	0.6	0.6	4.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0			0.2			0.0	0.5	0.5	0.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0			18.9			0.0	6.3	6.2	19.8	3.6	0.0
LnGrp LOS	A			B			A	A	A	B	A	A
Approach Vol, veh/h								604			1029	
Approach Delay, s/veh								6.2			3.9	
Approach LOS								A			A	

Timer - Assigned Phs	1	2	3		6	7
Phs Duration (G+Y+Rc), s	5.2	20.9	5.9		26.0	0.0
Change Period (Y+Rc), s	4.4	* 6.2	4.9		6.2	4.9
Max Green Setting (Gmax), s	5.1	* 24	26.0		32.9	26.0
Max Q Clear Time (g_c+I1), s	2.4	5.5	2.6		6.8	0.0
Green Ext Time (p_c), s	0.0	5.9	0.0		13.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.1
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

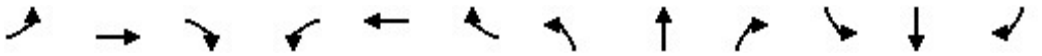
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	787	25	0	1478
Future Vol, veh/h	0	5	787	25	0	1478
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	5	855	27	0	1607

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	461	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	545	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	535	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	535	-
HCM Lane V/C Ratio	-	-	0.01	-
HCM Control Delay (s)	-	-	11.8	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	304	0	430	66	964	417	370	424	0
Future Volume (veh/h)	0	0	0	304	0	430	66	964	417	370	424	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	0	1856	1856	1856	1856	1856	1856	0
Adj Flow Rate, veh/h				320	0	337	72	1015	365	381	437	0
Peak Hour Factor				0.95	0.92	0.95	0.92	0.95	0.95	0.97	0.97	0.92
Percent Heavy Veh, %				3	0	3	3	3	3	3	3	0
Cap, veh/h				784	0	360	92	1099	390	348	2047	0
Arrive On Green				0.23	0.00	0.23	0.05	0.44	0.44	0.20	0.58	0.00
Sat Flow, veh/h				3428	0	1572	1767	2523	895	1767	3618	0
Grp Volume(v), veh/h				320	0	337	72	705	675	381	437	0
Grp Sat Flow(s),veh/h/ln				1714	0	1572	1767	1763	1656	1767	1763	0
Q Serve(g_s), s				8.7	0.0	23.1	4.4	41.2	42.6	21.6	6.5	0.0
Cycle Q Clear(g_c), s				8.7	0.0	23.1	4.4	41.2	42.6	21.6	6.5	0.0
Prop In Lane				1.00		1.00	1.00		0.54	1.00		0.00
Lane Grp Cap(c), veh/h				784	0	360	92	768	721	348	2047	0
V/C Ratio(X)				0.41	0.00	0.94	0.78	0.92	0.94	1.09	0.21	0.00
Avail Cap(c_a), veh/h				785	0	360	171	773	726	348	2047	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				36.0	0.0	41.5	51.3	29.1	29.5	44.0	11.0	0.0
Incr Delay (d2), s/veh				0.1	0.0	31.3	5.3	16.9	20.3	75.9	0.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.5	0.0	11.7	2.0	19.3	19.3	16.3	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				36.1	0.0	72.8	56.7	46.0	49.7	119.9	11.2	0.0
LnGrp LOS				D	A	E	E	D	D	F	B	A
Approach Vol, veh/h					657			1452			818	
Approach Delay, s/veh					54.9			48.2			61.8	
Approach LOS					D			D			E	

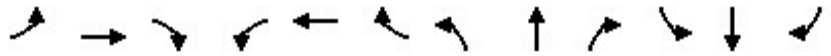
Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	26.0	53.7		10.1	69.5		30.0					
Change Period (Y+Rc), s	4.4	5.9		4.4	* 5.9		4.9					
Max Green Setting (Gmax), s	21.6	48.1		10.6	* 60		25.1					
Max Q Clear Time (g_c+I1), s	23.6	44.6		6.4	8.5		25.1					
Green Ext Time (p_c), s	0.0	3.2		0.0	6.8		0.0					

Intersection Summary		
HCM 6th Ctrl Delay		53.5
HCM 6th LOS		D

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	11	0	6	0	1063	22	17	651	0
Future Volume (veh/h)	0	0	0	11	0	6	0	1063	22	17	651	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	0	0	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	0	0	0	12	0	5	0	1251	25	18	671	0
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.85	0.85	0.85	0.97	0.97	0.97
Percent Heavy Veh, %	3	0	0	3	0	3	0	3	3	3	3	0
Cap, veh/h	4	0	0	22	0	0	0	2266	45	31	2653	0
Arrive On Green	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.64	0.64	0.02	0.75	0.00
Sat Flow, veh/h	1767	0		1767	12		0	3625	71	1767	3618	0
Grp Volume(v), veh/h	0	0.0		12	31.0		0	624	652	18	671	0
Grp Sat Flow(s),veh/h/ln	1767			1767	C		0	1763	1840	1767	1763	0
Q Serve(g_s), s	0.0			0.3			0.0	9.3	9.3	0.5	2.7	0.0
Cycle Q Clear(g_c), s	0.0			0.3			0.0	9.3	9.3	0.5	2.7	0.0
Prop In Lane	1.00			1.00			0.00		0.04	1.00		0.00
Lane Grp Cap(c), veh/h	4			22			0	1131	1180	31	2653	0
V/C Ratio(X)	0.00			0.55			0.00	0.55	0.55	0.57	0.25	0.00
Avail Cap(c_a), veh/h	973			973			0	1625	1696	195	3951	0
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00			1.00			0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0			23.2			0.0	4.7	4.7	23.0	1.8	0.0
Incr Delay (d2), s/veh	0.0			7.8			0.0	1.0	1.0	5.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0			0.2			0.0	1.2	1.2	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0			31.0			0.0	5.7	5.7	28.9	1.9	0.0
LnGrp LOS	A			C			A	A	A	C	A	A
Approach Vol, veh/h								1276			689	
Approach Delay, s/veh								5.7			2.6	
Approach LOS								A			A	

Timer - Assigned Phs	1	2	3		6	7
Phs Duration (G+Y+Rc), s	5.2	36.5	5.5		41.7	0.0
Change Period (Y+Rc), s	4.4	* 6.2	4.9		6.2	4.9
Max Green Setting (Gmax), s	5.3	* 44	26.0		52.9	26.0
Max Q Clear Time (g_c+I1), s	2.5	11.3	2.3		4.7	0.0
Green Ext Time (p_c), s	0.0	19.0	0.0		9.9	0.0

Intersection Summary	
HCM 6th Ctrl Delay	4.8
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.5

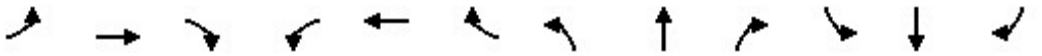
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	58	1389	44	0	785
Future Vol, veh/h	0	58	1389	44	0	785
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	63	1510	48	0	853

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	799	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	326	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	320	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	320	-
HCM Lane V/C Ratio	-	-	0.197	-
HCM Control Delay (s)	-	-	19	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.7	-

Appendix K
Horizon Year Base Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekend)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	336	0	318	100	411	359	320	347	0
Future Volume (veh/h)	0	0	0	336	0	318	100	411	359	320	347	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	0	1856	1856	1856	1856	1856	1856	0
Adj Flow Rate, veh/h				354	0	240	109	433	325	337	365	0
Peak Hour Factor				0.95	0.92	0.95	0.92	0.95	0.95	0.95	0.95	0.92
Percent Heavy Veh, %				3	0	3	3	3	3	3	3	0
Cap, veh/h				670	0	307	139	612	456	390	1644	0
Arrive On Green				0.20	0.00	0.20	0.08	0.32	0.32	0.22	0.47	0.00
Sat Flow, veh/h				3428	0	1572	1767	1889	1406	1767	3618	0
Grp Volume(v), veh/h				354	0	240	109	404	354	337	365	0
Grp Sat Flow(s),veh/h/ln				1714	0	1572	1767	1763	1532	1767	1763	0
Q Serve(g_s), s				5.4	0.0	8.5	3.5	11.8	11.9	10.7	3.6	0.0
Cycle Q Clear(g_c), s				5.4	0.0	8.5	3.5	11.8	11.9	10.7	3.6	0.0
Prop In Lane				1.00		1.00	1.00		0.92	1.00		0.00
Lane Grp Cap(c), veh/h				670	0	307	139	571	497	390	1644	0
V/C Ratio(X)				0.53	0.00	0.78	0.78	0.71	0.71	0.86	0.22	0.00
Avail Cap(c_a), veh/h				1464	0	672	169	669	581	531	2096	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				21.1	0.0	22.4	26.5	17.3	17.4	22.0	9.3	0.0
Incr Delay (d2), s/veh				0.2	0.0	1.7	14.2	5.2	6.1	8.4	0.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.9	0.0	2.8	1.8	4.6	4.2	4.6	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				21.4	0.0	24.0	40.7	22.5	23.5	30.3	9.5	0.0
LnGrp LOS				C	A	C	D	C	C	C	A	A
Approach Vol, veh/h					594			867			702	
Approach Delay, s/veh					22.4			25.2			19.5	
Approach LOS					C			C			B	

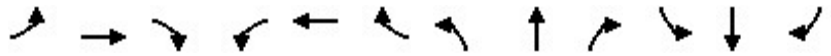
Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	17.3	24.9		9.0	33.2		16.3					
Change Period (Y+Rc), s	4.4	5.9		4.4	* 5.9		4.9					
Max Green Setting (Gmax), s	17.6	22.2		5.6	* 35		25.0					
Max Q Clear Time (g_c+I1), s	12.7	13.9		5.5	5.6		10.5					
Green Ext Time (p_c), s	0.2	4.8		0.0	4.9		0.9					

Intersection Summary		
HCM 6th Ctrl Delay		22.6
HCM 6th LOS		C

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	13	0	10	0	624	9	96	500	0
Future Volume (veh/h)	0	0	0	13	0	10	0	624	9	96	500	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	0	0	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	0	0	0	14	0	10	0	657	8	101	526	0
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	0	0	3	0	3	0	3	3	3	3	0
Cap, veh/h	6	0	0	26	0	0	0	1479	18	132	2222	0
Arrive On Green	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.41	0.41	0.07	0.63	0.00
Sat Flow, veh/h	1767	0		1767	14		0	3658	43	1767	3618	0
Grp Volume(v), veh/h	0	0.0		14	21.7		0	325	340	101	526	0
Grp Sat Flow(s),veh/h/ln	1767			1767	C		0	1763	1846	1767	1763	0
Q Serve(g_s), s	0.0			0.2			0.0	4.1	4.1	1.8	2.0	0.0
Cycle Q Clear(g_c), s	0.0			0.2			0.0	4.1	4.1	1.8	2.0	0.0
Prop In Lane	1.00			1.00			0.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h	6			26			0	731	766	132	2222	0
V/C Ratio(X)	0.00			0.54			0.00	0.44	0.44	0.76	0.24	0.00
Avail Cap(c_a), veh/h	1470			1470			0	1331	1394	288	3711	0
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00			1.00			0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0			15.3			0.0	6.6	6.6	14.2	2.5	0.0
Incr Delay (d2), s/veh	0.0			6.4			0.0	1.0	1.0	3.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0			0.1			0.0	0.7	0.7	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0			21.7			0.0	7.6	7.5	17.6	2.6	0.0
LnGrp LOS	A			C			A	A	A	B	A	A
Approach Vol, veh/h								665			627	
Approach Delay, s/veh								7.5			5.1	
Approach LOS								A			A	

Timer - Assigned Phs	1	2	3		6	7
Phs Duration (G+Y+Rc), s	6.7	19.2	5.4		25.9	0.0
Change Period (Y+Rc), s	4.4	* 6.2	4.9		6.2	4.9
Max Green Setting (Gmax), s	5.1	* 24	26.0		32.9	26.0
Max Q Clear Time (g_c+I1), s	3.8	6.1	2.2		4.0	0.0
Green Ext Time (p_c), s	0.0	6.4	0.0		6.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	6.5
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.7

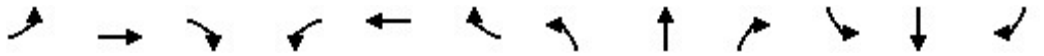
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	88	782	88	0	753
Future Vol, veh/h	0	88	782	88	0	753
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	96	850	96	0	818

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	493	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	519	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	509	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	509	-
HCM Lane V/C Ratio	-	-	0.188	-
HCM Control Delay (s)	-	-	13.7	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.7	-

Appendix L
Horizon Year Base with Project Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekday)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	554	0	390	26	371	399	340	926	0
Future Volume (veh/h)	0	0	0	554	0	390	26	371	399	340	926	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	0	1856	1856	1856	1856	1856	1856	0
Adj Flow Rate, veh/h				609	0	355	28	426	436	400	1089	0
Peak Hour Factor				0.91	0.92	0.91	0.92	0.87	0.87	0.85	0.85	0.92
Percent Heavy Veh, %				3	0	3	3	3	3	3	3	0
Cap, veh/h				892	0	409	42	526	450	418	1804	0
Arrive On Green				0.26	0.00	0.26	0.02	0.30	0.30	0.24	0.51	0.00
Sat Flow, veh/h				3428	0	1572	1767	1763	1506	1767	3618	0
Grp Volume(v), veh/h				609	0	355	28	426	436	400	1089	0
Grp Sat Flow(s),veh/h/ln				1714	0	1572	1767	1763	1506	1767	1763	0
Q Serve(g_s), s				11.9	0.0	16.0	1.2	16.6	21.3	16.6	16.2	0.0
Cycle Q Clear(g_c), s				11.9	0.0	16.0	1.2	16.6	21.3	16.6	16.2	0.0
Prop In Lane				1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h				892	0	409	42	526	450	418	1804	0
V/C Ratio(X)				0.68	0.00	0.87	0.67	0.81	0.97	0.96	0.60	0.00
Avail Cap(c_a), veh/h				1153	0	529	136	526	450	418	1804	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				24.7	0.0	26.3	36.0	24.1	25.7	28.0	12.8	0.0
Incr Delay (d2), s/veh				0.6	0.0	9.8	6.7	11.0	35.0	32.5	1.1	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	0.0	6.5	0.5	7.6	10.9	10.0	5.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				25.3	0.0	36.1	42.7	35.1	60.8	60.5	13.9	0.0
LnGrp LOS				C	A	D	D	D	E	E	B	A
Approach Vol, veh/h					964			890			1489	
Approach Delay, s/veh					29.3			47.9			26.4	
Approach LOS					C			D			C	

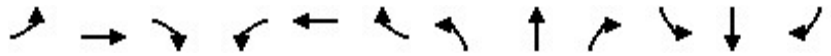
Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	22.0	28.1		6.2	43.9		24.2					
Change Period (Y+Rc), s	4.4	5.9		4.4	* 5.9		4.9					
Max Green Setting (Gmax), s	17.6	22.2		5.7	* 35		25.0					
Max Q Clear Time (g_c+I1), s	18.6	23.3		3.2	18.2		18.0					
Green Ext Time (p_c), s	0.0	0.0		0.0	11.2		1.3					

Intersection Summary		
HCM 6th Ctrl Delay		33.0
HCM 6th LOS		C

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	31	0	5	0	570	8	26	957	0
Future Volume (veh/h)	0	0	0	31	0	5	0	570	8	26	957	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	0	0	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	0	0	0	55	0	7	0	704	9	31	1153	0
Peak Hour Factor	0.92	0.92	0.92	0.56	0.56	0.56	0.81	0.81	0.81	0.83	0.83	0.83
Percent Heavy Veh, %	3	0	0	3	0	3	0	3	3	3	3	0
Cap, veh/h	5	0	0	83	0	0	0	1736	22	52	2259	0
Arrive On Green	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.49	0.49	0.03	0.64	0.00
Sat Flow, veh/h	1767	0		1767	55		0	3655	46	1767	3618	0
Grp Volume(v), veh/h	0	0.0		55	20.0		0	348	365	31	1153	0
Grp Sat Flow(s),veh/h/ln	1767			1767	B		0	1763	1845	1767	1763	0
Q Serve(g_s), s	0.0			1.1			0.0	4.5	4.5	0.6	6.2	0.0
Cycle Q Clear(g_c), s	0.0			1.1			0.0	4.5	4.5	0.6	6.2	0.0
Prop In Lane	1.00			1.00			0.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h	5			83			0	859	899	52	2259	0
V/C Ratio(X)	0.00			0.66			0.00	0.41	0.41	0.59	0.51	0.00
Avail Cap(c_a), veh/h	1292			1292			0	1145	1199	278	3262	0
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00			1.00			0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0			16.7			0.0	5.8	5.8	17.0	3.4	0.0
Incr Delay (d2), s/veh	0.0			3.3			0.0	0.7	0.7	3.9	0.4	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0			0.4			0.0	0.7	0.8	0.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0			20.0			0.0	6.6	6.5	20.9	3.8	0.0
LnGrp LOS	A			B			A	A	A	C	A	A
Approach Vol, veh/h								713			1184	
Approach Delay, s/veh								6.5			4.3	
Approach LOS								A			A	

Timer - Assigned Phs	1	2	3		6	7
Phs Duration (G+Y+Rc), s	5.5	23.5	6.6		29.0	0.0
Change Period (Y+Rc), s	4.4	* 6.2	4.9		6.2	4.9
Max Green Setting (Gmax), s	5.6	* 23	26.0		32.9	26.0
Max Q Clear Time (g_c+I1), s	2.6	6.5	3.1		8.2	0.0
Green Ext Time (p_c), s	0.0	6.7	0.1		14.6	0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

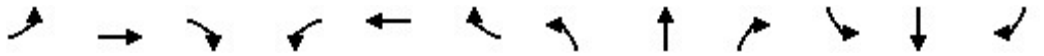
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	9	787	31	0	1483
Future Vol, veh/h	0	9	787	31	0	1483
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	10	855	34	0	1612

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	465	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	541	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	531	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	531	-
HCM Lane V/C Ratio	-	-	0.018	-
HCM Control Delay (s)	-	-	11.9	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	305	0	430	71	968	418	370	428	0
Future Volume (veh/h)	0	0	0	305	0	430	71	968	418	370	428	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	0	1856	1856	1856	1856	1856	1856	0
Adj Flow Rate, veh/h				321	0	337	77	1019	366	381	441	0
Peak Hour Factor				0.95	0.92	0.95	0.92	0.95	0.95	0.97	0.97	0.92
Percent Heavy Veh, %				3	0	3	3	3	3	3	3	0
Cap, veh/h				784	0	360	98	1100	390	348	2035	0
Arrive On Green				0.23	0.00	0.23	0.06	0.44	0.44	0.20	0.58	0.00
Sat Flow, veh/h				3428	0	1572	1767	2524	894	1767	3618	0
Grp Volume(v), veh/h				321	0	337	77	707	678	381	441	0
Grp Sat Flow(s),veh/h/ln				1714	0	1572	1767	1763	1656	1767	1763	0
Q Serve(g_s), s				8.7	0.0	23.1	4.7	41.5	42.9	21.6	6.6	0.0
Cycle Q Clear(g_c), s				8.7	0.0	23.1	4.7	41.5	42.9	21.6	6.6	0.0
Prop In Lane				1.00		1.00	1.00		0.54	1.00		0.00
Lane Grp Cap(c), veh/h				784	0	360	98	768	722	348	2035	0
V/C Ratio(X)				0.41	0.00	0.94	0.78	0.92	0.94	1.09	0.22	0.00
Avail Cap(c_a), veh/h				785	0	360	166	773	726	348	2035	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				36.0	0.0	41.5	51.1	29.2	29.5	44.0	11.2	0.0
Incr Delay (d2), s/veh				0.1	0.0	31.3	5.1	17.2	20.8	76.1	0.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.5	0.0	11.7	2.1	19.5	19.5	16.3	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				36.1	0.0	72.8	56.2	46.4	50.3	120.1	11.4	0.0
LnGrp LOS				D	A	E	E	D	D	F	B	A
Approach Vol, veh/h					658			1462			822	
Approach Delay, s/veh					54.9			48.7			61.8	
Approach LOS					D			D			E	

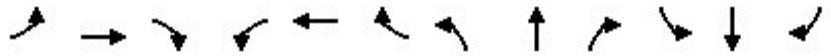
Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	26.0	53.7		10.5	69.2		30.0					
Change Period (Y+Rc), s	4.4	5.9		4.4	* 5.9		4.9					
Max Green Setting (Gmax), s	21.6	48.1		10.3	* 60		25.1					
Max Q Clear Time (g_c+I1), s	23.6	44.9		6.7	8.6		25.1					
Green Ext Time (p_c), s	0.0	2.9		0.0	6.9		0.0					

Intersection Summary		
HCM 6th Ctrl Delay		53.8
HCM 6th LOS		D

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	11	0	6	0	1068	22	22	656	0
Future Volume (veh/h)	0	0	0	11	0	6	0	1068	22	22	656	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	0	0	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	0	0	0	12	0	5	0	1256	25	23	676	0
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.85	0.85	0.85	0.97	0.97	0.97
Percent Heavy Veh, %	3	0	0	3	0	3	0	3	3	3	3	0
Cap, veh/h	4	0	0	22	0	0	0	2056	41	40	2514	0
Arrive On Green	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.58	0.58	0.02	0.71	0.00
Sat Flow, veh/h	1767	0		1767	12		0	3625	70	1767	3618	0
Grp Volume(v), veh/h	0	0.0		12	27.4		0	626	655	23	676	0
Grp Sat Flow(s),veh/h/ln	1767			1767	C		0	1763	1840	1767	1763	0
Q Serve(g_s), s	0.0			0.3			0.0	9.3	9.3	0.5	2.8	0.0
Cycle Q Clear(g_c), s	0.0			0.3			0.0	9.3	9.3	0.5	2.8	0.0
Prop In Lane	1.00			1.00			0.00		0.04	1.00		0.00
Lane Grp Cap(c), veh/h	4			22			0	1026	1071	40	2514	0
V/C Ratio(X)	0.00			0.54			0.00	0.61	0.61	0.58	0.27	0.00
Avail Cap(c_a), veh/h	1136			1136			0	1242	1296	227	3303	0
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00			1.00			0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0			19.9			0.0	5.5	5.5	19.6	2.1	0.0
Incr Delay (d2), s/veh	0.0			7.6			0.0	1.4	1.4	4.8	0.1	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0			0.1			0.0	1.3	1.3	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0			27.4			0.0	6.9	6.8	24.4	2.2	0.0
LnGrp LOS	A			C			A	A	A	C	A	A
Approach Vol, veh/h								1281			699	
Approach Delay, s/veh								6.9			2.9	
Approach LOS								A			A	

Timer - Assigned Phs	1	2	3		6	7
Phs Duration (G+Y+Rc), s	5.3	29.7	5.4		35.1	0.0
Change Period (Y+Rc), s	4.4	* 6.2	4.9		6.2	4.9
Max Green Setting (Gmax), s	5.3	* 29	26.0		37.9	26.0
Max Q Clear Time (g_c+I1), s	2.5	11.3	2.3		4.8	0.0
Green Ext Time (p_c), s	0.0	12.2	0.0		9.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.6

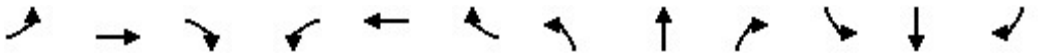
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	67	1389	53	0	794
Future Vol, veh/h	0	67	1389	53	0	794
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	73	1510	58	0	863

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	804	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	324	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	318	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	318	-
HCM Lane V/C Ratio	-	-	0.229	-
HCM Control Delay (s)	-	-	19.7	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.9	-

Appendix M
Horizon Year Base with Project Peak Hour Intersection Capacity Worksheets and Signal Timing Inputs (Weekend)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	337	0	318	105	415	360	320	351	0
Future Volume (veh/h)	0	0	0	337	0	318	105	415	360	320	351	0
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1856	0	1856	1856	1856	1856	1856	1856	0
Adj Flow Rate, veh/h				355	0	240	114	437	326	337	369	0
Peak Hour Factor				0.95	0.92	0.95	0.92	0.95	0.95	0.95	0.95	0.92
Percent Heavy Veh, %				3	0	3	3	3	3	3	3	0
Cap, veh/h				669	0	307	145	615	455	390	1634	0
Arrive On Green				0.20	0.00	0.20	0.08	0.32	0.32	0.22	0.46	0.00
Sat Flow, veh/h				3428	0	1572	1767	1894	1402	1767	3618	0
Grp Volume(v), veh/h				355	0	240	114	407	356	337	369	0
Grp Sat Flow(s),veh/h/ln				1714	0	1572	1767	1763	1533	1767	1763	0
Q Serve(g_s), s				5.5	0.0	8.5	3.7	11.9	12.0	10.8	3.7	0.0
Cycle Q Clear(g_c), s				5.5	0.0	8.5	3.7	11.9	12.0	10.8	3.7	0.0
Prop In Lane				1.00		1.00	1.00		0.91	1.00		0.00
Lane Grp Cap(c), veh/h				669	0	307	145	573	498	390	1634	0
V/C Ratio(X)				0.53	0.00	0.78	0.78	0.71	0.72	0.86	0.23	0.00
Avail Cap(c_a), veh/h				1461	0	670	169	667	580	530	2092	0
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh				21.2	0.0	22.4	26.4	17.4	17.4	22.0	9.4	0.0
Incr Delay (d2), s/veh				0.2	0.0	1.7	15.7	5.3	6.2	8.5	0.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.9	0.0	2.8	2.0	4.7	4.2	4.6	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				21.4	0.0	24.1	42.1	22.6	23.6	30.5	9.6	0.0
LnGrp LOS				C	A	C	D	C	C	C	A	A
Approach Vol, veh/h					595			877			706	
Approach Delay, s/veh					22.5			25.6			19.6	
Approach LOS					C			C			B	

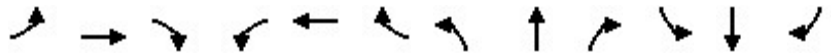
Timer - Assigned Phs	1	2		5	6		8					
Phs Duration (G+Y+Rc), s	17.3	24.9		9.2	33.1		16.4					
Change Period (Y+Rc), s	4.4	5.9		4.4	* 5.9		4.9					
Max Green Setting (Gmax), s	17.6	22.2		5.6	* 35		25.0					
Max Q Clear Time (g_c+I1), s	12.8	14.0		5.7	5.7		10.5					
Green Ext Time (p_c), s	0.2	4.8		0.0	4.9		1.0					

Intersection Summary		
HCM 6th Ctrl Delay		22.8
HCM 6th LOS		C

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	13	0	10	0	629	9	101	505	0
Future Volume (veh/h)	0	0	0	13	0	10	0	629	9	101	505	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	0	0	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	0	0	0	14	0	10	0	662	8	106	532	0
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	0	0	3	0	3	0	3	3	3	3	0
Cap, veh/h	6	0	0	26	0	0	0	1481	18	136	2229	0
Arrive On Green	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.42	0.42	0.08	0.63	0.00
Sat Flow, veh/h	1767	0		1767	14		0	3658	43	1767	3618	0
Grp Volume(v), veh/h	0	0.0		14	21.8		0	327	343	106	532	0
Grp Sat Flow(s),veh/h/ln	1767			1767	C		0	1763	1846	1767	1763	0
Q Serve(g_s), s	0.0			0.2			0.0	4.2	4.2	1.9	2.1	0.0
Cycle Q Clear(g_c), s	0.0			0.2			0.0	4.2	4.2	1.9	2.1	0.0
Prop In Lane	1.00			1.00			0.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h	6			26			0	732	767	136	2229	0
V/C Ratio(X)	0.00			0.54			0.00	0.45	0.45	0.78	0.24	0.00
Avail Cap(c_a), veh/h	1462			1462			0	1323	1386	287	3690	0
HCM Platoon Ratio	1.00			1.00			1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00			1.00			0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0			15.4			0.0	6.6	6.6	14.3	2.5	0.0
Incr Delay (d2), s/veh	0.0			6.4			0.0	1.0	1.0	3.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0			0.0			0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0			0.1			0.0	0.7	0.7	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0			21.8			0.0	7.6	7.6	17.9	2.6	0.0
LnGrp LOS	A			C			A	A	A	B	A	A
Approach Vol, veh/h								670			638	
Approach Delay, s/veh								7.6			5.2	
Approach LOS								A			A	

Timer - Assigned Phs	1	2	3		6	7
Phs Duration (G+Y+Rc), s	6.8	19.3	5.4		26.1	0.0
Change Period (Y+Rc), s	4.4	* 6.2	4.9		6.2	4.9
Max Green Setting (Gmax), s	5.1	* 24	26.0		32.9	26.0
Max Q Clear Time (g_c+I1), s	3.9	6.2	2.2		4.1	0.0
Green Ext Time (p_c), s	0.0	6.5	0.0		6.6	0.0

Intersection Summary	
HCM 6th Ctrl Delay	6.6
HCM 6th LOS	A

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	97	782	97	0	762
Future Vol, veh/h	0	97	782	97	0	762
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	105	850	105	0	828

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	498	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	515	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	505	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	505	-
HCM Lane V/C Ratio	-	-	0.209	-
HCM Control Delay (s)	-	-	14	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.8	-