Silver Oak Apartments
Carson City, NV

TRAFFIC IMPACT STUDY

DRAFT REPORT

Prepared For:

Alta Consulting, Ltd.

Prepared By

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

1361 Corporate Boulevard
Reno, NV 89502
(775) 823-4068

Bryan Gant, PE
Digitally signed by Bryan Gant, PE
Contact Info: 702-220-3680
Date: 2022.11.29 09:45:53-08'00'

PROFESSIONAL ENGINEER-STATE OF NEVADA
BRYAN C. GANT
EXP: 06/30/23
CIVIL
No. 15498

11/29/202

November 2022

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EXECUTIVE SUMMARY

PROJECT DESCRIPTION

The proposed Project is located on a currently undeveloped site within the southeast quadrant of the GS Richards Boulevard and Silver Oak Drive intersection. The property is currently zoned Retail Commercial, and a Special Use Permit (SUP) is required to allow multi-family use within the existing zoning. The Project consists of a total of 178 multi-family dwelling units and a recreation center for residents. The Project would gain access to the surrounding roadway network via two new stop-controlled Project Driveways intersecting with GS Richards Boulevard.

The proposed Project is estimated to generate a total of 1,216 daily trips with 78 AM peak-hour trips (19 inbound and 59 outbound) and 97 PM peak-hour trips (61 inbound and 36 outbound).

PROJECT-RELATED DEFICIENCIES AND IMPROVEMENTS

The intersection of North Carson Street & Silver Oak Drive is projected to operate at LOS E or F under all study scenarios. This intersection does not currently meet peak hour signal warrants nor is it projected to meet the peak hour signal warrant under future scenarios or with the addition of Project trips. However, this intersection is projected to meet 8-Hour Signal Warrant #1 under both Cumulative 2035 and 2045 conditions with and without the addition of Project trips. This intersection is projected to operate at acceptable LOS with installation of a traffic signal. Therefore, it is recommended that the Project provide a fair share contribution towards installing a traffic signal at the location in the future.

The remaining study intersections are projected to operate at acceptable LOS (LOS D or better) under all scenarios analyzed.

The study roadway segment of GS Richards Boulevard between Silver Oak Drive and West College Parkway is projected to operate at acceptable LOS D or better under all study scenarios.

The existing available storage space is projected to accommodate queues under all study scenarios.

The project is not anticipated to have any adverse effects on bicycle, pedestrian, or transit facilities. It is recommended that the Project construct curb ramps to provide connectivity to the existing sidewalk network.

PROJECT ACCESS AND INTERNAL CIRCULATION

Based upon a review of the Project site, the Project driveway corner site distance, emergency access, parking, and site internal circulation are considered adequate.

COLLISION HISTORY

Five years of crash data (2015 –2019) was obtained from NDOT to identify potential safety concerns at study intersections (pre-pandemic). The study intersections experienced a total of 43 collisions from 2015 to 2019, with the intersection of North Carson Street & West College Parkway experiencing the highest number of crashes (33) and the GS Richards Boulevard & Silver Oak Drive intersection experiencing zero crashes. The most common severity type was Property Damage Only with 31 total crashes, followed by Injury Accidents with 9 crashes. One fatality crash was reported at the North Carson Street & West College Parkway intersection. The most common recorded crash types were Rear-End and Angle type collisions.

1. INTRODUCTION

This report has been prepared to present the results of the Traffic Impact Study (TIS) performed by Wood Rodgers, Inc for the proposed Silver Oak Apartments Project (Project) located in Carson City, Nevada (City). The Project location is shown in **Figure 1**. The analysis has been performed to determine any significant impacts the proposed Project may cause on surrounding transportation facilities and identify potential improvement measures.

1.1 PROJECT DESCRIPTION

The proposed Project is located on a currently undeveloped site within the southeast quadrant of the GS Richards Boulevard and Silver Oak Drive intersection. The property is currently zoned Retail Commercial, and a Special Use Permit (SUP) is required to allow multi-family use within the existing zoning. The Project consists of a total of 178 multi-family dwelling units and a recreation center for residents. The Project would gain access to the surrounding roadway network via two new stop-controlled Project Driveways intersecting with GS Richards Boulevard. The Project site plan is depicted in in **Figure 2**.

1.2 STUDY AREA

Study facilities include the intersections and roadway segment described below.

1.2.1 Intersections

The following six (6) existing and proposed study intersections were analyzed in this TIS:

1. GS Richards Boulevard & Silver Oak Drive
2. North Carson Street & Silver Oak Drive
3. GS Richards Boulevard & West College Parkway
4. North Carson Street & West College Parkway
5. GS Richards Boulevard & Project Driveway 1
6. GS Richards Boulevard & Project Driveway 2

1.2.2 Roadway Segments

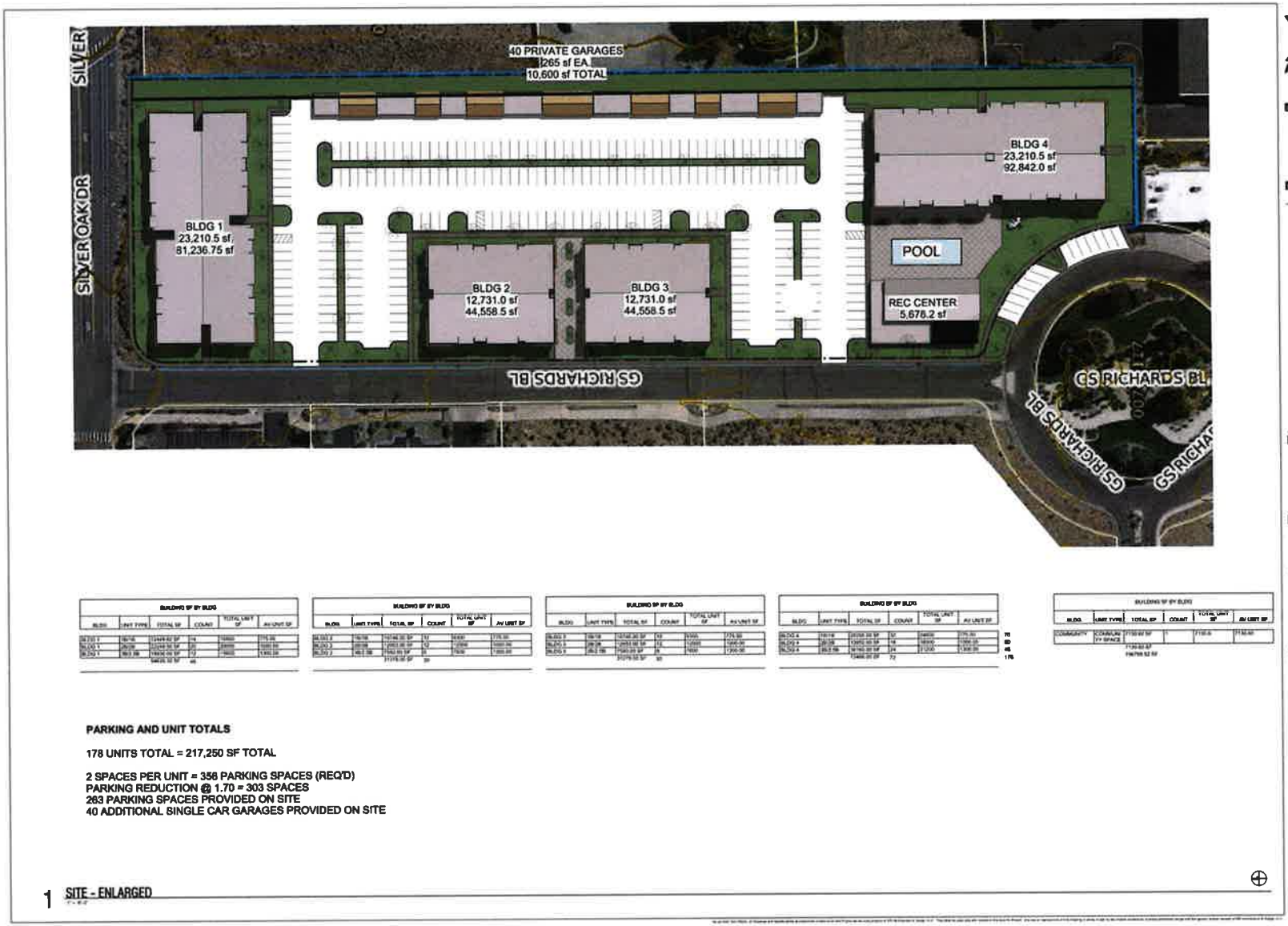
The following roadway segment was analyzed in this TIS:

1. GS Richards Boulevard between Silver Oak Drive and West College Parkway

The locations of the above study facilities are shown in **Figure 1**.

Figure 1. Project Location and Study Facilities

Figure 2. Project Site Plan



1.3 Analysis Scenarios

The study intersections were evaluated under weekday AM and PM peak hour conditions for the following scenarios:

- **Existing Conditions:** Existing traffic volumes from collected traffic counts. Existing conditions assume current lane geometry and traffic control.
- **Existing Plus Project Conditions:** Existing traffic volumes plus traffic projected to be generated by the proposed Project.
- **Cumulative 2035 Conditions:** Represents a future year (2035) condition determined using outputs from the Carson Area metropolitan Planning Organization (CAMPO) Travel Demand Model.
- **Cumulative 2035 Plus Project Conditions:** Cumulative 2035 traffic volumes plus traffic generated by the proposed Project.
- **Cumulative 2045 Conditions:** Represents a future year (2045) condition determined using outputs from the CAMPO Travel Demand Model.
- **Cumulative 2045 Plus Project Conditions:** Cumulative 2045 traffic volumes plus traffic generated by the proposed Project.

1.4 Analysis Methods

Traffic operations in this TIS have been quantified through the determination of "Level of Service" (LOS). Level of Service is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an intersection or roadway segment, representing progressively worsening traffic operations. LOS "A" represents free-flow conditions with little to no delays, while LOS "F" represents jammed or grid-lock conditions.

1.4.1 Intersections

Intersection LOS has been calculated for all intersection control types using methods documented in the Transportation Research Board Publication *Highway Capacity Manual, 6th Edition* (*HCM 6*) (Transportation Research Board, 2016). The calculated intersection delays correspond to the LOS designations shown in **Table 1**, which were derived from Exhibits 19-8 and 20-2 of the *Highway Capacity Manual, 6th Edition* (HCM 6th Edition).

Table 1. HCM 6th Edition Based Intersection LOS Thresholds

Level of Service	Description	Intersection Control Delay (seconds/vehicle)	
		Unsignalized	Signalized
A	Free-flow conditions with negligible to minimal delays.	delay ≤ 10.0	delay ≤ 10.0
B	Good progression with slight delays.	10.0 < delay ≤ 15.0	10.0 < delay ≤ 20.0
C	Relatively higher delays.	15.0 < delay ≤ 25.0	20.0 < delay ≤ 35.0
D	Somewhat congested conditions with longer but tolerable delays.	25.0 < delay ≤ 35.0	35.0 < delay ≤ 55.0
E	Congested conditions with significant delays.	35.0 < delay ≤ 50.0	55.0 < delay ≤ 80.0
F	Jammed or grid-lock type operating conditions.	delay > 50.0	delay > 80.0
Source: HCM 6th Edition Exhibit 19-8 and 20-2.			

HCM 6th Edition reports were generated to determine the delay and LOS at the study intersections in Synchro software.

1.4.2 Roadway Segments

For the purposes of this study, the Tuolumne County, California standards were utilized as Carson City does not currently have standards for roadway segment volumes and Tuolumne County, California is a rural county that closely resembles Carson City. Tuolumne County thresholds for maximum two-way Average Daily Traffic (ADT) for each facility type are contained in **Appendix A**. Roadway type for the study roadway segment was determined to most closely match the "2-Lane Local Street" classification.

1.4.3 Signal Warrants

The Manual on Uniform Traffic Control Devices (MUTCD) (revised March 30, 2021) Figure 4C-4, Peak Hour Signal Warrant #3 (70% Factor – Community Less Than 10,000 population or Above 40 mph on Major Street) was used to determine if a traffic signal is warranted at the unsignalized study intersections under peak hour conditions. The 8-Hour Signal Warrant #1 was also analyzed to determine if a signal is warranted at the Carson Street & Silver Oak Drive intersection.

1.5 Level of Service Standards and Deficiency Criteria

1.5.1 Roadway and Intersection Level of Service Deficiency Criteria

The Carson City Development Standards (CCSD) state that Carson City aims to have all intersections and roadway segments achieve at least LOS "D".

1.6 Report Organization

This report intends to fulfill the requirements outlined in the CCDS Section 12.13. This report is divided into the following chapters:

- **Chapter 2: Existing Conditions** – Describes existing conditions and operations of the study area intersections, transit system, pedestrian facilities, and bicycle facilities.
- **Chapter 3: Existing Plus Project Conditions** – Describes the methods used to estimate and distribute Project generated traffic and the resulting study intersections operations under Existing Plus Project conditions.
- **Chapter 4: Cumulative 2035 Conditions** – Describes Cumulative 2035 conditions and operations of the study facilities.
- **Chapter 5: Cumulative 2035 Plus Project Conditions** – Describes Cumulative 2035 conditions and operations of the study facilities.
- **Chapter 6: Cumulative 2045 Conditions** – Describes Cumulative 2035 conditions and operations of the study facilities.
- **Chapter 7: Cumulative 2045 Plus Project Conditions** – Describes Cumulative 2035 conditions and operations of the study facilities.
- **Chapter 8: Roadway Segment Operations** – Describes the study roadway segment operations under all analysis scenarios.
- **Chapter 9: Queueing Analysis**– Describes the projected queues at the study area facilities for all analysis scenarios.
- **Chapter 10: 8-Hour Signal Warrant Analysis** – Describes the 8-hour signal warrant analysis performed for the Carson Street & Silver Oak Drive intersection.
- **Chapter 11: Project-Related Deficiencies and Improvements** – Describes the projected Project-related deficiencies at study area facilities and presents potential improvements.
- **Chapter 12: Site Access and Circulation** – Describes site access, on-site circulation, parking, and sight distance considerations for the Project site.
- **Chapter 13: Study Area Crash History** – Discusses the study area crash history.

2. EXISTING CONDITIONS

This chapter describes the Existing roadway network, transit services, pedestrian facilities, and bicycle facilities within the study area. It also presents Existing traffic volumes at study facilities and traffic operations under Existing weekday AM and PM peak hour conditions.

2.1 EXISTING ROADWAY NETWORK

This section provides descriptions of the study area roadways.

North Carson Street (US 395) is a four-lane roadway with a raised center median that extends north-south through the City. The Nevada Department of Transportation (NDOT) functional classification for the roadway is Minor Arterial. The posted speed limit within the study area is 45 miles per hour (mph).

West College Parkway is a two-lane local roadway west of GS Richards Boulevard and a four-lane roadway east of GS Richards Boulevard. West College Parkway has a functional classification of Minor Arterial east of North Carson Street and a functional classification of Minor Collector west of North Carson Street. The posted speed limit within the study area is 30 mph west of North Carson Street and 40 mph east of North Carson Street.

Silver Oak Drive is an east-west two-lane local roadway with a posted speed limit of 25 mph.

GS Richards Boulevard is a north-south two-lane local roadway an assumed speed limit of 25 mph.

2.2 EXISTING PEDESTRIAN FACILITIES

Pedestrian sidewalks are present intermittently on Project area roadways. Marked pedestrian crossings and curb ramps exist on the west leg of the GS Richards Boulevard & Silver Oak Drive intersection; the west, east, and north legs of the North Carson Street & Silver Oak Drive intersection; the west leg of the GS Richards Boulevard & West College Parkway intersection; and all legs of the North Carson Street & West College Parkway intersection.

2.3 EXISTING BICYCLE FACILITIES

Striped Class II Bike Lanes are present on both sides of Silver Oak Drive and West College Parkway within the Project area.

2.4 EXISTING TRANSIT SERVICE

Jump Around Carson (JAC) provides public transit service within Carson City. JAC buses operate Monday through Friday from 6:30 AM to 7:30 PM, and on Saturdays from 8:30 AM to 4:30 PM. The closest bus stops to the Project are located on northbound North Carson Street north of Silver Oak Drive (roughly 0.17 miles from the Project site) and on eastbound and westbound West College Parkway between GS Richards Boulevard and North Carson Street (roughly 0.35 miles from the Project site). Project area bus stops serve routes 1, 2A, and 2B.

2.5 EXISTING INTERSECTION TRAFFIC VOLUMES AND LANE GEOMETRICS

Intersection traffic operations were evaluated for the weekday AM and PM peak hours. The AM peak hour is defined as the highest one hour of traffic flow counted between 7:00 AM and 9:00 AM on a typical weekday. The PM peak hour is defined as the highest one hour of traffic flow counted between 4:00 PM and 6:00 PM on a typical weekday. AM and PM peak hour traffic counts for the four (4) existing study intersections were collected on Tuesday, September 20, 2022. Traffic count data is provided in **Appendix B**.

Figure 3 illustrates Existing intersection lane geometrics and control for the study area intersections. **Figure 4** depicts Existing conditions turning movements volumes for AM and PM weekday peak hours.

2.6 Existing Intersection Operations

Table 2 presents Existing study intersection traffic operations under Existing intersection lane geometrics and control (illustrated in **Figure 3**) and Existing traffic volumes (illustrated in **Figure 4**). All study intersection traffic operations were calculated using Synchro 11 software.

Table 2. Existing Intersection Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Existing Conditions		
					Delay (sec)[2]	LOS[2]	Warrant Met?[3]
1	GS Richards Blvd & Silver Oak Dr	OWSC	D	AM	9.5	A	No
				PM	8.8	A	No
2	N Carson St & Silver Oak Dr	TWSC	D	AM	**35.8**	**E**	No
				PM	**43.8**	**E**	No
3	GS Richards Blvd & W College Pkwy	OWSC	D	AM	9.3	A	No
				PM	6.1	A	No
4	N Carson St & W College Pkwy	Signal	D	AM	24.0	C	-
				PM	24.5	C	-

Notes:
***Bold** values indicate LOS and Delay do not meet the minimum criteria.*
[1] OWSC = One-Way Stop-Controlled, TWSC = Two-Way Stop-Controlled
[2] For signalized intersections, the average delay is reported. For TWSC and OWSC, the worst-case approach/movement delay and LOS is reported.
[3] MUTCD Peak Hour Signal Warrant #3

As shown in **Table 2**, all study intersections operate at acceptable LOS conditions under Existing conditions except for North Carson Street & Silver Oak Drive, which is currently operating at LOS E under AM and PM peak hour conditions. Peak Hour Signal Warrant #3 is not currently met at any unsignalized study intersections. Synchro software intersection LOS output reports are included in **Appendix C**. Signal warrant worksheets are provided in **Appendix D**.

Figure 3. Existing Intersection Lane Geometrics and Control

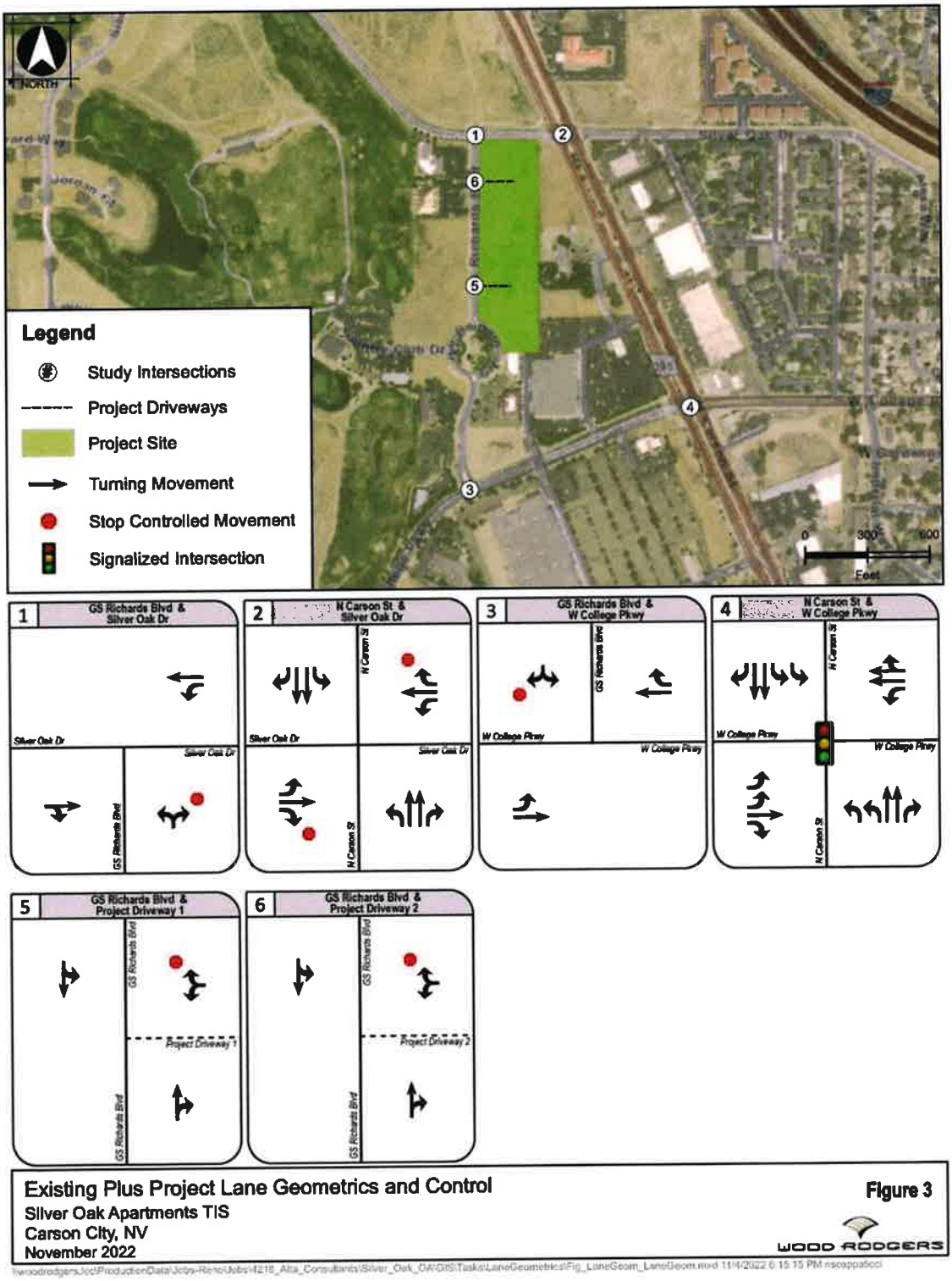
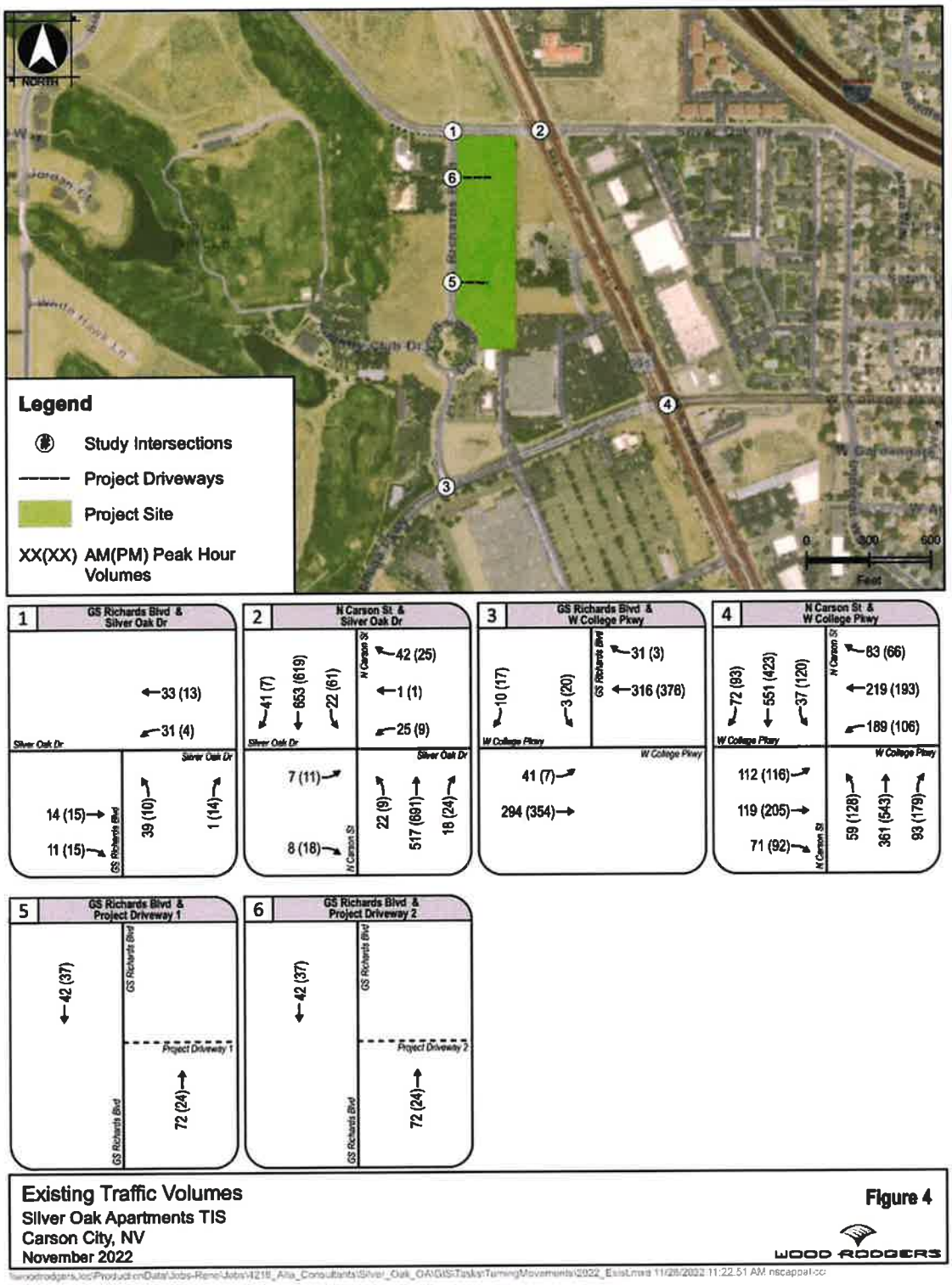


Figure 4. Existing Intersection Turning Movement Volumes



3. EXISTING PLUS PROJECT CONDITIONS

This chapter provides a description of the proposed Project, a discussion of the trip generation and distribution/assignment methods used to come up with Project trips at study intersections, and an analysis of projected traffic operations and deficiencies under Existing Plus Project conditions.

3.1 PROJECT SITE

3.1.1 Project Site Description

The Project site consists of four buildings with a total of 178 multi-family dwelling units and a 5,678 square foot recreation center for resident use. The property is currently zoned Retail Commercial, and a SUP is required to allow multi-family use within the existing zoning. The Project site plan is provided in **Figure 2.**

The Project would gain access to the roadway network via two proposed driveway intersections with GS Richards Boulevard.

3.2 PROJECT GENERATED TRIPS

3.2.1 Trip Generation

The trip generation data contained in the *Institute of Transportation Engineers (ITE) Trip Generation Manual*, 11th Edition was used to approximate the number of trips generated by the Project. The ITE land use category of Multifamily Housing (Low-Rise) (ITE Code 220) was used to represent the Project. **Table 3** shows the Project trip generation.

Table 3. Project Trip Generation

ITE Code	Land Use Category	Quantity	Units	Daily Trips[1]	AM Peak Hour[1]			PM Peak Hour[1]		
					In	Out	Total	In	Out	Total
220	Multifamily Housing (Low-Rise)	178	DU[4]	1,216	19	59	78	61	36	97

Notes:
[1] The daily trip rate is based on fitted curve equations contained in the ITE Trip Generation Manual, 11th Edition.
[2] DU

As shown in **Table 3**, the proposed Project is estimated to generate a total of 1,216 daily trips with 78 AM peak-hour trips (19 inbound and 59 outbound) and 97 PM peak-hour trips (61 inbound and 36 outbound).

3.2.2 Trip Distribution and Assignment

The Project trip distribution was determined based on existing traffic counts and travel patterns, knowledge of the area, and engineering judgement. Project trip distribution and assignment is shown in **Figure 5**. **Figure 6** shows Existing Plus Project traffic volumes.

Figure 5. Project-Only Traffic Volumes and Trip Distribution

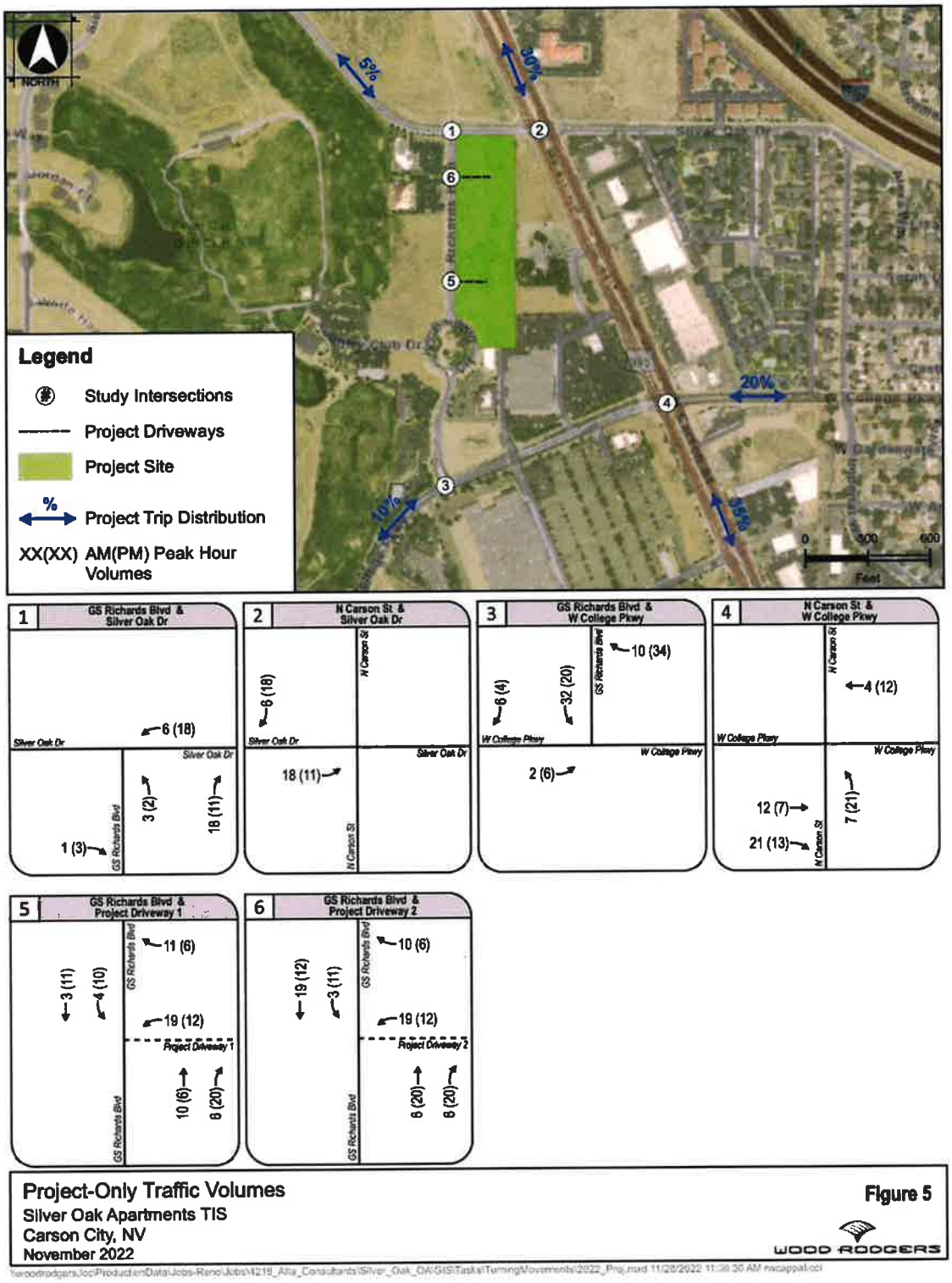
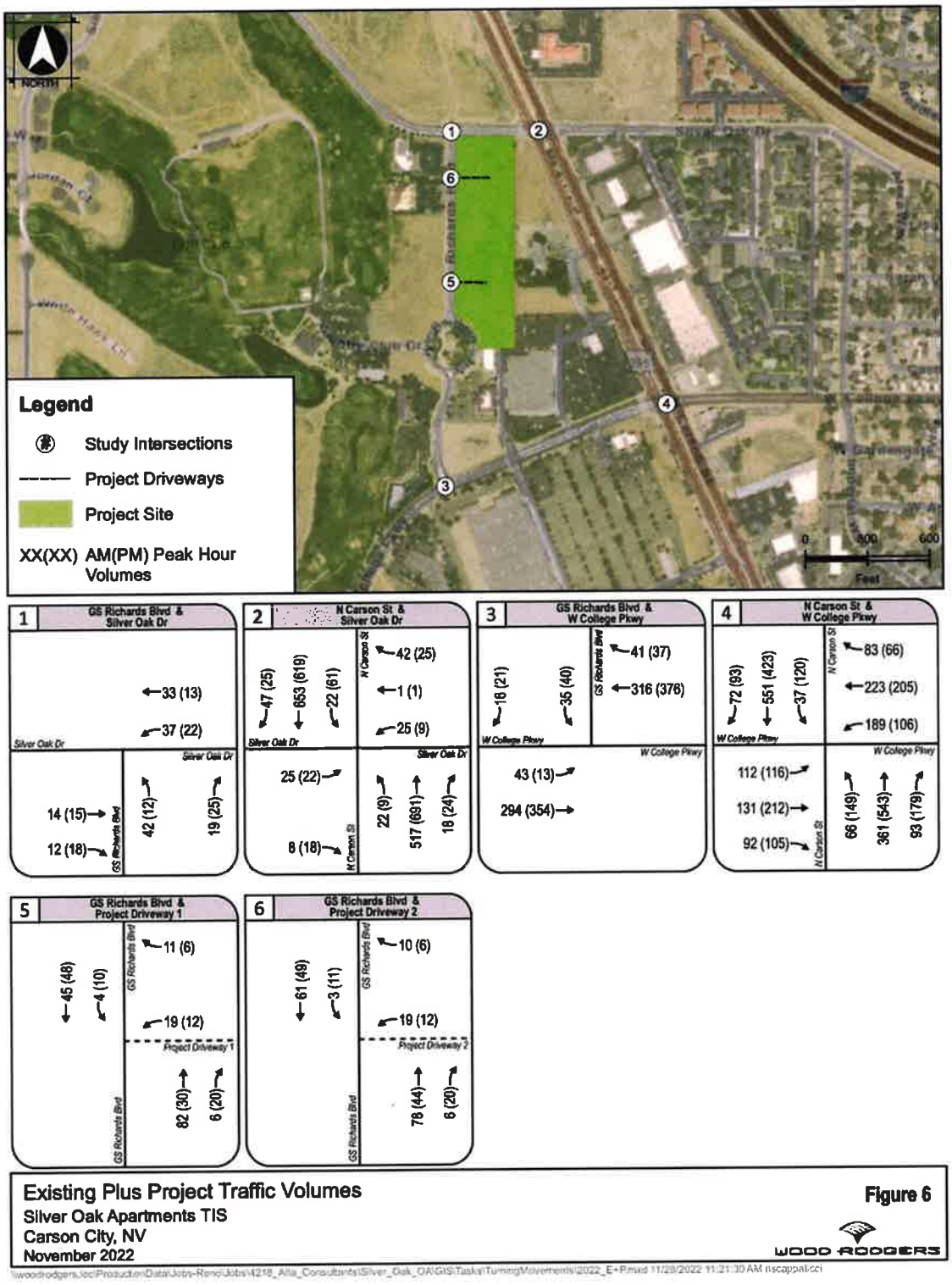


Figure 6. Existing Plus Project Traffic Volumes



Existing Plus Project Traffic Volumes — **Figure 6**
Silver Oak Apartments TIS
Carson City, NV
November 2022
WOOD RODGERS

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3.3 EXISTING PLUS PROJECT INTERSECTION OPERATIONS

The Project trips were added to Existing turning movement volumes at the study intersections to develop Existing Plus Project turning movement volumes. **Table 4** presents Existing Plus Project study intersection traffic operations under Existing intersection lane geometrics and control (illustrated in **Figure 3**) and Existing Plus Project traffic volumes (illustrated in **Figure 6**). **Table 4** also contains Existing conditions intersection delays and LOS for comparison purposes. All study intersection traffic operations were calculated using Synchro 11 software.

Table 4. Existing Plus Project Intersection Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Existing			Existing Plus Project		
					Delay (sec/ veh)[2]	LOS[2]	Warrant Met?[3]	Delay (sec/ veh)[2]	LOS[2]	Warrant Met?[3]
1	GS Richards Blvd & Silver Oak Dr	OWSC	D	AM	9.5	A	No	9.4	A	No
				PM	8.8	A	No	9.0	A	No
2	N Carson St & Silver Oak Dr	TWSC	D	AM	**35.8**	**E**	No	**37.4**	**E**	No
				PM	**43.8**	**E**	No	**44.6**	**E**	No
3	GS Richards Blvd & W College Pkwy	OWSC	D	AM	9.3	A	No	9.1	A	No
				PM	6.1	A	No	5.8	A	No
4	N Carson St & W College Pkwy	Signal	D	AM	24.0	C	-	24.5	C	-
				PM	24.5	C	-	24.8	C	-
5	GS Richards Blvd & Project Driveway 1	OWSC	D	AM	-	-	-	9.2	A	No
				PM	-	-	-	9.0	A	No
6	GS Richards Blvd & Project Driveway 2	OWSC	D	AM	-	-	-	9.3	A	No
				PM	-	-	-	9.1	A	No

Notes:
***Bold** values indicate LOS and Delay do not meet the minimum criteria.*
[1] OWSC = One-Way Stop-Controlled, TWSC = Two=Way Stop-Controlled
[2] For signalized intersections, the average delay is reported. For TWSC and OWSC, the worst-case approach/movement delay and LOS is reported.
[3] MUTCD Peak Hour Signal Warrant #3

As shown in **Table 4**, all study intersections are projected to operate at acceptable LOS conditions under Existing Plus Project conditions except for North Carson Street & Silver Oak Drive, which is projected to operate at LOS E under AM and PM peak hour conditions. Peak Hour Signal Warrant #3 is not projected to be met at any unsignalized study intersections. Synchro software intersection LOS output reports are included in **Appendix C**. Signal warrant worksheets are provided in **Appendix D**.

4. CUMULATIVE 2035 CONDITIONS

This chapter describes the Cumulative 2035 conditions roadway network, traffic volumes, and traffic operations at study facilities.

4.1 CUMULATIVE 2035 VOLUMES

Cumulative 2035 conditions represent a future year scenario that includes traffic from planned development in the region. The CAMPO TDM was used to obtain 2035 volumes at the study facilities. Land use growth within the Project Traffic Analysis Zone (TAZ) and TAZ's surrounding the Project area are consistent with planned growth in the area, including residential development as part of the Silver Oak Planned unit Development phases to the west of the Project and commercial and residential development within the Project vicinity. Yearly growth rates for AM peak hour, PM peak hour, and Daily time periods were calculated based on Base Year 2020 and Constrained 2050 model link volumes. Growth rates of 0.92% per year for the AM peak hour and 0.70% per year for the PM peak hour were applied to Existing (2022) traffic volumes to obtain Cumulative 2035 conditions volumes. Traffic from single family home developments within Silver Oak Parcels CC, DD, and EE were also added to study facilities under Cumulative 2035 conditions based on volumes found in the *Traffic Analysis at the Carson Street/Silver Oak Drive Intersection* ("*Carson Street/Silver Oak Drive Signal Warrant Memorandum*", Solaegui Engineers, January 13, 2020) report. The roadway network was assumed to have the same configuration under Cumulative 2035 conditions as Existing conditions. **Figure 7** illustrates Cumulative 2035 traffic volumes.

4.2 CUMULATIVE 2035 INTERSECTION OPERATIONS

Cumulative 2035 intersection operations were quantified under Cumulative 2035 traffic volumes (shown in **As shown** in **Table 5**, all study intersections are projected to operate at acceptable LOS conditions under Cumulative 2035 conditions except for North Carson Street & Silver Oak Drive, which is projected to operate at LOS E during the AM peak hour and LOS F during the PM peak hour. Peak Hour Signal Warrant #3 is not projected to be met at any unsignalized study intersections. Synchro software intersection LOS output reports are included in **Appendix C**. Signal warrant worksheets are provided in **Appendix D**.

Figure 7) and Existing intersection lane geometrics and control (shown in **Figure 3**). **Table 5** illustrates the resulting Cumulative 2035 intersection LOS operations. All study intersection traffic operations were calculated using Synchro 11 software.

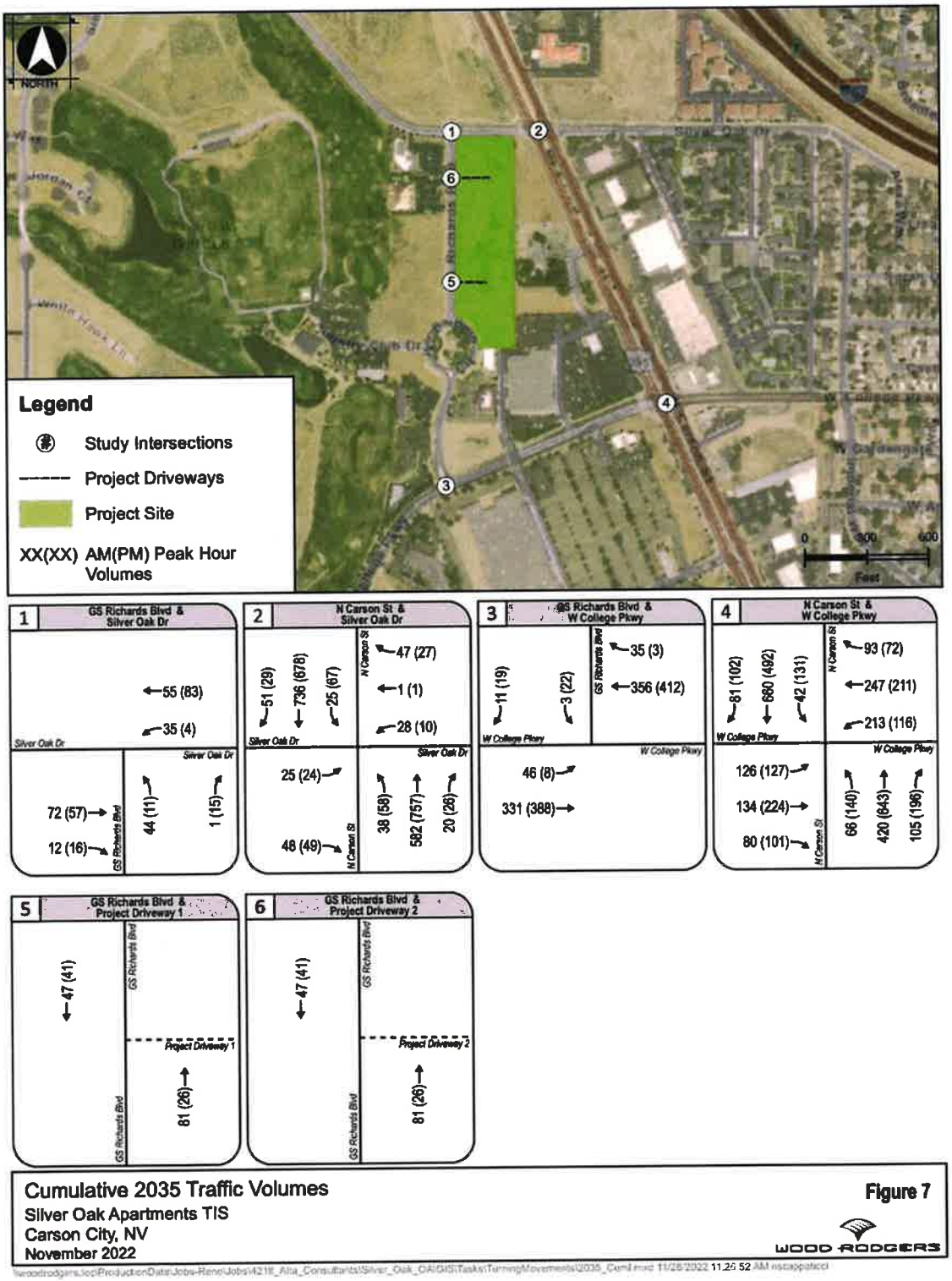
Table 5. Cumulative 2035 Intersection Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Cumulative 2035		
					Delay (sec)[2]	LOS[2]	Warrant Met?[3]
1	GS Richards Blvd & Silver Oak Dr	OWSC	D	AM	9.8	A	No
				PM	9.0	A	No
2	N Carson St & Silver Oak Dr	TWSC	D	AM	**47.6**	**E**	No
				PM	**71.6**	**F**	No
3	GS Richards Blvd & W College Pkwy	OWSC	D	AM	9.3	A	No
				PM	6.0	A	No
4	N Carson St & W College Pkwy	Signal	D	AM	25.2	C	-
				PM	26.0	C	-

Notes:
***Bold** values indicate LOS and Delay do not meet the minimum criteria.*
[1] OWSC = One-Way Stop-Controlled, TWSC = Two-Way Stop-Controlled
[2] For signalized intersections, the average delay is reported. For TWSC and OWSC, the worst-case approach/movement delay and LOS is reported.
[3] MUTCD Peak Hour Signal Warrant #3

As shown in **Table 5**, all study intersections are projected to operate at acceptable LOS conditions under Cumulative 2035 conditions except for North Carson Street & Silver Oak Drive, which is projected to operate at LOS E during the AM peak hour and LOS F during the PM peak hour. Peak Hour Signal Warrant #3 is not projected to be met at any unsignalized study intersections. Synchro software intersection LOS output reports are included in **Appendix C**. Signal warrant worksheets are provided in **Appendix D**.

Figure 7. Cumulative 2035 Traffic Volumes



5. CUMULATIVE 2035 PLUS PROJECT CONDITIONS

This chapter provides a description of analysis of projected traffic operations and impacts under Cumulative 2035 Plus Project conditions.

5.1 CUMULATIVE 2035 PLUS PROJECT INTERSECTION OPERATIONS

Project trips were added to Cumulative 2035 base volumes to obtain Cumulative 2035 Plus Project conditions volumes. **Figure 8** provides the Cumulative 2035 Plus Project volumes.

Cumulative 2035 Plus Project intersection operations were evaluated under Existing intersection lane geometrics and traffic control (illustrated in **Figure 3**) and Cumulative 2035 Plus Project traffic volumes. Intersection operations are shown in **Table 6**. **Table 6** also contains Cumulative 2035 conditions intersection delays and LOS for comparison purposes. All study intersection traffic operations were calculated using Synchro 11 software.

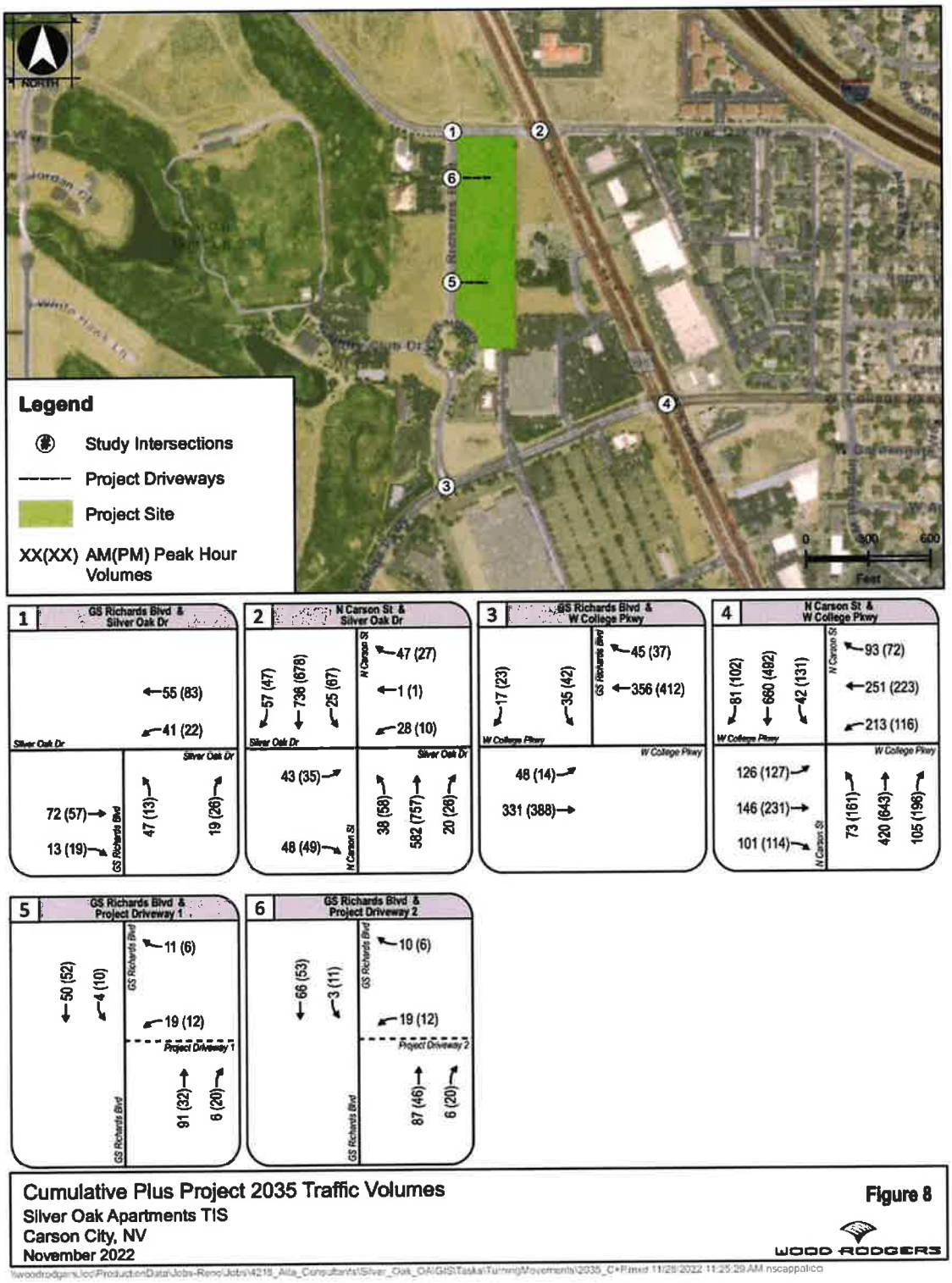
Table 6. Cumulative 2035 Plus Project Intersection Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Cumulative 2035			Cumulative 2035 Plus Project		
					Delay (sec/ veh)[2]	LOS[2]	Warrant Met?[3]	Delay (sec/ veh)[2]	LOS[2]	Warrant Met?[3]
1	GS Richards Blvd & Silver Oak Dr	OWSC	D	AM	9.8	A	No	9.7	A	No
				PM	9.0	A	No	9.1	A	No
2	N Carson St & Silver Oak Dr	TWSC	D	AM	**47.6**	**E**	No	**59.2**	**F**	No
				PM	**71.6**	**F**	No	**87.2**	**F**	No
3	GS Richards Blvd & W College Pkwy	OWSC	D	AM	9.3	A	No	9.2	A	No
				PM	6.0	A	No	5.9	A	No
4	N Carson St & W College Pkwy	Signal	D	AM	25.2	C	-	25.7	C	-
				PM	26.0	C	-	26.4	C	-
5	GS Richards Blvd & Project Driveway 1	OWSC	D	AM	-	-	-	9.3	A	No
				PM	-	-	-	9.0	A	No
6	GS Richards Blvd & Project Driveway 2	OWSC	D	AM	-	-	-	9.4	A	No
				PM	-	-	-	9.1	A	No

Notes:
***Bold** values indicate LOS and Delay do not meet the minimum criteria.*
[1] OWSC = One-Way Stop-Controlled, TWSC = Two=Way Stop-Controlled
[2] For signalized intersections, the average delay is reported. For TWSC and OWSC, the worst-case approach/movement delay and LOS is reported.
[3] MUTCD Peak Hour Signal Warrant #3

As shown in **Table 6**, all study intersections are projected to operate at acceptable LOS conditions under Cumulative 2035 Plus Project conditions except for North Carson Street & Silver Oak Drive, which is projected to operate at LOS E during the AM peak hour and LOS F during the PM peak hour. Peak Hour Signal Warrant #3 is not projected to be met at any unsignalized study intersections. Synchro software intersection LOS output reports are included in **Appendix C**. Signal warrant worksheets are provided in **Appendix D**.

Figure 8. Cumulative 2035 Plus Project Traffic Volumes



6. CUMULATIVE 2045 CONDITIONS

This chapter describes the Cumulative 2045 conditions roadway network, traffic volumes, and traffic operations at study facilities.

6.1 CUMULATIVE 2045 VOLUMES

Cumulative 2045 conditions represent a future year scenario that includes traffic from planned development in the region. The same methodology and growth rates used for calculating Cumulative 2035 volumes were used to obtain Cumulative 2045 volumes. Traffic from single family home developments within Silver Oak Parcels CC, DD, and EE were also added to study facilities under Cumulative 2045 conditions based on volumes found in the *Carson Street/Silver Oak Drive Signal Warrant Memorandum*. The roadway network was assumed to have the same configuration under Cumulative 2045 conditions as Existing conditions. **Figure 9** illustrates Cumulative 2045 traffic volumes.

6.2 CUMULATIVE 2045 INTERSECTION OPERATIONS

Cumulative 2045 intersection operations were quantified under Cumulative 2045 traffic volumes (shown in **Figure 9**) and Existing intersection lane geometrics and control (shown in **Figure 3**). **Table 7** illustrates the resulting Cumulative 2045 intersection LOS operations. All study intersection traffic operations were calculated using Synchro 11 software.

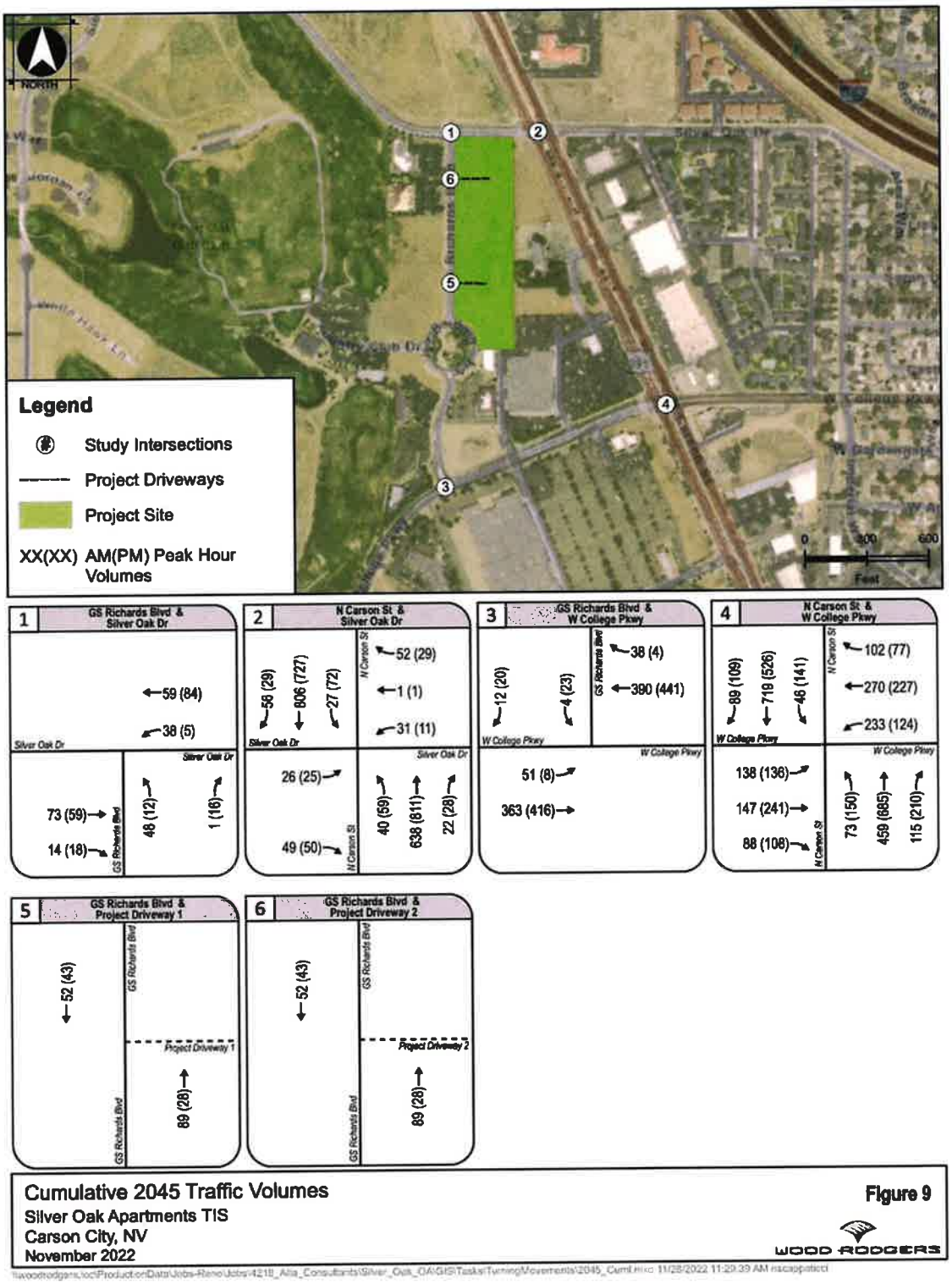
Table 7. Cumulative 2045 Intersection Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Cumulative 2045		
					Delay (sec)[2]	LOS[2]	Warrant Met?[3]
1	GS Richards Blvd & Silver Oak Dr	OWSC	D	AM	9.9	A	No
				PM	9.0	A	No
2	N Carson St & Silver Oak Dr	TWSC	D	AM	**63.2**	**F**	No
				PM	**93.4**	**F**	No
3	GS Richards Blvd & W College Pkwy	OWSC	D	AM	11.4	B	No
				PM	12.5	B	No
4	N Carson St & W College Pkwy	Signal	D	AM	26.8	C	-
				PM	27.5	C	-

Notes:
***Bold** values indicate LOS and Delay do not meet the minimum criteria.*
[1] OWSC = One-Way Stop-Controlled, TWSC = Two-Way Stop-Controlled
[2] For signalized intersections, the average delay is reported. For TWSC and OWSC, the worst-case approach/movement delay and LOS is reported.
[3] MUTCD Peak Hour Signal Warrant #3

As shown in **Table 7**, all study intersections are projected to operate at acceptable LOS conditions under Cumulative 2045 conditions except for North Carson Street & Silver Oak Drive, which is projected to operate at LOS F during the AM and PM peak hours. Peak Hour Signal Warrant #3 is not projected to be met at any unsignalized study intersections. Synchro software intersection LOS output reports are included in **Appendix C**. Signal warrant worksheets are provided in **Appendix D**.

Figure 9. Cumulative 2045 Traffic Volumes



7. CUMULATIVE 2045 PLUS PROJECT CONDITIONS

This chapter provides a description of analysis of projected traffic operations and impacts under Cumulative 2045 Plus Project conditions.

7.1 CUMULATIVE 2045 PLUS PROJECT INTERSECTION OPERATIONS

Project trips were added to Cumulative 2045 base volumes to obtain Cumulative 2045 Plus Project conditions volumes. **Figure 10** provides the Cumulative 2045 Plus Project volumes.

Cumulative 2045 Plus Project intersection operations were evaluated under Existing intersection lane geometrics and traffic control (illustrated in **Figure 3**) and Cumulative 2045 Plus Project traffic volumes. Intersection operations are shown in **Table 8**. **Table 8** also contains Cumulative 2045 conditions intersection delays and LOS for comparison purposes. All study intersection traffic operations were calculated using Synchro 11 software.

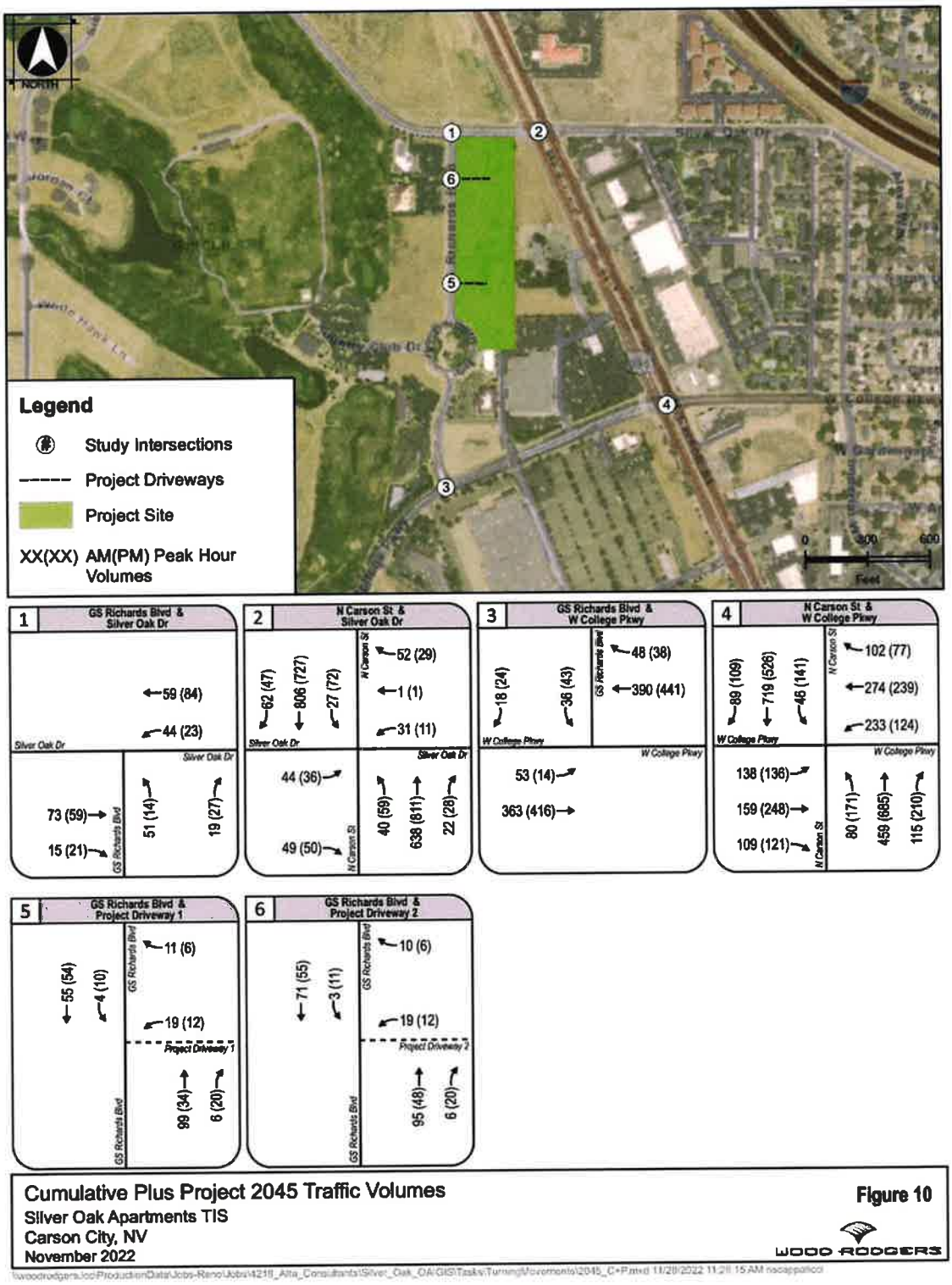
Table 8. Cumulative 2045 Plus Project Intersection Operations

#	Intersection	Control Type	LOS Criteria	Peak Hour	Cumulative 2045			Cumulative 2045 Plus Project		
					Delay (sec/ veh)[2]	LOS[2]	Warrant Met?[3]	Delay (sec/ veh)[2]	LOS[2]	Warrant Met?[3]
1	GS Richards Blvd & Silver Oak Dr	OWSC	D	AM	9.9	A	No	9.8	A	No
				PM	9.0	A	No	9.1	A	No
2	N Carson St & Silver Oak Dr	TWSC	D	AM	**63.2**	**F**	No	**84.9**	**F**	No
				PM	**93.4**	**F**	No	**119.4**	**F**	No
3	GS Richards Blvd & W College Pkwy	OWSC	D	AM	11.4	B	No	12.8	B	No
				PM	12.5	B	No	13.2	B	No
4	N Carson St & W College Pkwy	Signal	D	AM	26.8	C	-	27.4	C	-
				PM	27.5	C	-	27.9	C	-
5	GS Richards Blvd & Project Driveway 1	OWSC	D	AM	-	A	-	9.4	A	No
				PM	-	A	-	9.1	A	No
6	GS Richards Blvd & Project Driveway 2	OWSC	D	AM	-	A	-	9.4	A	No
				PM	-	A	-	9.2	A	No

Notes:
***Bold** values indicate LOS and Delay do not meet the minimum criteria.*
[1] OWSC = One-Way Stop-Controlled, TWSC = Two=Way Stop-Controlled
[2] For signalized intersections, the average delay is reported. For TWSC and OWSC, the worst-case approach/movement delay and LOS is reported.
[3] MUTCD Peak Hour Signal Warrant #3

As shown in **Table 8**, all study intersections are projected to operate at acceptable LOS conditions under Cumulative 2035 Plus Project conditions except for North Carson Street & Silver Oak Drive, which is projected to operate at LOS E during the AM peak hour and LOS F during the PM peak hour. Peak Hour Signal Warrant #3 is not projected to be met at any unsignalized study intersections. Synchro software intersection LOS output reports are included in **Appendix C**. Signal warrant worksheets are provided in **Appendix D**.

Figure 10. Cumulative 2045 Plus Project Traffic Volumes



8. ROADWAY SEGMENT ANALYSIS

Roadway operations for the study roadway segment was evaluated against the capacity criteria shown in **Appendix A**. Roadway type for the study roadway segment was determined to most closely match the "2-Lane Local Street" classification, for which the minimum acceptable ADT is 11,400. The highest two-directional peak hour volume on the study segment of GS Richards Boulevard was assumed to be 10% of the segment's ADT. To find Cumulative 2035 and 2045 ADTs, a yearly growth rate of 0.68% was calculated based on Base Year 2020 and Constrained 2050 link volumes in the CAMPO TDM.

Table 9 shows the roadway segment operations under Existing, Cumulative 2035, and Cumulative 2045 base conditions.

Table 9. Existing, Cumulative 2035, and Cumulative 2045 Roadway Operations

Roadway Segment	Facility Type	Minimum LOS Standard	Maximum Volume for Acceptable LOS	Existing		Cumulative 2035		Cumulative 2045	
				ADT	LOS	ADT	LOS	ADT	LOS
GS Richards Blvd between Silver Oak Dr and W College Pkwy	2-Lane Local Street	D	11,400	850	A	928	A	993	A

Note:
Facility Type and Maximum Acceptable Volume for Acceptable LOS based on Table 2 of the Tuolumne County GP and RTP Update EIR Traffic Study (August 2015)

As shown in **Table 9**, the study roadway segment is not projected to operate unacceptably under Existing, Cumulative 2035, and Cumulative 2045 base conditions.

The Project would add a maximum of 790 daily trips to the study segment. **Table 10** show roadway segment operations under Existing Plus Project, Cumulative 2035 Plus Project, and Cumulative 2045 Plus Project conditions.

Table 10. Existing Plus Project, Cumulative 2035 Plus Project, and Cumulative 2045 Plus Project Roadway Operations

Roadway Segment	Facility Type	Minimum LOS Standard	Maximum Volume for Acceptable LOS	Project ADT	Existing Plus Project		Cumulative 2035 Plus Project		Cumulative 2045 Plus Project	
					ADT	LOS	ADT	LOS	ADT	LOS
GS Richards Blvd between Silver Oak Dr and W College Pkwy	2-Lane Local Street	D	11,400	790	1,640	A	1,718	A	1,783	A

Note:
Facility Type and Maximum Acceptable Volume for Acceptable LOS based on Table 2 of the Tuolumne County GP and RTP Update EIR Traffic Study (August 2015)

As shown in **Table 10**, the study roadway segment is not projected to operate unacceptably with the addition of Project trips.

9. QUEUING ANALYSIS

95th percentile vehicle queuing was analyzed at the study intersections for movements with turn pockets where the Project would add at least one peak hour trip. **Table 11** shows the available storage lengths and 95th percentile queues under all analysis scenarios.

As shown in **Table 11**, the existing available storage space is projected to accommodate queues under all study scenarios. Synchro queueing reports are contained in **Appendix C**.

Table 11. Queuing Analysis Results

Intersection	Movement	Storage (ft)[1]	95th Percentile Queues (ft)											
			Existing		Existing Plus Project		Cumulative 2035		Cumulative 2035 + Project		Cumulative 2045		Cumulative 2045 + Project	
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
#1 GS Richards Blvd & Silver Oak Dr	WBL	80	2	0	2	2	2	0	2	0	4	0	2	2
#2 N Carson St & Silver Oak Dr	NBL	395	2	0	2	0	4	4	4	4	4	6	4	6
	EBL	135	4	6	14	14	18	24	36	40	24	32	48	50
#3 W College Pkwy & GS Richards Blvd	EBL	115	2	0	4	0	2	0	2	0	4	0	4	0
	WBR	270	0	0	0	0	0	0	0	0	0	0	0	0
#4 W College Pkwy & N Carson St	NBL	300	55	98	60	111	60	106	64	120	64	115	70	129
	SBR	350	9	31	9	31	16	40	16	40	25	46	24	46
	EBR	260	7	24	27	36	15	32	35	44	22	39	42	49

Notes:
The length of a queued vehicle is assumed to be 20 feet.
[1]Storage reported is available queueing length within a turn pocket. Where multiple lanes exist for one movement, queue reported is the highest for that movement.

10. 8-HOUR SIGNAL WARRANT ANALYSIS

The North Carson Street & Silver Oak Drive intersection was further analyzed using 8-Hour Signal Warrant #1 to determine if a signal is warranted at this location. The 8-Hour Signal Warrant was previously analyzed at this intersection in the *Traffic Analysis at the Carson Street/Silver Oak Drive Intersection* ("*Carson Street/Silver Oak Drive Signal Warrant Memorandum*", Solaegui Engineers, January 13, 2020) report. The *Carson Street/Silver Oak Drive Signal Warrant Memorandum* determined that 8-Hour Signal Warrant #1 is not met under existing (2019) conditions and future year conditions.

This report provides an updated 8-Hour Signal Warrant #1 analysis using updated counts and forecasts. 12-hour Existing (2022) conditions volumes were obtained based on the 12-hour existing (2019) volumes found in the *Carson Street/Silver Oak Drive Signal Warrant Memorandum* and the 2022 peak hour counts collected for this TIS. Cumulative 2035 and Cumulative 2045 12-hour volumes were developed by applying yearly growth rates from the CAMPO TDM to the Existing (2022) conditions volumes and adding trips generated by the planned Silver Oak Parcels CC, DD, and EE developments. Project trips were then added to each hour based on the hourly trip distribution characteristics displayed in the planned Silver Oak Parcels CC, DD, and EE developments 12-hour volumes to obtain Existing Plus Project, Cumulative 2035 Plus Project, and Cumulative 2045 Plus Project 12-hour volumes.

The resulting 12-hour volumes for each scenario were analyzed against Table 4C-1 (Condition B) in the MUTCD. The volumes were analyzed against the following standards:

- The vehicles per hour given in both of the 100 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

As the posted speed limit on North Carson Street is 40 mph, the following condition was applied:

- If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 70 km/h or exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 70 percent columns in Table 4C-1 may be used in place of the 100 percent columns.

Therefore, if the both the total volume on the major street (North Carson Street) was greater than or equal to 630 vehicles per hour and the highest approach of the minor street (Silver Oak Drive) was greater than or equal to 70 vehicles per hour for at least eight of the 12-hour time periods, Signal Warrant #1 is considered met. **Tables 12** through **17** provide the 12-hour volumes and warrant results at the North Carston Street & Silver Oak Drive intersection for all study conditions.

As shown in **Tables 12** through **17**, Signal Warrant #1 is not met under Existing or Existing Plus Project conditions. Signal Warrant #1 is projected to be met under both Cumulative 2035 and 2045 conditions with and without the addition of Project trips.

Table 12. Existing Conditions - Signal Warrant #1

Existing Conditions				
Time Period	N Carson Street (Major Street)	Silver Oak Drive (Minor Street)		Meets Standard?
	Total	West Approach	East Approach	
6AM-7AM	541	13	41	No
7AM-8AM	1047	32	52	No
8AM-9AM	1269	15	68	No
9AM-10AM	1031	30	29	No
10AM-11AM	1128	38	29	No
11AM-12PM	1295	47	25	No
12PM-1PM	1237	34	25	No
1PM-2PM	1227	35	27	No
2PM-3PM	1204	36	35	No
3PM-4PM	1318	46	32	No
4PM-5PM	1409	29	35	No
5PM-6PM	1346	12	38	No
			TOTAL	**0**
			Warrant Met?	**No**

Table 13. Existing Plus Project Conditions - Signal Warrant #1

Existing Plus Project Conditions				
Time Period	N Carson Street (Major Street)	Silver Oak Drive (Minor Street)		Meets Standard?
	Total	West Approach	East Approach	
6AM-7AM	545	24	41	No
7AM-8AM	1054	55	52	No
8AM-9AM	1275	33	68	No
9AM-10AM	1035	42	29	No
10AM-11AM	1132	51	29	No
11AM-12PM	1308	60	25	No
12PM-1PM	1245	42	25	No
1PM-2PM	1235	44	27	No
2PM-3PM	1214	45	35	No
3PM-4PM	1330	55	32	No
4PM-5PM	1427	40	35	No
5PM-6PM	1362	20	38	No
			TOTAL	**0**
			Warrant Met?	**No**

Table 14. Cumulative 2035 Conditions - Signal Warrant #1

Cumulative 2035 Conditions				
Time Period	N Carson Street (Major Street)	Silver Oak Drive (Minor Street)		Meets Standard?
	Total	West Approach	East Approach	
6AM-7AM	655	42	46	No
7AM-8AM	1273	92	59	Yes
8AM-9AM	1506	60	77	Yes
9AM-10AM	1215	63	33	No
10AM-11AM	1320	73	33	Yes
11AM-12PM	1513	84	28	Yes
12PM-1PM	1414	68	27	No
1PM-2PM	1409	71	30	Yes
2PM-3PM	1395	73	38	Yes
3PM-4PM	1538	83	35	Yes
4PM-5PM	1686	73	38	Yes
5PM-6PM	1598	43	42	No
			TOTAL	**8**
			Warrant Met?	**Yes**

Table 15. Cumulative 2035 Plus Project Conditions - Signal Warrant #1

Cumulative 2035 Plus Project Conditions				
Time Period	N Carson Street (Major Street)	Silver Oak Drive (Minor Street)		Meets Standard?
	Total	West Approach	East Approach	
6AM-7AM	659	53	46	No
7AM-8AM	1280	115	59	Yes
8AM-9AM	1512	78	77	Yes
9AM-10AM	1219	75	33	Yes
10AM-11AM	1324	86	33	Yes
11AM-12PM	1526	97	28	Yes
12PM-1PM	1422	76	27	Yes
1PM-2PM	1417	80	30	Yes
2PM-3PM	1405	82	38	Yes
3PM-4PM	1550	92	35	Yes
4PM-5PM	1704	84	38	Yes
5PM-6PM	1614	51	42	No
			TOTAL	**10**
			Warrant Met?	**Yes**

Table 16. Cumulative 2045 Conditions - Signal Warrant #1

Cumulative 2045 Conditions				
Time Period	N Carson Street (Major Street)	Silver Oak Drive (Minor Street)		Meets Standard?
	Total	West Approach	East Approach	
6AM-7AM	714	43	51	No
7AM-8AM	1386	96	64	Yes
8AM-9AM	1643	62	84	Yes
9AM-10AM	1327	66	36	No
10AM-11AM	1442	77	36	Yes
11AM-12PM	1652	89	31	Yes
12PM-1PM	1512	71	29	Yes
1PM-2PM	1506	74	32	Yes
2PM-3PM	1491	76	41	Yes
3PM-4PM	1642	87	38	Yes
4PM-5PM	1797	75	41	Yes
5PM-6PM	1704	44	45	No
			TOTAL	**9**
			Warrant Met?	**Yes**

Table 17. Cumulative 2045 Plus Project Conditions - Signal Warrant #1

Cumulative 2045 Plus Project Conditions				
Time Period	N Carson Street (Major Street)	Silver Oak Drive (Minor Street)		Meets Standard?
	Total	West Approach	East Approach	
6AM-7AM	718	54	51	No
7AM-8AM	1393	119	64	Yes
8AM-9AM	1649	80	84	Yes
9AM-10AM	1331	78	36	Yes
10AM-11AM	1446	90	36	Yes
11AM-12PM	1665	102	31	Yes
12PM-1PM	1520	79	29	Yes
1PM-2PM	1514	83	32	Yes
2PM-3PM	1501	85	41	Yes
3PM-4PM	1654	96	38	Yes
4PM-5PM	1815	86	41	Yes
5PM-6PM	1720	52	45	No
			TOTAL	**10**
			Warrant Met?	**Yes**

11. PROJECT-RELATED DEFICIENCIES AND IMPROVEMENTS

This chapter summarizes deficiencies caused by the Project at study facilities and identifies potential improvements.

11.1 INTERSECTIONS

The intersection of North Carson Street & Silver Oak Drive is projected to operate at LOS E or F under all study scenarios. This intersection does not currently meet peak hour signal warrants nor is it projected to meet the peak hour signal warrant under future scenarios or with the addition of Project trips. However, this intersection is projected to meet 8-Hour Signal Warrant #1 under both Cumulative 2035 and 2045 conditions with and without the addition of Project trips. This intersection is projected to operate at acceptable LOS with installation of a traffic signal. Therefore, it is recommended that the Project provide a fair share contribution towards installing a traffic signal at this location in the future. The Project fair share contribution percentage calculation is shown in **Table 18**.

Table 18. Project Fair Share Calculation – North Carson Street & Silver Oak Drive

Improvement	PM Peak Hour Volumes			Cumulative Fair Share %
	Project Only Volumes	Cumulative 2045 Volumes	Existing Volumes	
N Carson St & Silver Oak Dr – Install Traffic Signal	29	1,842	1,475	8%
Notes: *Fair Share Percentage = [Project Only Volumes / (Cumulative 2045 Volumes – Existing Volumes)] * 100%* *PM peak hour volumes were used for fair share calculation purposes.*				

The remaining study intersections are projected to operate at acceptable LOS (LOS D or better) under all scenarios analyzed.

11.2 ROADWAY SEGMENTS

The study roadway segment of GS Richards Boulevard between Silver Oak Drive and West College Parkway is projected to operate at acceptable LOS D or better under all study scenarios.

11.3 QUEUEING ANALYSIS

The existing available storage space is projected to accommodate queues under all study scenarios.

11.4 PEDESTRIAN, BICYCLE, AND TRANSIT FACILITIES

The Project would not eliminate or adversely affect an existing bikeway, pedestrian or transit facilities in a way that would discourage their use. The Project would not interfere with the implementation of a planned bikeway as shown in the *2040 RTP* or Carson City *Unified Pathways Master Plan*. Furthermore, the Project would not provide inadequate access for bicyclists and pedestrians, that would result in unsafe conditions, including unsafe bicycle/pedestrian, bicycle/motor vehicle, or pedestrian/motor vehicle conflicts. Therefore, the project is not anticipated to have any significant adverse effects on bicycle, pedestrian, or transit facilities. It is recommended that the Project construct curb ramps to provide connectivity to the existing sidewalk network at the following locations:

- Southeast corner of the GS Richards Boulevard and Silver Oak Drive intersection
- Southwest corner of the Silver Oak Drive and North Carson Street
- The easterly intersection of GS Richards Boulevard and the traffic circle

12. PROJECT SITE OPERATIONS AND ACCESS EVALUATION

This chapter reviews the proposed Project site plan, including discussion of access driveways, sight distance, internal circulation, and parking.

12.1 PROJECT ACCESS

The Project would gain access to the nearby roadway network via two proposed driveways on GS Richards Boulevard. Project Driveway 1 (southern driveway) would be located approximately 170 feet north of the GS Richards Boulevard/Country Club Drive roundabout and Project Driveway 2 (northern driveway) would be located approximately 221 feet south of Silver Oak Drive. The two Project Driveways are spaced approximately 520 feet apart. The Project would construct pedestrian sidewalks along Project frontage on GS Richards Boulevard and Silver Oak Drive.

Both driveways would have a throat dept of approximately 25 feet. Maximum peak hour egress queues at the driveways are projected to be less than 1 vehicle (20 feet) in length. As the maximum peak hour inbound right or left-turn volume at a Project Driveway would be 20 vehicles or less, and the Project Driveway intersections are projected to operate at acceptable LOS and not meet signal warrants, the driveway access would not require right-turn or left-turn access lanes.

Based on the site plan shown in **Figure 2**, it appears that emergency vehicles would have sufficient access throughout the project site. Thus, emergency access to the project is considered adequate.

12.1.1 Sight Distance

Corner sight distance (CSD) for vehicles turning left out of the Project Driveway was evaluated for both Project Driveways. CSD analysis was performed based on standards found in Section 9 of the American Association of State Highway and Transportation Officials (AASHTO) Green Book (2018). Minimum sight distance is the distance needed, based on the speed limit of approaching traffic and other factors, to provide enough time for the stopped vehicle on the minor road to turn onto the major road without requiring through traffic to radically alter their speed. The visibility required for this maneuver forms a sight distance clear sight triangle.

The design speed of GS Richards Boulevard was estimated to be 30 miles per hour. Based on Table 9-7, for Case B1 Left-Turn From Stop, the minimum required stopping sight distance for a left-turn egress movement from the Project Driveways is 335 feet. Based on Table 9-9, for Case B2 Right-Turn From Stop, the minimum required stopping sight distance for a right-turn egress movement from the Project Driveways is 290 feet. **Appendix E** illustrates the minimum required corner sight distance for both Project Driveways and the required clear sight triangle based on the line of sight for a vehicle existing the driveway. As shown in **Appendix E**, the minimum required corner sight distance is met at both Project Driveways. Note that although the required sight distance extends beyond the Silver Oak Drive intersection and the Country Club Drive Roundabout, oncoming vehicle approaching the Project Driveways from those intersections would likely be traveling lower than the design speed.

The driveway's clear sight triangles should be free from vegetation and other obstructions that would block corner sight distance.

12.2 INTERNAL CIRCULATION

Internal circulation within the Project site would occur on a bi-directional internal drive aisle that would connect the Project Driveways, as depicted in **Figure 2**. 40 Private garages would be provided for residents along the eastern edge of the site. Pedestrian paths would provide connectivity between Project buildings and parking lots.

12.2.1 Parking

Carson City Code of Ordinances indicate that 2 parking spaces per unit are provided for residential uses. The Project proposes to provide a reduced parking rate of 1.7 spaces per units, providing a total of 263 surface parking spaces in addition to 40 single car garages for a total of 303 spaces. The reduction in parking to 1.7 spaces per unit is consistent with sites located within close proximity to transit (< 0.5 miles).

13. CRASH HISTORY

Five years of crash data (2015 –2019) was obtained from NDOT to identify potential safety concerns at study intersections. Note that the range of data reflects pre-COVID-19 pandemic data. **Table 19** summarizes the number of crashes, the crash severities, and the crash types at each study intersection.

As shown in **Table 19**, the study intersections experienced a total of 43 collisions from 2015 to 2019, with the intersection of North Carson Street & West College Parkway experiencing the highest number of crashes (33) and the GS Richards Boulevard & Silver Oak Drive intersection experiencing zero crashes. The most common severity type was Property Damage Only with 31 total crashes, followed by Injury Accidents with 9 crashes. One fatality crash was reported at the North Carson Street & West College Parkway intersection, which was recorded as a Non-Collision involving a pedestrian with a vehicle factor of "Failed to Yield Right-of Way". The most common recorded crash types were Rear-End and Angle type collisions.

Detailed crash data summaries can be found in **Appendix F**.

Table 19. Crash Summary (2015-2019)

#	Intersection	Number of Crashes	Severity			Crash Type					
			PDO[1]	Injury	Fatality	Rear-End	Angle	Head-On	Non-Collision	Sideswipe, Meeting	Sideswipe Overtaking
1	GS Richards Blvd & Silver Oak Dr	0	0	0	0	0	0	0	0	0	0
2	N Carson St & Silver Oak Dr	9	7	0	0	2	4	1	2	0	0
3	GS Richards Blvd & W College Pkwy	33	24	8	1	12	12	0	2	3	4
4	N Carson St & W College Pkwy	1	0	1	0	0	1	0	0	0	0

Notes:
Source: NDOT
[1]PDO = Property Damage Only

Appendix A

Table 2. Roadway Capacities, Tuolumne County GP and RTP Update EIR Traffic Study (August 2015)

Table 2. TCTC Generalized Roadway ADT LOS Lookup Table

FHWA FC#	Roadway Type	Type #	Area Type	Maximum Two-way Average Daily Traffic (ADT) Volume-carrying Capacity for each LOS Designation				
				LOS "A"	LOS "B"	LOS "C"	LOS "D"	LOS "E"
4	Rural Arterial (4-lane) Divided	1	ROLLING	6,240	12,480	18,720	26,520	31,200
4	Rural Arterial (4-lane) Undivided	2		4,820	9,640	14,460	20,485	24,100
4	Rural Minor Arterial (4-lane)	3		6,080	12,160	18,240	25,840	30,400
4	Rural Minor Arterial (with left-turn Lane)	4		4,600	9,200	13,800	19,550	23,000
4	Rural Minor Arterial (2-lane)	5		3,120	6,240	9,360	13,260	15,600
5	Major Collector (34 ft. - 36 ft.)	6		3,420	6,840	10,260	14,535	17,100
5	Major/Minor Collector (23 ft.- 32 ft.)	7		2,900	5,800	8,700	12,325	14,500
5	Major/Minor Collector (20 ft.- 23 ft.)	8		2,590	5,180	7,770	11,008	12,950
5	Major/Minor Collector (18 ft.- 20 ft.)	9		2,300	4,600	6,900	9,775	11,500
5	Major/Minor Collector (Less than 18 ft.)	10		1,920	3,840	5,760	8,160	9,600
6	Local Road	11		1,920	3,840	5,760	8,160	9,600
4	Rural Arterial (4-lane) Divided	101	MOUNTANEOUS	5,810	11,610	17,410	24,670	29,020
4	Rural Arterial (4-lane) Undivided	102		4,490	8,970	13,450	19,060	22,420
4	Rural Minor Arterial (4-lane)	103		5,660	11,310	16,970	24,040	28,280
4	Rural Minor Arterial (with left-turn Lane)	104		4,280	8,560	12,840	18,190	21,390
4	Rural Minor Arterial (2-lane)	105		2,910	5,810	8,710	12,340	14,510
5	Major Collector (34 ft. - 36 ft.)	106		3,190	6,370	9,550	13,520	15,910
5	Major/Minor Collector (23 ft.- 32 ft.)	107		2,700	5,400	8,100	11,470	13,490
5	Major/Minor Collector (20 ft.- 23 ft.)	108		2,410	4,820	7,230	10,240	12,050
5	Major/Minor Collector (18 ft.- 20 ft.)	109		2,140	4,280	6,420	9,100	10,700
5	Major/Minor Collector (Less than 18 ft.)	110		1,790	3,580	5,360	7,590	8,930
6	Local Road	111		1,790	3,580	5,360	7,590	8,930
2	4-Lane Freeway	201	URBAN	28,000	43,200	61,600	74,400	80,000
2	3-Lane Freeway	202		10,100	20,200	30,300	42,925	50,500
2	2-Lane Freeway + Auxiliary Lanes	203		8,392	16,784	25,176	35,666	41,960
2	2-Lane Freeway	204		6,680	13,360	20,040	28,390	33,400
2	4-Lane Expressway	205		24,000	28,000	32,000	36,000	40,000
2	2-Lane Expressway	206		12,000	14,000	16,000	18,000	20,000
3	6-Lane Divided Arterial (with left-turn lane)	207		32,000	38,000	43,000	49,000	54,000
3	4-Lane Divided Arterial (with left-turn lane)	208		22,000	25,000	29,000	32,500	36,000
3	4-Lane Undivided Arterial (no left-turn lane)	209		18,000	21,000	24,000	27,000	30,000
4	2-Lane Principal/Minor Arterial (with left-turn lane)	210		2,900	7,700	14,300	20,100	31,300
4	2-Lane Principal/Minor Arterial (no left-turn lane)	211		2,900	7,200	11,900	16,100	24,200
5	2-Lane Major/Minor Collector (with left-turn lane)	212		3,400	6,900	11,600	15,800	29,400
5	2-Lane Major/Minor Collector (no left-turn lane)	213		2,700	5,600	9,200	12,800	23,500
6	2-Lane Local Street	214		2,300	4,900	8,400	11,400	21,200

Notes:
1. Values shown corresponding to LOS A through E are roadway ADT traffic volumes
2. Collector width is measured from the edge of pavement to the edge of pavement
3. Roadways with continuous grade steeper than 6% or above 4,000 ft. elevation should use mountainous train LOS thresholds
4. Site Specific LOS maybe necessary
5. Peak Hour LOS threshold is assumed to be 10% of the daily traffic volume unless site specific analysis shows a different peak hour to daily traffic ratio
6. Examples LOS A (0.20 of capacity), LOS B (0.21 to 0.40 of capacity), LOS C (0.41 to 0.60 of capacity), LOS D (0.61 to 0.85 of capacity), LOS E (0.86 to 0.92 of capacity)

All volumes thresholds are approximate and assumes average roadway characteristics. Actual threshold volume for each Level of Service listed above may vary depending on a variety of factors including (but not limited to) roadway curvature and grade, intersection or interchange spacing, driveway spacing, percentage of trucks, RVs and other heavy vehicles, travel lane widths, speed limits, signal timing characteristics, on-street parking, volume of cross traffic and pedestrians, etc.

Appendix B

Traffic Count Data

Prepared by National Data & Surveying Services

Gs Richards Blvd & W College Pkwy

Peak Hour Turning Movement Count

ID: 22-100033-002
City: Carson City

Day: Tuesday
Date: 9/20/2022

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:45 PM - 05:45 PM

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

SOUTHBOUND (Gs Richards Blvd)

AM	10	0	3	0	72	AM
NOON	0	0	0	0	0	NOON
PM	17	0	20	0	10	PM

EASTBOUND (W College Pkwy)

AM	NOON	PM	
326	0	393	
0	0	0	0
41	0	7	0
294	0	354	1
0	0	0	0

WESTBOUND (W College Pkwy)

PM	NOON	AM	
3	0	31	1
376	0	316	1
0	0	0	0
0	0	0	0
374	0	297	

NORTHBOUND (Gs Richards Blvd)

PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

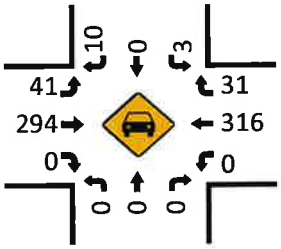
	0	0	0	0

CONTROL

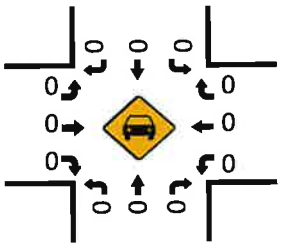
1-Way Stop(SB)

TEV	695 AM	0 NOON	777 PM
PHF	0.79		0.90

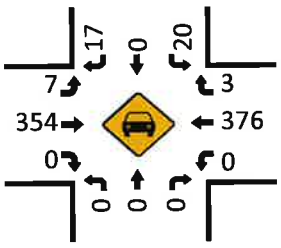
Totals (AM)



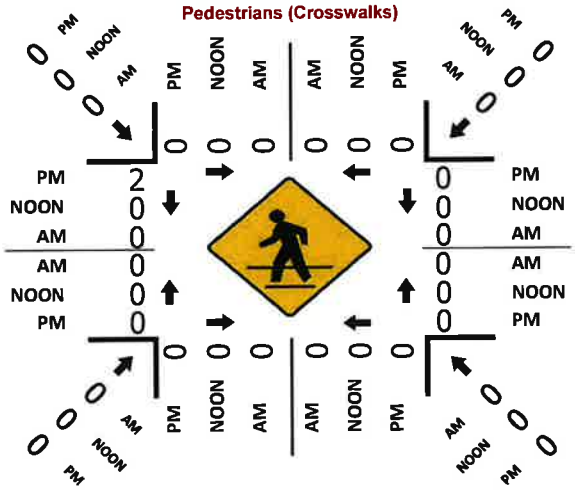
Totals (NOON)



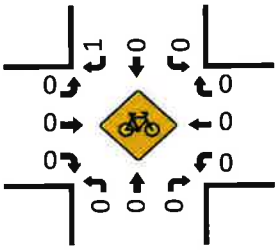
Totals (PM)



Pedestrians (Crosswalks)



Total Bikes (AM)



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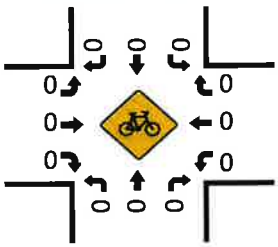
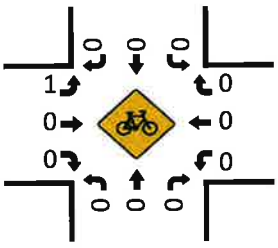


Total Bikes (PM)



Prepared by National Data & Surveying Services

US 395/N Carson St & Silver Oak Dr

Peak Hour Turning Movement Count

ID: 22-100033-003
City: Carson City

Day: Tuesday
Date: 9/20/2022

PEAK HOURS

07:30 AM - 08:30 AM
NONE
04:15 PM - 05:15 PM

COUNT PERIODS

7:00 AM - 09:00 AM
NONE
4:00 PM - 06:00 PM

US 395/N Carson St — SOUTHBOUND

AM	38	653	13	9	575	AM
NOON	0	0	0	0	0	NOON
PM	6	619	32	29	756	PM

EASTBOUND — Silver Oak Dr

AM	NOON	PM		
60	0	13	⇦	
0	0	0	↶	0
7	0	11	↱	1
0	0	0	→	1
8	0	18	↴	1
AM	NOON	PM		

WESTBOUND — Silver Oak Dr

PM	NOON	AM		
25	0	42	↰	1
1	0	1	←	1
9	0	25	↰	1
0	0	0	↷	0
56	0	31	⇨	
PM	NOON	AM		

CONTROL: 2-Way Stop(EB/WB)

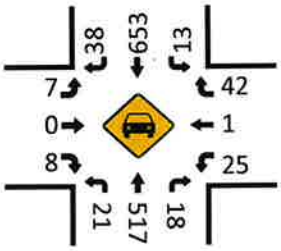
TEV	1352 AM	0 NOON	1473 PM
PHF	0.88		0.91

NORTHBOUND — US 395/N Carson St

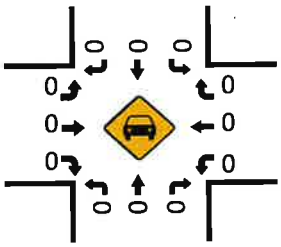
PM	648	2	6	691	24	PM
NOON	0	0	0	0	0	NOON
AM	686	0	21	517	18	AM

0 1 2 1

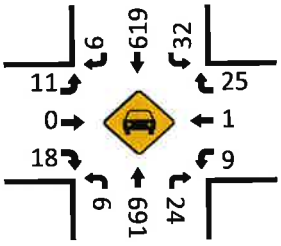
Totals (AM)



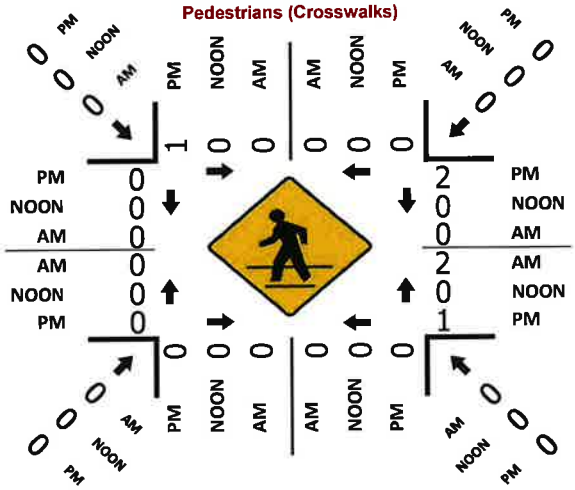
Totals (NOON)



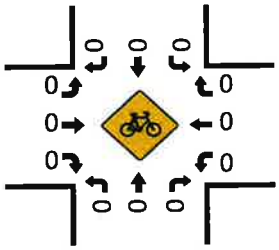
Totals (PM)



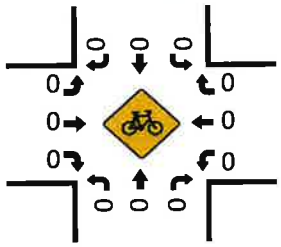
Pedestrians (Crosswalks)



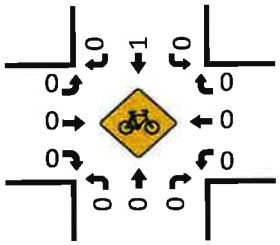
Total Bikes (AM)



Total Bikes (NOON)



Total Bikes (PM)



Prepared by National Data & Surveying Services

US 395/N Carson St & W College Pkwy

Peak Hour Turning Movement Count

ID: 22-100033-004
City: Carson City

Day: Tuesday
Date: 9/20/2022

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:30 PM - 05:30 PM

COUNT PERIODS

AM	7:00 AM - 09:00 AM
NOON	NONE
PM	4:00 PM - 06:00 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	1966	0	2264
PHF	0.87		0.91

SOUTHBOUND — US 395/N Carson St

	Left	Thru	Right	U-Turn	
AM	72	551	34	3	559 AM
NOON	0	0	0	0	0 NOON
PM	93	423	118	2	726 PM
	1	2	2	0	

EASTBOUND — W College Pkwy

AM	NOON	PM	
346	0	412	
0	0	1	0
112	0	115	2
119	0	205	1
71	0	92	1
AM	NOON	PM	

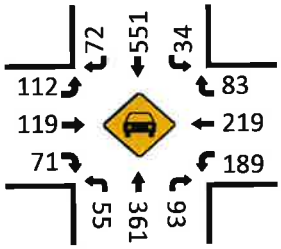
WESTBOUND — W College Pkwy

PM	NOON	AM	
66	0	83	0.5
193	0	219	1.5
106	0	189	1
0	0	0	0
502	0	246	
PM	NOON	AM	

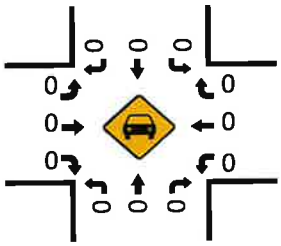
NORTHBOUND — US 395/N Carson St

	Left	Thru	Right	U-Turn	
PM	624	3	125	543	179 PM
NOON	0	0	0	0	0 NOON
AM	815	4	55	361	93 AM
	0	2	2	1	

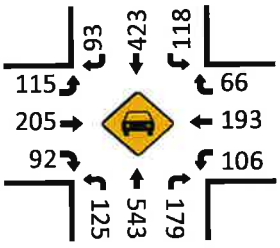
Totals (AM)



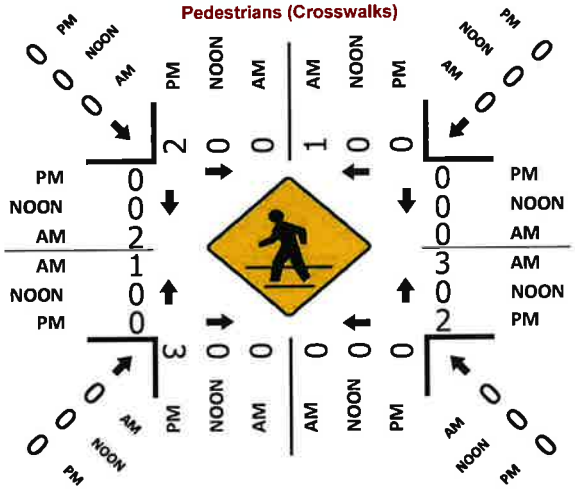
Totals (NOON)



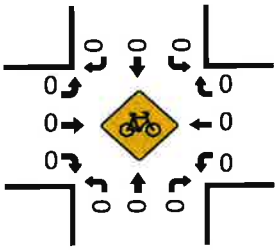
Totals (PM)



Pedestrians (Crosswalks)



Total Bikes (AM)



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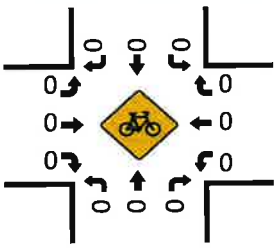

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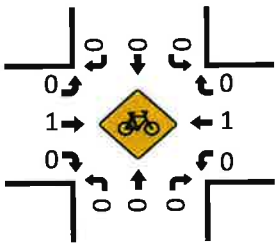


Prepared by National Data & Surveying Services

Gs Richards Blvd & Silver Oak Dr

Peak Hour Turning Movement Count

ID: 22-100033-001
City: Carson City

Day: Tuesday
Date: 9/20/2022

PEAK HOURS

AM: 07:15 AM - 08:15 AM
NOON: NONE
PM: 04:00 PM - 05:00 PM

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

SOUTHBOUND (Gs Richards Blvd)

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

EASTBOUND (Silver Oak Dr)

AM	NOON	PM		
71	0	23	⇦	
0	0	0	↶	0
0	0	0	↱	0
12	0	15	→	0.5
11	0	15	↴	0.5
AM	NOON	PM		

WESTBOUND (Silver Oak Dr)

PM	NOON	AM		
0	0	0	↰	1
13	0	33	←	1
4	0	31	↰	1
0	0	0	↶	0
29	0	13	⇨	
PM	NOON	AM		

CONTROL

1-Way Stop(NB)

TEV	127 AM	0 NOON	71 PM
PHF	0.88		0.57

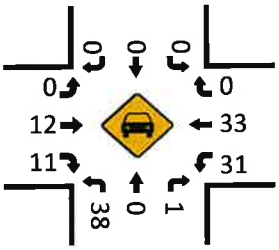
NORTHBOUND (Gs Richards Blvd)

PM	19	0	10	0	14	PM
NOON	0	0	0	0	0	NOON
AM	43	1	38	0	1	AM

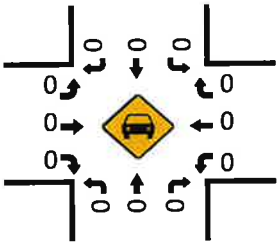
0 0 1 0

0 0 0 0

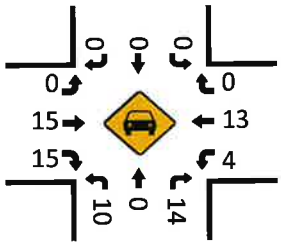
Totals (AM)



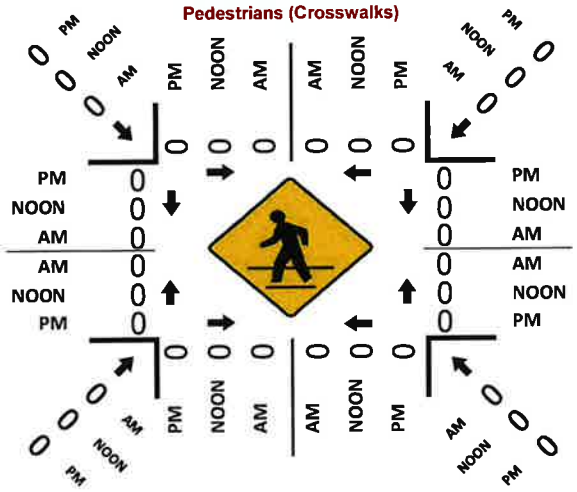
Totals (NOON)



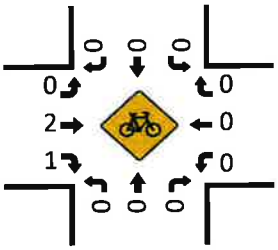
Totals (PM)



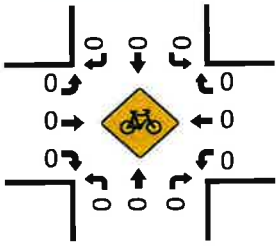
Pedestrians (Crosswalks)



Total Bikes (AM)



Total Bikes (NOON)



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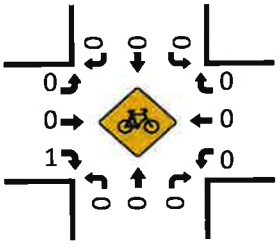


Appendix C

Synchro Intersection LOS and Queueing Output Reports

Intersection	
Int Delay, s/veh	4.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	14	11	31	33	39	1
Future Vol, veh/h	14	11	31	33	39	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	13	35	38	44	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	29	0	131	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	108	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1584	-	863	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1584	-	844	1054
Mov Cap-2 Maneuver	-	-	-	-	847	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	896	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.5	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	851	-	-	1584	-
HCM Lane V/C Ratio	0.053	-	-	0.022	-
HCM Control Delay (s)	9.5	-	-	7.3	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	0	8	25	1	42	22	517	18	22	653	41
Future Vol, veh/h	7	0	8	25	1	42	22	517	18	22	653	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	135	-	175	100	-	300	395	-	100	330	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	9	28	1	48	25	588	20	25	742	47

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1137	1452	371	1061	1479	296	789	0	0	610	0	0
Stage 1	792	792	-	640	640	-	-	-	-	-	-	-
Stage 2	345	660	-	421	839	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	157	129	626	178	125	700	827	-	-	965	-	-
Stage 1	349	399	-	430	468	-	-	-	-	-	-	-
Stage 2	644	458	-	581	379	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	139	122	626	168	118	699	827	-	-	963	-	-
Mov Cap-2 Maneuver	139	122	-	168	118	-	-	-	-	-	-	-
Stage 1	339	389	-	416	453	-	-	-	-	-	-	-
Stage 2	580	443	-	558	369	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.9	18.3	0.4	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	827	-	-	139	-	626	168	118	699	963	-	-
HCM Lane V/C Ratio	0.03	-	-	0.057	-	0.015	0.169	0.01	0.068	0.026	-	-
HCM Control Delay (s)	9.5	-	-	32.5	0	10.8	30.7	35.8	10.5	8.8	-	-
HCM Lane LOS	A	-	-	D	A	B	D	E	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	-	0	0.6	0	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	41	294	316	31	3	10
Future Vol, veh/h	41	294	316	31	3	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	270	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	372	400	39	4	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	439	0	-	0	876	400
Stage 1	-	-	-	-	400	-
Stage 2	-	-	-	-	476	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1121	-	-	-	319	650
Stage 1	-	-	-	-	677	-
Stage 2	-	-	-	-	625	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1121	-	-	-	304	650
Mov Cap-2 Maneuver	-	-	-	-	498	-
Stage 1	-	-	-	-	646	-
Stage 2	-	-	-	-	625	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1121	-	-	-	607
HCM Lane V/C Ratio	0.046	-	-	-	0.027
HCM Control Delay (s)	8.4	-	-	-	11.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	119	71	189	219	83	59	361	93	37	551	72
Future Volume (veh/h)	112	119	71	189	219	83	59	361	93	37	551	72
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		1.00	1.00		0.99
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	137	82	217	252	95	68	415	107	43	633	83
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	216	183	266	462	170	188	950	422	144	904	401
Arrive On Green	0.07	0.12	0.12	0.15	0.18	0.18	0.05	0.27	0.27	0.04	0.25	0.25
Sat Flow, veh/h	3456	1870	1585	1781	2544	934	3456	3554	1580	3456	3554	1576
Grp Volume(v), veh/h	129	137	82	217	174	173	68	415	107	43	633	83
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1700	1728	1777	1580	1728	1777	1576
Q Serve(g_s), s	2.3	4.5	3.1	7.7	5.8	6.0	1.2	6.3	3.5	0.8	10.5	2.7
Cycle Q Clear(g_c), s	2.3	4.5	3.1	7.7	5.8	6.0	1.2	6.3	3.5	0.8	10.5	2.7
Prop In Lane	1.00		1.00	1.00		0.55	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	216	183	266	323	309	188	950	422	144	904	401
V/C Ratio(X)	0.54	0.63	0.45	0.81	0.54	0.56	0.36	0.44	0.25	0.30	0.70	0.21
Avail Cap(c_a), veh/h	1329	1353	1146	685	1367	1308	1063	1804	802	1063	2187	970
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	27.4	26.8	26.8	24.1	24.2	29.6	19.8	18.7	30.2	22.0	19.1
Incr Delay (d2), s/veh	0.7	1.2	0.6	2.3	0.5	0.6	0.4	0.1	0.1	0.4	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.0	1.1	3.1	2.3	2.3	0.5	2.3	1.1	0.3	3.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	28.6	27.4	29.1	24.6	24.8	30.1	19.9	18.8	30.7	22.4	19.2
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	C	B
Approach Vol, veh/h		348			564			590			759	
Approach Delay, s/veh		28.8			26.4			20.9			22.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	23.3	16.3	13.2	13.0	22.4	12.0	17.5
Change Period (Y+Rc), s	9.5	* 5.9	6.6	* 5.7	9.5	5.9	7.5	* 5.7
Max Green Setting (Gmax), s	20.0	* 33	25.0	* 47	20.0	40.0	25.0	* 50
Max Q Clear Time (g_c+I1), s	2.8	8.3	9.7	6.5	3.2	12.5	4.3	8.0
Green Ext Time (p_c), s	0.0	1.7	0.2	0.6	0.1	2.7	0.2	1.2

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

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	0	72	0	0	42
Future Vol, veh/h	0	0	72	0	0	42
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	0	78	0	0	46

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	124	78	0	0	78	0
Stage 1	78	-	-	-	-	-
Stage 2	46	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	871	983	-	-	1520	-
Stage 1	945	-	-	-	-	-
Stage 2	976	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	871	983	-	-	1520	-
Mov Cap-2 Maneuver	871	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	976	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1520	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	72	0	0	42
Future Vol, veh/h	0	0	72	0	0	42
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	0	78	0	0	46

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	124	78	0	0	78	0
Stage 1	78	-	-	-	-	-
Stage 2	46	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	871	983	-	-	1520	-
Stage 1	945	-	-	-	-	-
Stage 2	976	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	871	983	-	-	1520	-
Mov Cap-2 Maneuver	871	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	976	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1520	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	15	4	13	10	14
Future Vol, veh/h	15	15	4	13	10	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	26	7	23	18	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	52	0	76	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	37	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1554	-	927	1033
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	985	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1554	-	922	1033
Mov Cap-2 Maneuver	-	-	-	-	913	-
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	980	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	979	-	-	1554	-
HCM Lane V/C Ratio	0.043	-	-	0.005	-
HCM Control Delay (s)	8.8	-	-	7.3	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	18	9	1	25	9	691	24	61	619	7
Future Vol, veh/h	11	0	18	9	1	25	9	691	24	61	619	7
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	3	3	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	135	-	175	100	-	300	395	-	100	330	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	20	10	1	27	10	759	26	67	680	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1215	1622	340	1256	1604	384	688	0	0	788	0	0
Stage 1	814	814	-	782	782	-	-	-	-	-	-	-
Stage 2	401	808	-	474	822	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	137	102	656	128	104	614	902	-	-	827	-	-
Stage 1	338	390	-	353	403	-	-	-	-	-	-	-
Stage 2	597	392	-	540	386	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	121	92	656	115	94	612	902	-	-	825	-	-
Mov Cap-2 Maneuver	121	92	-	115	94	-	-	-	-	-	-	-
Stage 1	334	358	-	348	397	-	-	-	-	-	-	-
Stage 2	562	387	-	481	355	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.1	19.3	0.1	0.9
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	902	-	-	121	-	656	115	94	612	825	-	-
HCM Lane V/C Ratio	0.011	-	-	0.1	-	0.03	0.086	0.012	0.045	0.081	-	-
HCM Control Delay (s)	9	-	-	38	0	10.7	39.2	43.8	11.2	9.7	-	-
HCM Lane LOS	A	-	-	E	A	B	E	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	-	0.1	0.3	0	0.1	0.3	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	354	376	3	20	17
Future Vol, veh/h	7	354	376	3	20	17
Conflicting Peds, #/hr	0	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	270	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	393	418	3	22	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	421	0	-	0	827	420
Stage 1	-	-	-	-	418	-
Stage 2	-	-	-	-	409	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1138	-	-	-	341	633
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1138	-	-	-	339	632
Mov Cap-2 Maneuver	-	-	-	-	528	-
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	671	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1138	-	-	-	571
HCM Lane V/C Ratio	0.007	-	-	-	0.072
HCM Control Delay (s)	8.2	-	-	-	11.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	205	92	106	193	66	128	543	179	120	423	93
Future Volume (veh/h)	116	205	92	106	193	66	128	543	179	120	423	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	225	101	116	212	73	141	597	197	132	465	102
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	241	343	285	151	480	160	247	824	367	243	820	366
Arrive On Green	0.07	0.18	0.18	0.08	0.18	0.18	0.07	0.23	0.23	0.07	0.23	0.23
Sat Flow, veh/h	3456	1870	1556	1781	2605	869	3456	3554	1581	3456	3554	1585
Grp Volume(v), veh/h	127	225	101	116	142	143	141	597	197	132	465	102
Grp Sat Flow(s),veh/h/ln	1728	1870	1556	1781	1777	1697	1728	1777	1581	1728	1777	1585
Q Serve(g_s), s	2.3	7.2	3.7	4.1	4.6	4.8	2.5	10.0	7.0	2.4	7.5	3.4
Cycle Q Clear(g_c), s	2.3	7.2	3.7	4.1	4.6	4.8	2.5	10.0	7.0	2.4	7.5	3.4
Prop In Lane	1.00		1.00	1.00		0.51	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	241	343	285	151	327	313	247	824	367	243	820	366
V/C Ratio(X)	0.53	0.66	0.35	0.77	0.43	0.46	0.57	0.72	0.54	0.54	0.57	0.28
Avail Cap(c_a), veh/h	1341	1364	1135	691	1379	1317	1073	1820	810	1073	2206	984
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	24.4	23.0	28.9	23.3	23.4	29.0	22.8	21.7	29.0	21.9	20.4
Incr Delay (d2), s/veh	0.7	0.8	0.3	3.1	0.3	0.4	0.8	0.5	0.5	0.7	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.0	1.2	1.7	1.8	1.8	1.0	3.7	2.4	0.9	2.8	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	25.2	23.3	32.0	23.6	23.8	29.7	23.3	22.2	29.7	22.2	20.5
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		453			401			935			699	
Approach Delay, s/veh		26.0			26.1			24.0			23.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	20.8	12.0	17.5	14.1	20.8	12.0	17.6
Change Period (Y+Rc), s	9.5	* 5.9	6.6	* 5.7	9.5	5.9	7.5	* 5.7
Max Green Setting (Gmax), s	20.0	* 33	25.0	* 47	20.0	40.0	25.0	* 50
Max Q Clear Time (g_c+I1), s	4.4	12.0	6.1	9.2	4.5	9.5	4.3	6.8
Green Ext Time (p_c), s	0.2	2.6	0.1	1.0	0.2	2.0	0.2	1.0

Intersection Summary	
HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

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	0	24	0	0	37
Future Vol, veh/h	0	0	24	0	0	37
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	0	26	0	0	40

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	66	26	0	0	26	0
Stage 1	26	-	-	-	-	-
Stage 2	40	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	939	1050	-	-	1588	-
Stage 1	997	-	-	-	-	-
Stage 2	982	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	939	1050	-	-	1588	-
Mov Cap-2 Maneuver	939	-	-	-	-	-
Stage 1	997	-	-	-	-	-
Stage 2	982	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1588	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	24	0	0	37
Future Vol, veh/h	0	0	24	0	0	37
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	0	26	0	0	40

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	66	26	0	0	26	0
Stage 1	26	-	-	-	-	-
Stage 2	40	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	939	1050	-	-	1588	-
Stage 1	997	-	-	-	-	-
Stage 2	982	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	939	1050	-	-	1588	-
Mov Cap-2 Maneuver	939	-	-	-	-	-
Stage 1	997	-	-	-	-	-
Stage 2	982	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1588	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	5.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	14	12	37	33	42	19
Future Vol, veh/h	14	12	37	33	42	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	14	42	38	48	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	30	0	145	23
Stage 1	-	-	-	-	23	-
Stage 2	-	-	-	-	122	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1583	-	847	1054
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1583	-	824	1054
Mov Cap-2 Maneuver	-	-	-	-	831	-
Stage 1	-	-	-	-	1000	-
Stage 2	-	-	-	-	879	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.9	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	890	-	-	1583	-
HCM Lane V/C Ratio	0.078	-	-	0.027	-
HCM Control Delay (s)	9.4	-	-	7.3	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	8	25	1	42	22	517	18	22	653	47
Future Vol, veh/h	25	0	8	25	1	42	22	517	18	22	653	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	135	-	175	100	-	300	395	-	100	330	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	0	9	28	1	48	25	588	20	25	742	53

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1137	1452	371	1061	1485	296	795	0	0	610	0	0
Stage 1	792	792	-	640	640	-	-	-	-	-	-	-
Stage 2	345	660	-	421	845	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	157	129	626	178	124	700	822	-	-	965	-	-
Stage 1	349	399	-	430	468	-	-	-	-	-	-	-
Stage 2	644	458	-	581	377	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	139	122	626	168	117	699	822	-	-	963	-	-
Mov Cap-2 Maneuver	139	122	-	168	117	-	-	-	-	-	-	-
Stage 1	339	389	-	416	453	-	-	-	-	-	-	-
Stage 2	580	443	-	558	367	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	31	18.3	0.4	0.3
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	822	-	-	139	-	626	168	117	699	963	-	-
HCM Lane V/C Ratio	0.03	-	-	0.204	-	0.015	0.169	0.01	0.068	0.026	-	-
HCM Control Delay (s)	9.5	-	-	37.4	0	10.8	30.7	36.1	10.5	8.8	-	-
HCM Lane LOS	A	-	-	E	A	B	D	E	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	-	0	0.6	0	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	43	294	316	41	35	16
Future Vol, veh/h	43	294	316	41	35	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	270	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	372	400	52	44	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	452	0	-	0	880	400
Stage 1	-	-	-	-	400	-
Stage 2	-	-	-	-	480	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1109	-	-	-	318	650
Stage 1	-	-	-	-	677	-
Stage 2	-	-	-	-	622	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1109	-	-	-	302	650
Mov Cap-2 Maneuver	-	-	-	-	496	-
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	622	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1109	-	-	-	536
HCM Lane V/C Ratio	0.049	-	-	-	0.12
HCM Control Delay (s)	8.4	-	-	-	12.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	131	92	189	223	83	66	361	93	37	551	72
Future Volume (veh/h)	112	131	92	189	223	83	66	361	93	37	551	72
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		1.00	1.00		0.99
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	151	106	217	256	95	76	415	107	43	633	83
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	230	195	266	486	176	196	955	424	143	899	399
Arrive On Green	0.07	0.12	0.12	0.15	0.19	0.19	0.06	0.27	0.27	0.04	0.25	0.25
Sat Flow, veh/h	3456	1870	1585	1781	2555	924	3456	3554	1580	3456	3554	1576
Grp Volume(v), veh/h	129	151	106	217	176	175	76	415	107	43	633	83
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1702	1728	1777	1580	1728	1777	1576
Q Serve(g_s), s	2.4	5.1	4.2	7.8	5.9	6.2	1.4	6.4	3.5	0.8	10.7	2.8
Cycle Q Clear(g_c), s	2.4	5.1	4.2	7.8	5.9	6.2	1.4	6.4	3.5	0.8	10.7	2.8
Prop In Lane	1.00		1.00	1.00		0.54	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	236	230	195	266	338	324	196	955	424	143	899	399
V/C Ratio(X)	0.55	0.66	0.54	0.82	0.52	0.54	0.39	0.43	0.25	0.30	0.70	0.21
Avail Cap(c_a), veh/h	1303	1326	1124	672	1340	1284	1043	1769	787	1043	2145	951
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	27.7	27.3	27.3	24.1	24.2	30.1	20.1	19.0	30.8	22.5	19.5
Incr Delay (d2), s/veh	0.7	1.2	0.9	2.4	0.5	0.5	0.5	0.1	0.1	0.4	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.2	1.5	3.2	2.3	2.3	0.5	2.3	1.2	0.3	4.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	28.9	28.2	29.7	24.6	24.7	30.6	20.2	19.1	31.3	22.9	19.6
LnGrp LOS	C	C	C	C	C	C	C	C	B	C	C	B
Approach Vol, veh/h		386			568			598			759	
Approach Delay, s/veh		29.3			26.6			21.3			23.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	23.7	16.5	13.9	13.3	22.7	12.0	18.3
Change Period (Y+Rc), s	9.5	* 5.9	6.6	* 5.7	9.5	5.9	7.5	* 5.7
Max Green Setting (Gmax), s	20.0	* 33	25.0	* 47	20.0	40.0	25.0	* 50
Max Q Clear Time (g_c+I1), s	2.8	8.4	9.8	7.1	3.4	12.7	4.4	8.2
Green Ext Time (p_c), s	0.0	1.7	0.2	0.7	0.1	2.7	0.2	1.3

Intersection Summary	
HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	11	82	6	4	45
Future Vol, veh/h	19	11	82	6	4	45
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	21	12	89	7	4	49

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	150	93	0	0	96	0
Stage 1	93	-	-	-	-	-
Stage 2	57	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	842	964	-	-	1498	-
Stage 1	931	-	-	-	-	-
Stage 2	966	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	839	964	-	-	1498	-
Mov Cap-2 Maneuver	839	-	-	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	963	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	881	1498	-
HCM Lane V/C Ratio	-	-	0.037	0.003	-
HCM Control Delay (s)	-	-	9.2	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	10	78	6	3	61
Future Vol, veh/h	19	10	78	6	3	61
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	21	11	85	7	3	66

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	161	89	0	0	92	0
Stage 1	89	-	-	-	-	-
Stage 2	72	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	830	969	-	-	1503	-
Stage 1	934	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	828	969	-	-	1503	-
Mov Cap-2 Maneuver	828	-	-	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	949	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	872	1503	-
HCM Lane V/C Ratio	-	-	0.036	0.002	-
HCM Control Delay (s)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	15	18	22	13	12	25
Future Vol, veh/h	15	18	22	13	12	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	57	57	57	57	57	57
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	32	39	23	21	44

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	58	0	143	42
Stage 1	-	-	-	-	42	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1546	-	850	1029
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	923	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1546	-	829	1029
Mov Cap-2 Maneuver	-	-	-	-	845	-
Stage 1	-	-	-	-	980	-
Stage 2	-	-	-	-	900	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.6	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	961	-	-	1546	-
HCM Lane V/C Ratio	0.068	-	-	0.025	-
HCM Control Delay (s)	9	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	0	18	9	1	25	9	691	24	61	619	25
Future Vol, veh/h	22	0	18	9	1	25	9	691	24	61	619	25
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	3	3	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	135	-	175	100	-	300	395	-	100	330	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	0	20	10	1	27	10	759	26	67	680	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1215	1622	340	1256	1623	384	707	0	0	788	0	0
Stage 1	814	814	-	782	782	-	-	-	-	-	-	-
Stage 2	401	808	-	474	841	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	137	102	656	128	102	614	887	-	-	827	-	-
Stage 1	338	390	-	353	403	-	-	-	-	-	-	-
Stage 2	597	392	-	540	379	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	120	92	656	115	92	612	887	-	-	825	-	-
Mov Cap-2 Maneuver	120	92	-	115	92	-	-	-	-	-	-	-
Stage 1	334	358	-	348	397	-	-	-	-	-	-	-
Stage 2	562	387	-	481	348	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28.1	19.4	0.1	0.8
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	887	-	-	120	-	656	115	92	612	825	-	-
HCM Lane V/C Ratio	0.011	-	-	0.201	-	0.03	0.086	0.012	0.045	0.081	-	-
HCM Control Delay (s)	9.1	-	-	42.4	0	10.7	39.2	44.6	11.2	9.7	-	-
HCM Lane LOS	A	-	-	E	A	B	E	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	-	0.1	0.3	0	0.1	0.3	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	354	376	37	40	21
Future Vol, veh/h	13	354	376	37	40	21
Conflicting Peds, #/hr	0	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	270	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	393	418	41	44	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	459	0	-	0	839	420
Stage 1	-	-	-	-	418	-
Stage 2	-	-	-	-	421	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1102	-	-	-	336	633
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	662	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1102	-	-	-	332	632
Mov Cap-2 Maneuver	-	-	-	-	522	-
Stage 1	-	-	-	-	655	-
Stage 2	-	-	-	-	662	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1102	-	-	-	555
HCM Lane V/C Ratio	0.013	-	-	-	0.122
HCM Control Delay (s)	8.3	-	-	-	12.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	212	105	106	205	66	149	543	179	120	423	93
Future Volume (veh/h)	116	212	105	106	205	66	149	543	179	120	423	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	233	115	116	225	73	164	597	197	132	465	102
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	351	292	151	500	158	263	823	366	242	801	357
Arrive On Green	0.07	0.19	0.19	0.08	0.19	0.19	0.08	0.23	0.23	0.07	0.23	0.23
Sat Flow, veh/h	3456	1870	1557	1781	2647	834	3456	3554	1581	3456	3554	1585
Grp Volume(v), veh/h	127	233	115	116	149	149	164	597	197	132	465	102
Grp Sat Flow(s),veh/h/ln	1728	1870	1557	1781	1777	1704	1728	1777	1581	1728	1777	1585
Q Serve(g_s), s	2.3	7.5	4.2	4.1	4.8	5.1	3.0	10.1	7.1	2.4	7.6	3.5
Cycle Q Clear(g_c), s	2.3	7.5	4.2	4.1	4.8	5.1	3.0	10.1	7.1	2.4	7.6	3.5
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	239	351	292	151	336	322	263	823	366	242	801	357
V/C Ratio(X)	0.53	0.66	0.39	0.77	0.44	0.46	0.62	0.73	0.54	0.55	0.58	0.29
Avail Cap(c_a), veh/h	1331	1354	1127	686	1368	1312	1065	1806	804	1065	2189	977
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	24.5	23.1	29.1	23.3	23.4	29.1	23.0	21.9	29.2	22.4	20.8
Incr Delay (d2), s/veh	0.7	0.8	0.3	3.1	0.3	0.4	0.9	0.5	0.5	0.7	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.2	1.4	1.8	1.9	1.9	1.2	3.7	2.4	0.9	2.8	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	25.3	23.5	32.2	23.7	23.8	30.0	23.5	22.4	29.9	22.7	21.0
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		475			414			958			699	
Approach Delay, s/veh		26.1			26.1			24.4			23.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	20.9	12.1	17.9	14.4	20.5	12.0	18.0
Change Period (Y+Rc), s	9.5	* 5.9	6.6	* 5.7	9.5	5.9	7.5	* 5.7
Max Green Setting (Gmax), s	20.0	* 33	25.0	* 47	20.0	40.0	25.0	* 50
Max Q Clear Time (g_c+I1), s	4.4	12.1	6.1	9.5	5.0	9.6	4.3	7.1
Green Ext Time (p_c), s	0.2	2.6	0.1	1.0	0.2	2.0	0.2	1.1

Intersection Summary	
HCM 6th Ctrl Delay	24.8
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	6	30	20	10	48
Future Vol, veh/h	12	6	30	20	10	48
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	13	7	33	22	11	52

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	118	44	0	0	55	0
Stage 1	44	-	-	-	-	-
Stage 2	74	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	878	1026	-	-	1550	-
Stage 1	978	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	872	1026	-	-	1550	-
Mov Cap-2 Maneuver	872	-	-	-	-	-
Stage 1	978	-	-	-	-	-
Stage 2	942	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	1.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	918	1550	-
HCM Lane V/C Ratio	-	-	0.021	0.007	-
HCM Control Delay (s)	-	-	9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	6	44	20	11	49
Future Vol, veh/h	12	6	44	20	11	49
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	13	7	48	22	12	53

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	136	59	0	0	70	0
Stage 1	59	-	-	-	-	-
Stage 2	77	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	857	1007	-	-	1531	-
Stage 1	964	-	-	-	-	-
Stage 2	946	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	850	1007	-	-	1531	-
Mov Cap-2 Maneuver	850	-	-	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	938	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	1.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	897	1531	-
HCM Lane V/C Ratio	-	-	0.022	0.008	-
HCM Control Delay (s)	-	-	9.1	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	72	12	35	55	44	1
Future Vol, veh/h	72	12	35	55	44	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	13	38	60	48	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	91	0	221	85
Stage 1	-	-	-	-	85	-
Stage 2	-	-	-	-	136	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1504	-	767	974
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1504	-	748	974
Mov Cap-2 Maneuver	-	-	-	-	801	-
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	868	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	804	-	-	1504	-
HCM Lane V/C Ratio	0.061	-	-	0.025	-
HCM Control Delay (s)	9.8	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	48	28	1	47	38	582	20	25	736	51
Future Vol, veh/h	25	0	48	28	1	47	38	582	20	25	736	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	135	-	175	100	-	300	395	-	100	330	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	52	30	1	51	41	633	22	27	800	55

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1253	1593	400	1171	1626	319	855	0	0	657	0	0
Stage 1	854	854	-	717	717	-	-	-	-	-	-	-
Stage 2	399	739	-	454	909	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	129	106	600	148	101	677	781	-	-	926	-	-
Stage 1	320	373	-	387	432	-	-	-	-	-	-	-
Stage 2	598	422	-	555	352	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	111	97	600	127	93	676	781	-	-	924	-	-
Mov Cap-2 Maneuver	111	97	-	127	93	-	-	-	-	-	-	-
Stage 1	303	362	-	366	409	-	-	-	-	-	-	-
Stage 2	522	399	-	492	342	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.9	22.8	0.6	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	781	-	-	111	-	600	127	93	676	924	-	-
HCM Lane V/C Ratio	0.053	-	-	0.245	-	0.087	0.24	0.012	0.076	0.029	-	-
HCM Control Delay (s)	9.9	-	-	47.6	0	11.6	42.1	44.2	10.8	9	-	-
HCM Lane LOS	A	-	-	E	A	B	E	E	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.9	-	0.3	0.9	0	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	331	356	35	3	11
Future Vol, veh/h	46	331	356	35	3	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	270	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	360	387	38	3	12

Major/Minor	Major1			Major2		Minor2	
Conflicting Flow All	425	0	-	0	847	387	
Stage 1	-	-	-	-	387	-	
Stage 2	-	-	-	-	460	-	
Critical Hdwy	4.12	-	-	-	6.42	6.22	
Critical Hdwy Stg 1	-	-	-	-	5.42	-	
Critical Hdwy Stg 2	-	-	-	-	5.42	-	
Follow-up Hdwy	2.218	-	-	-	3.518	3.318	
Pot Cap-1 Maneuver	1134	-	-	-	332	661	
Stage 1	-	-	-	-	686	-	
Stage 2	-	-	-	-	636	-	
Platoon blocked, %		-	-	-			
Mov Cap-1 Maneuver	1134	-	-	-	317	661	
Mov Cap-2 Maneuver	-	-	-	-	509	-	
Stage 1	-	-	-	-	656	-	
Stage 2	-	-	-	-	636	-	

Approach	EB	WB	SB
HCM Control Delay, s	1	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1134	-	-	-	621
HCM Lane V/C Ratio	0.044	-	-	-	0.025
HCM Control Delay (s)	8.3	-	-	-	10.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	134	80	213	247	93	66	420	105	42	660	81
Future Volume (veh/h)	126	134	80	213	247	93	66	420	105	42	660	81
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		1.00	1.00		0.99
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	146	87	232	268	101	72	457	114	46	717	88
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	221	187	279	497	183	186	1017	452	146	976	433
Arrive On Green	0.07	0.12	0.12	0.16	0.20	0.20	0.05	0.29	0.29	0.04	0.27	0.27
Sat Flow, veh/h	3456	1870	1585	1781	2543	935	3456	3554	1580	3456	3554	1576
Grp Volume(v), veh/h	137	146	87	232	185	184	72	457	114	46	717	88
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1700	1728	1777	1580	1728	1777	1576
Q Serve(g_s), s	2.7	5.2	3.6	8.8	6.5	6.8	1.4	7.4	3.9	0.9	12.8	3.0
Cycle Q Clear(g_c), s	2.7	5.2	3.6	8.8	6.5	6.8	1.4	7.4	3.9	0.9	12.8	3.0
Prop In Lane	1.00		1.00	1.00		0.55	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	221	187	279	347	332	186	1017	452	146	976	433
V/C Ratio(X)	0.60	0.66	0.47	0.83	0.53	0.55	0.39	0.45	0.25	0.31	0.74	0.20
Avail Cap(c_a), veh/h	1237	1259	1067	638	1272	1218	990	1680	747	990	2036	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.7	29.5	28.7	28.5	25.2	25.3	31.9	20.4	19.2	32.5	23.0	19.5
Incr Delay (d2), s/veh	0.9	1.3	0.7	2.4	0.5	0.5	0.5	0.1	0.1	0.5	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.3	1.3	3.7	2.6	2.6	0.6	2.7	1.3	0.4	4.8	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.6	30.7	29.4	31.0	25.7	25.9	32.4	20.5	19.3	32.9	23.4	19.5
LnGrp LOS	C	C	C	C	C	C	C	C	B	C	C	B
Approach Vol, veh/h		370			601			643			851	
Approach Delay, s/veh		31.1			27.8			21.6			23.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	25.9	17.6	13.9	13.3	25.1	12.1	19.3
Change Period (Y+Rc), s	9.5	* 5.9	6.6	* 5.7	9.5	5.9	7.5	* 5.7
Max Green Setting (Gmax), s	20.0	* 33	25.0	* 47	20.0	40.0	25.0	* 50
Max Q Clear Time (g_c+I1), s	2.9	9.4	10.8	7.2	3.4	14.8	4.7	8.8
Green Ext Time (p_c), s	0.0	1.9	0.3	0.6	0.1	3.1	0.2	1.3

Intersection Summary	
HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

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	0	81	0	0	47
Future Vol, veh/h	0	0	81	0	0	47
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	0	88	0	0	51

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	139	88	0	0	88	0
Stage 1	88	-	-	-	-	-
Stage 2	51	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	854	970	-	-	1508	-
Stage 1	935	-	-	-	-	-
Stage 2	971	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	854	970	-	-	1508	-
Mov Cap-2 Maneuver	854	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	971	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- -	1508	-
HCM Lane V/C Ratio	-	- -	-	-
HCM Control Delay (s)	-	- 0	0	-
HCM Lane LOS	-	- A	A	-
HCM 95th %tile Q(veh)	-	- -	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	81	0	0	47
Future Vol, veh/h	0	0	81	0	0	47
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	0	88	0	0	51

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	139	88	0	0	88	0
Stage 1	88	-	-	-	-	-
Stage 2	51	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	854	970	-	-	1508	-
Stage 1	935	-	-	-	-	-
Stage 2	971	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	854	970	-	-	1508	-
Mov Cap-2 Maneuver	854	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	971	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1508	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	57	16	4	83	11	15
Future Vol, veh/h	57	16	4	83	11	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	17	4	90	12	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	79	0	169	71
Stage 1	-	-	-	-	71	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1519	-	821	991
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	926	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1519	-	819	991
Mov Cap-2 Maneuver	-	-	-	-	851	-
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	927	-	-	1519	-
HCM Lane V/C Ratio	0.03	-	-	0.003	-
HCM Control Delay (s)	9	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	0	49	10	1	27	58	757	26	67	678	29
Future Vol, veh/h	24	0	49	10	1	27	58	757	26	67	678	29
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	3	3	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	135	-	175	100	-	300	395	-	100	330	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	0	53	11	1	29	63	823	28	73	737	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1422	1863	369	1467	1867	416	769	0	0	854	0	0
Stage 1	883	883	-	952	952	-	-	-	-	-	-	-
Stage 2	539	980	-	515	915	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	96	72	628	89	72	585	841	-	-	781	-	-
Stage 1	307	362	-	279	336	-	-	-	-	-	-	-
Stage 2	494	326	-	511	350	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	79	60	628	71	60	583	841	-	-	779	-	-
Mov Cap-2 Maneuver	79	60	-	71	60	-	-	-	-	-	-	-
Stage 1	284	328	-	257	310	-	-	-	-	-	-	-
Stage 2	432	301	-	424	317	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	31.1	26.9	0.7	0.9
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	841	-	-	79	-	628	71	60	583	779	-	-
HCM Lane V/C Ratio	0.075	-	-	0.33	-	0.085	0.153	0.018	0.05	0.093	-	-
HCM Control Delay (s)	9.6	-	-	71.6	0	11.3	64.7	66.1	11.5	10.1	-	-
HCM Lane LOS	A	-	-	F	A	B	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.2	-	0.3	0.5	0.1	0.2	0.3	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	388	412	3	22	19
Future Vol, veh/h	8	388	412	3	22	19
Conflicting Peds, #/hr	0	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	270	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	422	448	3	24	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	451	0	-	0	888	450
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	440	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1109	-	-	-	314	609
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	649	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1109	-	-	-	311	608
Mov Cap-2 Maneuver	-	-	-	-	506	-
Stage 1	-	-	-	-	639	-
Stage 2	-	-	-	-	649	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1109	-	-	-	549
HCM Lane V/C Ratio	0.008	-	-	-	0.081
HCM Control Delay (s)	8.3	-	-	-	12.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	224	101	116	211	72	140	643	196	131	492	102
Future Volume (veh/h)	127	224	101	116	211	72	140	643	196	131	492	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	138	243	110	126	229	78	152	699	213	142	535	111
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	354	294	162	525	173	243	916	408	231	904	403
Arrive On Green	0.07	0.19	0.19	0.09	0.20	0.20	0.07	0.26	0.26	0.07	0.25	0.25
Sat Flow, veh/h	3456	1870	1557	1781	2612	863	3456	3554	1581	3456	3554	1585
Grp Volume(v), veh/h	138	243	110	126	154	153	152	699	213	142	535	111
Grp Sat Flow(s),veh/h/ln	1728	1870	1557	1781	1777	1698	1728	1777	1581	1728	1777	1585
Q Serve(g_s), s	2.7	8.5	4.3	4.9	5.3	5.6	3.0	12.7	8.1	2.8	9.3	3.9
Cycle Q Clear(g_c), s	2.7	8.5	4.3	4.9	5.3	5.6	3.0	12.7	8.1	2.8	9.3	3.9
Prop In Lane	1.00		1.00	1.00		0.51	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	354	294	162	357	341	243	916	408	231	904	403
V/C Ratio(X)	0.60	0.69	0.37	0.78	0.43	0.45	0.63	0.76	0.52	0.61	0.59	0.28
Avail Cap(c_a), veh/h	1232	1254	1044	635	1267	1211	986	1673	744	986	2028	904
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	26.5	24.8	31.2	24.5	24.6	31.7	24.0	22.3	31.8	22.9	21.0
Incr Delay (d2), s/veh	0.9	0.9	0.3	3.0	0.3	0.3	1.0	0.5	0.4	1.0	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.6	1.5	2.1	2.1	2.1	1.2	4.8	2.8	1.1	3.5	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	27.4	25.1	34.2	24.8	25.0	32.7	24.5	22.7	32.8	23.2	21.1
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		491			433			1064			788	
Approach Delay, s/veh		28.4			27.6			25.3			24.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	24.0	13.0	19.0	14.4	23.7	12.2	19.8
Change Period (Y+Rc), s	9.5	* 5.9	6.6	* 5.7	9.5	5.9	7.5	* 5.7
Max Green Setting (Gmax), s	20.0	* 33	25.0	* 47	20.0	40.0	25.0	* 50
Max Q Clear Time (g_c+I1), s	4.8	14.7	6.9	10.5	5.0	11.3	4.7	7.6
Green Ext Time (p_c), s	0.2	3.0	0.1	1.1	0.2	2.3	0.2	1.1

Intersection Summary	
HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

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	0	26	0	0	41
Future Vol, veh/h	0	0	26	0	0	41
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	0	28	0	0	45

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	73	28	0	0	28	0
Stage 1	28	-	-	-	-	-
Stage 2	45	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	931	1047	-	-	1585	-
Stage 1	995	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	931	1047	-	-	1585	-
Mov Cap-2 Maneuver	931	-	-	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	977	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1585	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	26	0	0	41
Future Vol, veh/h	0	0	26	0	0	41
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	0	28	0	0	45

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	73	28	0	0	28	0
Stage 1	28	-	-	-	-	-
Stage 2	45	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	931	1047	-	-	1585	-
Stage 1	995	-	-	-	-	-
Stage 2	977	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	931	1047	-	-	1585	-
Mov Cap-2 Maneuver	931	-	-	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	977	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1585	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	72	13	41	55	47	19
Future Vol, veh/h	72	13	41	55	47	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	14	45	60	51	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	92	0	235	85
Stage 1	-	-	-	-	85	-
Stage 2	-	-	-	-	150	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1503	-	753	974
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	878	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1503	-	730	974
Mov Cap-2 Maneuver	-	-	-	-	788	-
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	852	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.2	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	834	-	-	1503	-
HCM Lane V/C Ratio	0.086	-	-	0.03	-
HCM Control Delay (s)	9.7	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	0	48	28	1	47	38	582	20	25	736	57
Future Vol, veh/h	43	0	48	28	1	47	38	582	20	25	736	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	135	-	175	100	-	300	395	-	100	330	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	0	52	30	1	51	41	633	22	27	800	62

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1253	1593	400	1171	1633	319	862	0	0	657	0	0
Stage 1	854	854	-	717	717	-	-	-	-	-	-	-
Stage 2	399	739	-	454	916	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	129	106	600	148	100	677	776	-	-	926	-	-
Stage 1	320	373	-	387	432	-	-	-	-	-	-	-
Stage 2	598	422	-	555	349	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	111	97	600	127	92	676	776	-	-	924	-	-
Mov Cap-2 Maneuver	111	97	-	127	92	-	-	-	-	-	-	-
Stage 1	303	362	-	366	408	-	-	-	-	-	-	-
Stage 2	522	399	-	492	339	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.1	22.8	0.6	0.3
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	776	-	-	111	-	600	127	92	676	924	-	-
HCM Lane V/C Ratio	0.053	-	-	0.421	-	0.087	0.24	0.012	0.076	0.029	-	-
HCM Control Delay (s)	9.9	-	-	59.2	0	11.6	42.1	44.6	10.8	9	-	-
HCM Lane LOS	A	-	-	F	A	B	E	E	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.8	-	0.3	0.9	0	0.2	0.1	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	48	331	356	45	35	17
Future Vol, veh/h	48	331	356	45	35	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	270	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	360	387	49	38	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	436	0	-	0	851	387
Stage 1	-	-	-	-	387	-
Stage 2	-	-	-	-	464	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1124	-	-	-	330	661
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	633	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1124	-	-	-	315	661
Mov Cap-2 Maneuver	-	-	-	-	507	-
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	633	-

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1124	-	-	-	549
HCM Lane V/C Ratio	0.046	-	-	-	0.103
HCM Control Delay (s)	8.4	-	-	-	12.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	126	146	101	213	251	93	73	420	105	42	660	81
Future Volume (veh/h)	126	146	101	213	251	93	73	420	105	42	660	81
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		1.00	1.00		0.99
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	159	110	232	273	101	79	457	114	46	717	88
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	227	234	198	279	519	188	192	1019	453	145	971	431
Arrive On Green	0.07	0.13	0.13	0.16	0.20	0.20	0.06	0.29	0.29	0.04	0.27	0.27
Sat Flow, veh/h	3456	1870	1585	1781	2556	923	3456	3554	1580	3456	3554	1576
Grp Volume(v), veh/h	137	159	110	232	188	186	79	457	114	46	717	88
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1703	1728	1777	1580	1728	1777	1576
Q Serve(g_s), s	2.7	5.8	4.6	9.0	6.7	7.0	1.6	7.5	3.9	0.9	13.1	3.1
Cycle Q Clear(g_c), s	2.7	5.8	4.6	9.0	6.7	7.0	1.6	7.5	3.9	0.9	13.1	3.1
Prop In Lane	1.00		1.00	1.00		0.54	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	227	234	198	279	361	346	192	1019	453	145	971	431
V/C Ratio(X)	0.60	0.68	0.55	0.83	0.52	0.54	0.41	0.45	0.25	0.32	0.74	0.20
Avail Cap(c_a), veh/h	1215	1237	1048	626	1250	1198	972	1650	734	972	2000	887
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	29.7	29.2	29.1	25.2	25.3	32.4	20.7	19.5	33.1	23.5	19.9
Incr Delay (d2), s/veh	1.0	1.3	0.9	2.5	0.4	0.5	0.5	0.1	0.1	0.5	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.5	1.7	3.7	2.6	2.6	0.6	2.8	1.3	0.4	4.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.3	31.0	30.1	31.6	25.7	25.8	33.0	20.9	19.6	33.5	23.9	20.0
LnGrp LOS	C	C	C	C	C	C	C	C	B	C	C	B
Approach Vol, veh/h		406			606			650			851	
Approach Delay, s/veh		31.6			28.0			22.1			24.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	26.3	17.7	14.6	13.4	25.3	12.2	20.1
Change Period (Y+Rc), s	9.5	* 5.9	6.6	* 5.7	9.5	5.9	7.5	* 5.7
Max Green Setting (Gmax), s	20.0	* 33	25.0	* 47	20.0	40.0	25.0	* 50
Max Q Clear Time (g_c+I1), s	2.9	9.5	11.0	7.8	3.6	15.1	4.7	9.0
Green Ext Time (p_c), s	0.0	1.9	0.3	0.7	0.1	3.1	0.2	1.3

Intersection Summary	
HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	11	91	6	4	50
Future Vol, veh/h	19	11	91	6	4	50
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	21	12	99	7	4	54

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	165	103	0	0	106	0
Stage 1	103	-	-	-	-	-
Stage 2	62	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	826	952	-	-	1485	-
Stage 1	921	-	-	-	-	-
Stage 2	961	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	824	952	-	-	1485	-
Mov Cap-2 Maneuver	824	-	-	-	-	-
Stage 1	921	-	-	-	-	-
Stage 2	958	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	867	1485	-
HCM Lane V/C Ratio	-	-	0.038	0.003	-
HCM Control Delay (s)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	10	87	6	3	66
Future Vol, veh/h	19	10	87	6	3	66
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	21	11	95	7	3	72

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	177	99	0	0	102	0
Stage 1	99	-	-	-	-	-
Stage 2	78	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	813	957	-	-	1490	-
Stage 1	925	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	811	957	-	-	1490	-
Mov Cap-2 Maneuver	811	-	-	-	-	-
Stage 1	925	-	-	-	-	-
Stage 2	943	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	856	1490	-
HCM Lane V/C Ratio	-	-	0.037	0.002	-
HCM Control Delay (s)	-	-	9.4	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	57	19	22	83	13	26
Future Vol, veh/h	57	19	22	83	13	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	21	24	90	14	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	83	0	211	73
Stage 1	-	-	-	-	73	-
Stage 2	-	-	-	-	138	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1514	-	777	989
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	889	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1514	-	765	989
Mov Cap-2 Maneuver	-	-	-	-	812	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	875	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	922	-	-	1514	-
HCM Lane V/C Ratio	0.046	-	-	0.016	-
HCM Control Delay (s)	9.1	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	35	0	49	10	1	27	58	757	26	67	678	47
Future Vol, veh/h	35	0	49	10	1	27	58	757	26	67	678	47
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	3	3	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	135	-	175	100	-	300	395	-	100	330	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	0	53	11	1	29	63	823	28	73	737	51

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1422	1863	369	1467	1886	416	788	0	0	854	0	0
Stage 1	883	883	-	952	952	-	-	-	-	-	-	-
Stage 2	539	980	-	515	934	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	96	72	628	89	70	585	827	-	-	781	-	-
Stage 1	307	362	-	279	336	-	-	-	-	-	-	-
Stage 2	494	326	-	511	343	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	79	60	628	71	58	583	827	-	-	779	-	-
Mov Cap-2 Maneuver	79	60	-	71	58	-	-	-	-	-	-	-
Stage 1	284	328	-	257	309	-	-	-	-	-	-	-
Stage 2	431	300	-	424	311	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	42.9	27	0.7	0.9
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	827	-	-	79	-	628	71	58	583	779	-	-
HCM Lane V/C Ratio	0.076	-	-	0.482	-	0.085	0.153	0.019	0.05	0.093	-	-
HCM Control Delay (s)	9.7	-	-	87.2	0	11.3	64.7	68.3	11.5	10.1	-	-
HCM Lane LOS	A	-	-	F	A	B	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	2	-	0.3	0.5	0.1	0.2	0.3	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	388	412	37	42	23
Future Vol, veh/h	14	388	412	37	42	23
Conflicting Peds, #/hr	0	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	270	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	422	448	40	46	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	488	0	-	0	900	450
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	452	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1075	-	-	-	309	609
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	641	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1075	-	-	-	305	608
Mov Cap-2 Maneuver	-	-	-	-	500	-
Stage 1	-	-	-	-	635	-
Stage 2	-	-	-	-	641	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1075	-	-	-	534
HCM Lane V/C Ratio	0.014	-	-	-	0.132
HCM Control Delay (s)	8.4	-	-	-	12.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	231	114	116	223	72	161	643	196	131	492	102
Future Volume (veh/h)	127	231	114	116	223	72	161	643	196	131	492	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	138	251	124	126	242	78	175	699	213	142	535	111
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	361	301	162	545	171	270	914	407	230	873	389
Arrive On Green	0.07	0.19	0.19	0.09	0.21	0.21	0.08	0.26	0.26	0.07	0.25	0.25
Sat Flow, veh/h	3456	1870	1557	1781	2650	831	3456	3554	1581	3456	3554	1585
Grp Volume(v), veh/h	138	251	124	126	160	160	175	699	213	142	535	111
Grp Sat Flow(s),veh/h/ln	1728	1870	1557	1781	1777	1705	1728	1777	1581	1728	1777	1585
Q Serve(g_s), s	2.7	8.8	4.9	4.9	5.6	5.8	3.5	12.9	8.2	2.8	9.4	4.0
Cycle Q Clear(g_c), s	2.7	8.8	4.9	4.9	5.6	5.8	3.5	12.9	8.2	2.8	9.4	4.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	228	361	301	162	365	350	270	914	407	230	873	389
V/C Ratio(X)	0.60	0.69	0.41	0.78	0.44	0.46	0.65	0.76	0.52	0.62	0.61	0.29
Avail Cap(c_a), veh/h	1222	1244	1035	630	1257	1206	978	1659	738	978	2011	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	26.6	25.0	31.4	24.5	24.6	31.6	24.3	22.5	32.1	23.7	21.6
Incr Delay (d2), s/veh	1.0	0.9	0.3	3.0	0.3	0.3	1.0	0.5	0.4	1.0	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.8	1.7	2.1	2.2	2.2	1.4	4.9	2.8	1.1	3.6	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	27.5	25.3	34.4	24.8	25.0	32.6	24.8	22.9	33.1	23.9	21.8
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		513			446			1087			788	
Approach Delay, s/veh		28.5			27.6			25.7			25.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	24.1	13.0	19.4	15.0	23.3	12.2	20.2
Change Period (Y+Rc), s	9.5	* 5.9	6.6	* 5.7	9.5	5.9	7.5	* 5.7
Max Green Setting (Gmax), s	20.0	* 33	25.0	* 47	20.0	40.0	25.0	* 50
Max Q Clear Time (g_c+I1), s	4.8	14.9	6.9	10.8	5.5	11.4	4.7	7.8
Green Ext Time (p_c), s	0.2	3.0	0.1	1.1	0.2	2.3	0.2	1.1

Intersection Summary	
HCM 6th Ctrl Delay	26.4
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	6	32	20	10	52
Future Vol, veh/h	12	6	32	20	10	52
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	13	7	35	22	11	57

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	125	46	0	0	57	0
Stage 1	46	-	-	-	-	-
Stage 2	79	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	870	1023	-	-	1547	-
Stage 1	976	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	864	1023	-	-	1547	-
Mov Cap-2 Maneuver	864	-	-	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	937	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	911	1547	-
HCM Lane V/C Ratio	-	-	0.021	0.007	-
HCM Control Delay (s)	-	-	9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	6	46	20	11	53
Future Vol, veh/h	12	6	46	20	11	53
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	13	7	50	22	12	58

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	143	61	0	0	72	0
Stage 1	61	-	-	-	-	-
Stage 2	82	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	850	1004	-	-	1528	-
Stage 1	962	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	843	1004	-	-	1528	-
Mov Cap-2 Maneuver	843	-	-	-	-	-
Stage 1	962	-	-	-	-	-
Stage 2	933	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	1.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	891	1528	-
HCM Lane V/C Ratio	-	-	0.022	0.008	-
HCM Control Delay (s)	-	-	9.1	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	73	14	38	59	48	1
Future Vol, veh/h	73	14	38	59	48	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	79	15	41	64	52	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	94	0	233	87
Stage 1	-	-	-	-	87	-
Stage 2	-	-	-	-	146	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1500	-	755	971
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	881	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1500	-	735	971
Mov Cap-2 Maneuver	-	-	-	-	792	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	857	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	795	-	-	1500	-
HCM Lane V/C Ratio	0.067	-	-	0.028	-
HCM Control Delay (s)	9.9	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	0	49	31	1	52	40	638	22	27	806	56
Future Vol, veh/h	26	0	49	31	1	52	40	638	22	27	806	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	135	-	175	100	-	300	395	-	100	330	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	0	53	34	1	57	43	693	24	29	876	61

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1367	1739	438	1277	1776	349	937	0	0	719	0	0
Stage 1	934	934	-	781	781	-	-	-	-	-	-	-
Stage 2	433	805	-	496	995	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	106	86	567	123	82	647	727	-	-	878	-	-
Stage 1	286	343	-	354	403	-	-	-	-	-	-	-
Stage 2	571	393	-	524	321	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	89	78	567	104	74	646	727	-	-	876	-	-
Mov Cap-2 Maneuver	89	78	-	104	74	-	-	-	-	-	-	-
Stage 1	269	332	-	332	378	-	-	-	-	-	-	-
Stage 2	489	369	-	459	310	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	29.7	28	0.6	0.3
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	727	-	-	89	-	567	104	74	646	876	-	-
HCM Lane V/C Ratio	0.06	-	-	0.318	-	0.094	0.324	0.015	0.087	0.034	-	-
HCM Control Delay (s)	10.3	-	-	63.2	0	12	55.4	54.4	11.1	9.3	-	-
HCM Lane LOS	B	-	-	F	A	B	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.2	-	0.3	1.3	0	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	51	363	390	38	4	12
Future Vol, veh/h	51	363	390	38	4	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	270	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	395	424	41	4	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	465	0	-	0	929	424
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	505	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1096	-	-	-	297	630
Stage 1	-	-	-	-	660	-
Stage 2	-	-	-	-	606	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1096	-	-	-	282	630
Mov Cap-2 Maneuver	-	-	-	-	479	-
Stage 1	-	-	-	-	627	-
Stage 2	-	-	-	-	606	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1096	-	-	-	584
HCM Lane V/C Ratio	0.051	-	-	-	0.03
HCM Control Delay (s)	8.5	-	-	-	11.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	147	88	233	270	102	73	459	115	46	719	89
Future Volume (veh/h)	138	147	88	233	270	102	73	459	115	46	719	89
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		1.00	1.00		0.99
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	150	160	96	253	293	111	79	499	125	50	782	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	231	195	298	532	197	185	1062	472	149	1024	455
Arrive On Green	0.07	0.12	0.12	0.17	0.21	0.21	0.05	0.30	0.30	0.04	0.29	0.29
Sat Flow, veh/h	3456	1870	1585	1781	2537	940	3456	3554	1580	3456	3554	1577
Grp Volume(v), veh/h	150	160	96	253	203	201	79	499	125	50	782	97
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1700	1728	1777	1580	1728	1777	1577
Q Serve(g_s), s	3.2	6.2	4.3	10.4	7.7	8.0	1.7	8.6	4.5	1.1	15.1	3.5
Cycle Q Clear(g_c), s	3.2	6.2	4.3	10.4	7.7	8.0	1.7	8.6	4.5	1.1	15.1	3.5
Prop In Lane	1.00		1.00	1.00		0.55	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	231	195	298	373	357	185	1062	472	149	1024	455
V/C Ratio(X)	0.63	0.69	0.49	0.85	0.55	0.56	0.43	0.47	0.26	0.34	0.76	0.21
Avail Cap(c_a), veh/h	1146	1166	989	591	1179	1128	917	1556	692	917	1886	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	31.7	30.8	30.5	26.6	26.7	34.5	21.5	20.1	35.0	24.5	20.3
Incr Delay (d2), s/veh	1.0	1.4	0.7	2.6	0.5	0.5	0.6	0.1	0.1	0.5	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	2.8	1.6	4.4	3.1	3.1	0.7	3.2	1.6	0.4	5.7	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	33.1	31.5	33.1	27.0	27.2	35.1	21.7	20.2	35.5	24.9	20.4
LnGrp LOS	D	C	C	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		406			657			703			929	
Approach Delay, s/veh		33.5			29.4			22.9			25.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	28.4	19.2	15.0	13.5	27.6	12.7	21.5
Change Period (Y+Rc), s	9.5	* 5.9	6.6	* 5.7	9.5	5.9	7.5	* 5.7
Max Green Setting (Gmax), s	20.0	* 33	25.0	* 47	20.0	40.0	25.0	* 50
Max Q Clear Time (g_c+I1), s	3.1	10.6	12.4	8.2	3.7	17.1	5.2	10.0
Green Ext Time (p_c), s	0.0	2.1	0.3	0.7	0.1	3.4	0.2	1.5

Intersection Summary	
HCM 6th Ctrl Delay	26.8
HCM 6th LOS	C

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	0	89	0	0	52
Future Vol, veh/h	0	0	89	0	0	52
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	0	97	0	0	57

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	154	97	0	0	97	0
Stage 1	97	-	-	-	-	-
Stage 2	57	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	838	959	-	-	1496	-
Stage 1	927	-	-	-	-	-
Stage 2	966	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	838	959	-	-	1496	-
Mov Cap-2 Maneuver	838	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	966	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1496	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	89	0	0	52
Future Vol, veh/h	0	0	89	0	0	52
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	0	97	0	0	57

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	154	97	0	0	97	0
Stage 1	97	-	-	-	-	-
Stage 2	57	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	838	959	-	-	1496	-
Stage 1	927	-	-	-	-	-
Stage 2	966	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	838	959	-	-	1496	-
Mov Cap-2 Maneuver	838	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	966	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1496	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	59	18	5	84	12	16
Future Vol, veh/h	59	18	5	84	12	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	20	5	91	13	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	84	0	175	74
Stage 1	-	-	-	-	74	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1513	-	815	988
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	923	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1513	-	813	988
Mov Cap-2 Maneuver	-	-	-	-	847	-
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	920	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	922	-	-	1513	-
HCM Lane V/C Ratio	0.033	-	-	0.004	-
HCM Control Delay (s)	9	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	0	50	11	1	29	59	811	28	72	727	29
Future Vol, veh/h	25	0	50	11	1	29	59	811	28	72	727	29
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	3	3	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	135	-	175	100	-	300	395	-	100	330	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	54	12	1	32	64	882	30	78	790	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1517	1989	395	1564	1991	445	822	0	0	915	0	0
Stage 1	946	946	-	1013	1013	-	-	-	-	-	-	-
Stage 2	571	1043	-	551	978	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	82	60	604	75	60	561	803	-	-	741	-	-
Stage 1	281	338	-	256	315	-	-	-	-	-	-	-
Stage 2	473	305	-	486	327	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	66	49	604	59	49	559	803	-	-	739	-	-
Mov Cap-2 Maneuver	66	49	-	59	49	-	-	-	-	-	-	-
Stage 1	259	302	-	235	289	-	-	-	-	-	-	-
Stage 2	409	280	-	396	292	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	38.8	32	0.6	0.9
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	803	-	-	66	-	604	59	49	559	739	-	-
HCM Lane V/C Ratio	0.08	-	-	0.412	-	0.09	0.203	0.022	0.056	0.106	-	-
HCM Control Delay (s)	9.9	-	-	93.4	0	11.5	80.9	80.1	11.8	10.4	-	-
HCM Lane LOS	A	-	-	F	A	B	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.6	-	0.3	0.7	0.1	0.2	0.4	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	416	441	4	23	20
Future Vol, veh/h	8	416	441	4	23	20
Conflicting Peds, #/hr	0	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	270	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	452	479	4	25	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	483	0	-	0	949	481
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	470	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1080	-	-	-	289	585
Stage 1	-	-	-	-	623	-
Stage 2	-	-	-	-	629	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1080	-	-	-	287	584
Mov Cap-2 Maneuver	-	-	-	-	485	-
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	629	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1080	-	-	-	527
HCM Lane V/C Ratio	0.008	-	-	-	0.089
HCM Control Delay (s)	8.4	-	-	-	12.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	241	108	124	227	77	150	685	210	141	526	109
Future Volume (veh/h)	136	241	108	124	227	77	150	685	210	141	526	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	148	262	117	135	247	84	163	745	228	153	572	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	367	306	172	555	184	252	950	423	240	938	418
Arrive On Green	0.07	0.20	0.20	0.10	0.21	0.21	0.07	0.27	0.27	0.07	0.26	0.26
Sat Flow, veh/h	3456	1870	1557	1781	2611	864	3456	3554	1581	3456	3554	1585
Grp Volume(v), veh/h	148	262	117	135	166	165	163	745	228	153	572	118
Grp Sat Flow(s),veh/h/ln	1728	1870	1557	1781	1777	1698	1728	1777	1581	1728	1777	1585
Q Serve(g_s), s	3.1	9.8	4.9	5.5	6.1	6.3	3.4	14.5	9.2	3.2	10.6	4.4
Cycle Q Clear(g_c), s	3.1	9.8	4.9	5.5	6.1	6.3	3.4	14.5	9.2	3.2	10.6	4.4
Prop In Lane	1.00		1.00	1.00		0.51	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	235	367	306	172	378	361	252	950	423	240	938	418
V/C Ratio(X)	0.63	0.71	0.38	0.79	0.44	0.46	0.65	0.78	0.54	0.64	0.61	0.28
Avail Cap(c_a), veh/h	1155	1175	978	595	1187	1135	924	1567	697	924	1900	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	28.1	26.1	33.0	25.6	25.7	33.7	25.4	23.5	33.9	24.2	21.9
Incr Delay (d2), s/veh	1.0	1.0	0.3	3.0	0.3	0.3	1.0	0.5	0.4	1.0	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.2	1.7	2.4	2.4	2.4	1.4	5.6	3.2	1.3	4.0	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.0	29.1	26.4	36.0	25.9	26.0	34.8	26.0	23.9	34.9	24.4	22.0
LnGrp LOS	C	C	C	D	C	C	C	C	C	C	C	C
Approach Vol, veh/h		527			466			1136			843	
Approach Delay, s/veh		30.1			28.9			26.8			26.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	25.9	13.8	20.4	15.0	25.7	12.6	21.6
Change Period (Y+Rc), s	9.5	* 5.9	6.6	* 5.7	9.5	5.9	7.5	* 5.7
Max Green Setting (Gmax), s	20.0	* 33	25.0	* 47	20.0	40.0	25.0	* 50
Max Q Clear Time (g_c+I1), s	5.2	16.5	7.5	11.8	5.4	12.6	5.1	8.3
Green Ext Time (p_c), s	0.2	3.2	0.1	1.1	0.2	2.5	0.2	1.2

Intersection Summary	
HCM 6th Ctrl Delay	27.5
HCM 6th LOS	C

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	0	28	0	0	43
Future Vol, veh/h	0	0	28	0	0	43
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	0	30	0	0	47

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	77	30	0	0	30	0
Stage 1	30	-	-	-	-	-
Stage 2	47	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	926	1044	-	-	1583	-
Stage 1	993	-	-	-	-	-
Stage 2	975	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	926	1044	-	-	1583	-
Mov Cap-2 Maneuver	926	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	975	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1583	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	28	0	0	43
Future Vol, veh/h	0	0	28	0	0	43
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	0	0	30	0	0	47

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	77	30	0	0	30	0
Stage 1	30	-	-	-	-	-
Stage 2	47	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	926	1044	-	-	1583	-
Stage 1	993	-	-	-	-	-
Stage 2	975	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	926	1044	-	-	1583	-
Mov Cap-2 Maneuver	926	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	975	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1583	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	73	15	44	59	51	19
Future Vol, veh/h	73	15	44	59	51	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	79	16	48	64	55	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	95	0	247	87
Stage 1	-	-	-	-	87	-
Stage 2	-	-	-	-	160	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1499	-	741	971
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	869	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1499	-	717	971
Mov Cap-2 Maneuver	-	-	-	-	778	-
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	841	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.2	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	822	-	-	1499	-
HCM Lane V/C Ratio	0.093	-	-	0.032	-
HCM Control Delay (s)	9.8	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	0	49	31	1	52	40	638	22	27	806	62
Future Vol, veh/h	44	0	49	31	1	52	40	638	22	27	806	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	2	2	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	135	-	175	100	-	300	395	-	100	330	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	0	53	34	1	57	43	693	24	29	876	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1367	1739	438	1277	1782	349	943	0	0	719	0	0
Stage 1	934	934	-	781	781	-	-	-	-	-	-	-
Stage 2	433	805	-	496	1001	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	106	86	567	123	81	647	723	-	-	878	-	-
Stage 1	286	343	-	354	403	-	-	-	-	-	-	-
Stage 2	571	393	-	524	319	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	89	78	567	104	74	646	723	-	-	876	-	-
Mov Cap-2 Maneuver	89	78	-	104	74	-	-	-	-	-	-	-
Stage 1	269	332	-	332	378	-	-	-	-	-	-	-
Stage 2	489	369	-	459	308	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	46.5	28	0.6	0.3
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	723	-	-	89	-	567	104	74	646	876	-	-
HCM Lane V/C Ratio	0.06	-	-	0.537	-	0.094	0.324	0.015	0.087	0.034	-	-
HCM Control Delay (s)	10.3	-	-	84.9	0	12	55.4	54.4	11.1	9.3	-	-
HCM Lane LOS	B	-	-	F	A	B	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	2.4	-	0.3	1.3	0	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	53	363	390	48	36	18
Future Vol, veh/h	53	363	390	48	36	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	270	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	395	424	52	39	20

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	476	0	-	0	935	424			
Stage 1	-	-	-	-	424	-			
Stage 2	-	-	-	-	511	-			
Critical Hdwy	4.12	-	-	-	6.42	6.22			
Critical Hdwy Stg 1	-	-	-	-	5.42	-			
Critical Hdwy Stg 2	-	-	-	-	5.42	-			
Follow-up Hdwy	2.218	-	-	-	3.518	3.318			
Pot Cap-1 Maneuver	1086	-	-	-	295	630			
Stage 1	-	-	-	-	660	-			
Stage 2	-	-	-	-	602	-			
Platoon blocked, %		-	-	-					
Mov Cap-1 Maneuver	1086	-	-	-	279	630			
Mov Cap-2 Maneuver	-	-	-	-	476	-			
Stage 1	-	-	-	-	625	-			
Stage 2	-	-	-	-	602	-			

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1086	-	-	-	518
HCM Lane V/C Ratio	0.053	-	-	-	0.113
HCM Control Delay (s)	8.5	-	-	-	12.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	159	109	233	274	102	80	459	115	46	719	89
Future Volume (veh/h)	138	159	109	233	274	102	80	459	115	46	719	89
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		1.00	1.00		0.99
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	150	173	118	253	298	111	87	499	125	50	782	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	244	206	297	553	202	190	1063	473	148	1020	453
Arrive On Green	0.07	0.13	0.13	0.17	0.22	0.22	0.05	0.30	0.30	0.04	0.29	0.29
Sat Flow, veh/h	3456	1870	1585	1781	2549	929	3456	3554	1580	3456	3554	1577
Grp Volume(v), veh/h	150	173	118	253	206	203	87	499	125	50	782	97
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1777	1702	1728	1777	1580	1728	1777	1577
Q Serve(g_s), s	3.2	6.8	5.4	10.6	7.9	8.2	1.9	8.8	4.6	1.1	15.4	3.6
Cycle Q Clear(g_c), s	3.2	6.8	5.4	10.6	7.9	8.2	1.9	8.8	4.6	1.1	15.4	3.6
Prop In Lane	1.00		1.00	1.00		0.55	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	236	244	206	297	386	369	190	1063	473	148	1020	453
V/C Ratio(X)	0.63	0.71	0.57	0.85	0.53	0.55	0.46	0.47	0.26	0.34	0.77	0.21
Avail Cap(c_a), veh/h	1126	1145	971	580	1158	1109	901	1528	680	901	1852	822
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.8	32.0	31.4	31.0	26.6	26.7	35.2	21.9	20.5	35.7	25.0	20.8
Incr Delay (d2), s/veh	1.1	1.4	0.9	2.7	0.4	0.5	0.6	0.1	0.1	0.5	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.0	2.0	4.5	3.1	3.1	0.8	3.3	1.6	0.4	5.9	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.9	33.4	32.3	33.7	27.0	27.2	35.8	22.0	20.6	36.2	25.5	20.9
LnGrp LOS	D	C	C	C	C	C	D	C	C	D	C	C
Approach Vol, veh/h		441			662			711			929	
Approach Delay, s/veh		33.9			29.6			23.5			25.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	28.9	19.4	15.7	13.7	27.9	12.7	22.4
Change Period (Y+Rc), s	9.5	* 5.9	6.6	* 5.7	9.5	5.9	7.5	* 5.7
Max Green Setting (Gmax), s	20.0	* 33	25.0	* 47	20.0	40.0	25.0	* 50
Max Q Clear Time (g_c+I1), s	3.1	10.8	12.6	8.8	3.9	17.4	5.2	10.2
Green Ext Time (p_c), s	0.0	2.1	0.3	0.8	0.1	3.4	0.2	1.5

Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	11	99	6	4	55
Future Vol, veh/h	19	11	99	6	4	55
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	21	12	108	7	4	60

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	180	112	0	0	115	0
Stage 1	112	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	810	941	-	-	1474	-
Stage 1	913	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	808	941	-	-	1474	-
Mov Cap-2 Maneuver	808	-	-	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	952	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	852	1474	-
HCM Lane V/C Ratio	-	-	0.038	0.003	-
HCM Control Delay (s)	-	-	9.4	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	10	95	6	3	71
Future Vol, veh/h	19	10	95	6	3	71
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	21	11	103	7	3	77

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	190	107	0	0	110	0
Stage 1	107	-	-	-	-	-
Stage 2	83	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	799	947	-	-	1480	-
Stage 1	917	-	-	-	-	-
Stage 2	940	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	797	947	-	-	1480	-
Mov Cap-2 Maneuver	797	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	938	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	843	1480	-
HCM Lane V/C Ratio	-	-	0.037	0.002	-
HCM Control Delay (s)	-	-	9.4	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	59	21	23	84	14	27
Future Vol, veh/h	59	21	23	84	14	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	80	-	0	-
Veh in Median Storage, #	0	-	-	0	2	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	23	25	91	15	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	87	0	217	76
Stage 1	-	-	-	-	76	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1509	-	771	985
Stage 1	-	-	-	-	947	-
Stage 2	-	-	-	-	886	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1509	-	758	985
Mov Cap-2 Maneuver	-	-	-	-	807	-
Stage 1	-	-	-	-	947	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	916	-	-	1509	-
HCM Lane V/C Ratio	0.049	-	-	0.017	-
HCM Control Delay (s)	9.1	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	0	50	11	1	29	59	811	28	72	727	47
Future Vol, veh/h	36	0	50	11	1	29	59	811	28	72	727	47
Conflicting Peds, #/hr	0	0	0	0	0	1	0	0	3	3	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	135	-	175	100	-	300	395	-	100	330	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	0	54	12	1	32	64	882	30	78	790	51

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1517	1989	395	1564	2010	445	841	0	0	915	0	0
Stage 1	946	946	-	1013	1013	-	-	-	-	-	-	-
Stage 2	571	1043	-	551	997	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	82	60	604	75	58	561	790	-	-	741	-	-
Stage 1	281	338	-	256	315	-	-	-	-	-	-	-
Stage 2	473	305	-	486	320	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	66	49	604	59	48	559	790	-	-	739	-	-
Mov Cap-2 Maneuver	66	49	-	59	48	-	-	-	-	-	-	-
Stage 1	258	302	-	234	289	-	-	-	-	-	-	-
Stage 2	408	279	-	396	286	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	56.7	32	0.7	0.9
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	790	-	-	66	-	604	59	48	559	739	-	-
HCM Lane V/C Ratio	0.081	-	-	0.593	-	0.09	0.203	0.023	0.056	0.106	-	-
HCM Control Delay (s)	10	-	-	119.4	0	11.5	80.9	81.7	11.8	10.4	-	-
HCM Lane LOS	A	-	-	F	A	B	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0.3	-	-	2.5	-	0.3	0.7	0.1	0.2	0.4	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	416	441	38	43	24
Future Vol, veh/h	14	416	441	38	43	24
Conflicting Peds, #/hr	0	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	115	-	-	270	0	-
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	452	479	41	47	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	520	0	-	0	961	481
Stage 1	-	-	-	-	479	-
Stage 2	-	-	-	-	482	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1046	-	-	-	284	585
Stage 1	-	-	-	-	623	-
Stage 2	-	-	-	-	621	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1046	-	-	-	280	584
Mov Cap-2 Maneuver	-	-	-	-	479	-
Stage 1	-	-	-	-	614	-
Stage 2	-	-	-	-	621	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1046	-	-	-	512
HCM Lane V/C Ratio	0.015	-	-	-	0.142
HCM Control Delay (s)	8.5	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	248	121	124	239	77	171	685	210	141	526	109
Future Volume (veh/h)	136	248	121	124	239	77	171	685	210	141	526	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		1.00	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	148	270	132	135	260	84	186	745	228	153	572	118
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	375	312	172	574	181	278	948	422	240	909	405
Arrive On Green	0.07	0.20	0.20	0.10	0.22	0.22	0.08	0.27	0.27	0.07	0.26	0.26
Sat Flow, veh/h	3456	1870	1557	1781	2647	834	3456	3554	1581	3456	3554	1585
Grp Volume(v), veh/h	148	270	132	135	172	172	186	745	228	153	572	118
Grp Sat Flow(s),veh/h/ln	1728	1870	1557	1781	1777	1705	1728	1777	1581	1728	1777	1585
Q Serve(g_s), s	3.1	10.2	5.6	5.6	6.3	6.6	3.9	14.7	9.3	3.3	10.8	4.5
Cycle Q Clear(g_c), s	3.1	10.2	5.6	5.6	6.3	6.6	3.9	14.7	9.3	3.3	10.8	4.5
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	235	375	312	172	386	370	278	948	422	240	909	405
V/C Ratio(X)	0.63	0.72	0.42	0.79	0.45	0.46	0.67	0.79	0.54	0.64	0.63	0.29
Avail Cap(c_a), veh/h	1145	1165	970	590	1177	1129	916	1554	691	916	1883	840
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	28.2	26.4	33.3	25.6	25.7	33.7	25.7	23.7	34.2	24.9	22.6
Incr Delay (d2), s/veh	1.0	1.0	0.3	3.0	0.3	0.3	1.0	0.6	0.4	1.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.4	2.0	2.4	2.5	2.5	1.6	5.6	3.3	1.3	4.1	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	29.2	26.7	36.3	25.9	26.1	34.8	26.2	24.1	35.3	25.2	22.7
LnGrp LOS	D	C	C	D	C	C	C	C	C	D	C	C
Approach Vol, veh/h		550			479			1159			843	
Approach Delay, s/veh		30.2			28.9			27.2			26.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	26.0	13.9	20.8	15.6	25.2	12.6	22.1
Change Period (Y+Rc), s	9.5	* 5.9	6.6	* 5.7	9.5	5.9	7.5	* 5.7
Max Green Setting (Gmax), s	20.0	* 33	25.0	* 47	20.0	40.0	25.0	* 50
Max Q Clear Time (g_c+I1), s	5.3	16.7	7.6	12.2	5.9	12.8	5.1	8.6
Green Ext Time (p_c), s	0.2	3.2	0.1	1.2	0.2	2.5	0.2	1.2

Intersection Summary	
HCM 6th Ctrl Delay	27.9
HCM 6th LOS	C

Notes

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

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	6	34	20	10	54
Future Vol, veh/h	12	6	34	20	10	54
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	13	7	37	22	11	59

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	129	48	0	0	59	0
Stage 1	48	-	-	-	-	-
Stage 2	81	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	865	1021	-	-	1545	-
Stage 1	974	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	859	1021	-	-	1545	-
Mov Cap-2 Maneuver	859	-	-	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	935	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	1.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	907	1545	-
HCM Lane V/C Ratio	-	-	0.022	0.007	-
HCM Control Delay (s)	-	-	9.1	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	6	48	20	11	55
Future Vol, veh/h	12	6	48	20	11	55
Conflicting Peds, #/hr	0	0	0	0	0	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, %	2	2	2	2	2	2
Mvmt Flow	13	7	52	22	12	60

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	147	63	0	0	74	0
Stage 1	63	-	-	-	-	-
Stage 2	84	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	845	1002	-	-	1526	-
Stage 1	960	-	-	-	-	-
Stage 2	939	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	838	1002	-	-	1526	-
Mov Cap-2 Maneuver	838	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	931	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	886	1526	-
HCM Lane V/C Ratio	-	-	0.022	0.008	-
HCM Control Delay (s)	-	-	9.2	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	129	137	82	217	347	68	415	107	43	633	83
v/c Ratio	0.38	0.44	0.22	0.61	0.39	0.25	0.38	0.19	0.17	0.68	0.17
Control Delay	48.4	41.2	2.7	46.3	26.8	50.0	28.4	5.1	50.7	35.7	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.4	41.2	2.7	46.3	26.8	50.0	28.4	5.1	50.7	35.7	2.3
Queue Length 50th (ft)	34	69	0	107	75	18	97	0	11	161	0
Queue Length 95th (ft)	90	153	7	270	141	55	201	29	39	317	9
Internal Link Dist (ft)		1066			831		722			1335	
Turn Bay Length (ft)	300		260	220		300		95	460		350
Base Capacity (vph)	1075	1183	1052	554	2131	860	1785	847	860	1773	835
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.12	0.08	0.39	0.16	0.08	0.23	0.13	0.05	0.36	0.10

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	127	225	101	116	285	141	597	197	132	465	102
v/c Ratio	0.39	0.56	0.23	0.52	0.35	0.41	0.72	0.43	0.40	0.57	0.22
Control Delay	47.9	38.0	4.3	51.0	26.5	47.5	39.2	16.8	47.7	35.8	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	38.0	4.3	51.0	26.5	47.5	39.2	16.8	47.7	35.8	5.4
Queue Length 50th (ft)	32	110	0	58	60	36	150	30	34	112	0
Queue Length 95th (ft)	90	226	24	164	116	98	330	128	93	254	31
Internal Link Dist (ft)		1066			831		722			1335	
Turn Bay Length (ft)	300		260	220		300		95	460		350
Base Capacity (vph)	1016	1124	990	524	2030	812	1680	806	812	1675	815
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.20	0.10	0.22	0.14	0.17	0.36	0.24	0.16	0.28	0.13

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	129	151	106	217	351	76	415	107	43	633	83
v/c Ratio	0.38	0.47	0.28	0.62	0.39	0.28	0.37	0.19	0.18	0.68	0.17
Control Delay	49.1	41.8	6.3	47.0	27.0	50.5	28.6	5.1	51.4	36.3	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	41.8	6.3	47.0	27.0	50.5	28.6	5.1	51.4	36.3	2.3
Queue Length 50th (ft)	35	78	0	110	77	20	98	0	11	165	0
Queue Length 95th (ft)	90	167	27	271	144	60	201	29	39	319	9
Internal Link Dist (ft)		1066			831		722			1335	
Turn Bay Length (ft)	300		260	220		300		95	460		350
Base Capacity (vph)	1059	1171	1042	546	2100	848	1761	837	848	1748	824
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.13	0.10	0.40	0.17	0.09	0.24	0.13	0.05	0.36	0.10

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	127	233	115	116	298	164	597	197	132	465	102
v/c Ratio	0.39	0.57	0.26	0.52	0.36	0.45	0.72	0.43	0.40	0.59	0.23
Control Delay	48.2	38.3	6.1	51.2	26.9	47.2	39.4	16.8	48.0	37.0	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.2	38.3	6.1	51.2	26.9	47.2	39.4	16.8	48.0	37.0	5.6
Queue Length 50th (ft)	33	115	0	58	64	42	152	30	34	115	0
Queue Length 95th (ft)	90	234	36	164	122	111	330	128	93	257	31
Internal Link Dist (ft)		1066			831		722			1335	
Turn Bay Length (ft)	300		260	220		300		95	460		350
Base Capacity (vph)	1009	1117	985	520	2019	807	1669	801	807	1665	810
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.21	0.12	0.22	0.15	0.20	0.36	0.25	0.16	0.28	0.13

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	137	146	87	232	369	72	457	114	46	717	88
v/c Ratio	0.41	0.47	0.24	0.63	0.40	0.28	0.45	0.21	0.20	0.72	0.17
Control Delay	50.8	43.7	3.3	47.5	27.9	52.5	31.5	6.0	53.1	38.0	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.8	43.7	3.3	47.5	27.9	52.5	31.5	6.0	53.1	38.0	2.9
Queue Length 50th (ft)	39	81	0	124	86	21	115	0	13	201	0
Queue Length 95th (ft)	98	167	15	#316	158	60	233	39	42	386	16
Internal Link Dist (ft)		1066			831		722			1335	
Turn Bay Length (ft)	300		260	220		300		95	460		350
Base Capacity (vph)	995	1101	988	513	1975	796	1653	793	796	1641	782
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.13	0.09	0.45	0.19	0.09	0.28	0.14	0.06	0.44	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	138	243	110	126	307	152	699	213	142	535	111
v/c Ratio	0.43	0.60	0.25	0.56	0.37	0.45	0.77	0.43	0.43	0.60	0.22
Control Delay	50.6	41.4	5.6	54.2	28.6	50.3	41.4	18.0	50.6	37.0	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	41.4	5.6	54.2	28.6	50.3	41.4	18.0	50.6	37.0	6.5
Queue Length 50th (ft)	39	130	0	69	71	42	190	39	40	138	0
Queue Length 95th (ft)	98	251	32	177	128	106	402	148	101	301	40
Internal Link Dist (ft)		1066			831		722			1335	
Turn Bay Length (ft)	300		260	220		300		95	460		350
Base Capacity (vph)	945	1046	930	487	1894	755	1563	758	755	1559	767
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.23	0.12	0.26	0.16	0.20	0.45	0.28	0.19	0.34	0.14

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	137	159	110	232	374	79	457	114	46	717	88
v/c Ratio	0.41	0.50	0.29	0.63	0.40	0.30	0.45	0.21	0.20	0.73	0.17
Control Delay	51.4	44.3	6.9	48.2	28.1	53.2	31.7	6.0	53.7	38.6	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.4	44.3	6.9	48.2	28.1	53.2	31.7	6.0	53.7	38.6	2.9
Queue Length 50th (ft)	40	90	0	126	88	23	117	0	13	205	0
Queue Length 95th (ft)	98	183	35	#316	162	64	233	39	43	386	16
Internal Link Dist (ft)		1066			831		722			1335	
Turn Bay Length (ft)	300		260	220		300		95	460		350
Base Capacity (vph)	981	1086	976	506	1947	784	1631	785	784	1618	773
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.15	0.11	0.46	0.19	0.10	0.28	0.15	0.06	0.44	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	138	251	124	126	320	175	699	213	142	535	111
v/c Ratio	0.43	0.62	0.28	0.56	0.38	0.48	0.76	0.43	0.44	0.61	0.23
Control Delay	51.2	42.1	7.3	54.8	29.2	50.3	41.5	17.9	51.1	38.1	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.2	42.1	7.3	54.8	29.2	50.3	41.5	17.9	51.1	38.1	6.7
Queue Length 50th (ft)	39	135	0	69	76	50	192	39	40	142	0
Queue Length 95th (ft)	100	263	44	179	136	120	402	149	101	304	40
Internal Link Dist (ft)		1066			831		722			1335	
Turn Bay Length (ft)	300		260	220		300		95	460		350
Base Capacity (vph)	937	1038	924	483	1881	750	1550	753	750	1546	762
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.24	0.13	0.26	0.17	0.23	0.45	0.28	0.19	0.35	0.15

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	150	160	96	253	404	79	499	125	50	782	97
v/c Ratio	0.46	0.52	0.26	0.64	0.41	0.32	0.47	0.22	0.23	0.76	0.18
Control Delay	53.8	47.0	4.4	48.6	29.3	55.8	32.8	7.1	56.2	40.5	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.8	47.0	4.4	48.6	29.3	55.8	32.8	7.1	56.2	40.5	3.8
Queue Length 50th (ft)	48	99	0	147	104	25	138	0	16	244	0
Queue Length 95th (ft)	106	184	22	#367	176	64	257	49	46	432	25
Internal Link Dist (ft)		1066			831		722			1335	
Turn Bay Length (ft)	300		260	220		300		95	460		350
Base Capacity (vph)	902	999	908	465	1795	722	1501	732	722	1489	721
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.16	0.11	0.54	0.23	0.11	0.33	0.17	0.07	0.53	0.13

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	148	262	117	135	331	163	745	228	153	572	118
v/c Ratio	0.46	0.65	0.27	0.59	0.39	0.48	0.77	0.44	0.47	0.60	0.23
Control Delay	53.3	45.0	6.7	57.3	30.3	53.0	42.2	19.1	53.2	37.7	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.3	45.0	6.7	57.3	30.3	53.0	42.2	19.1	53.2	37.7	7.2
Queue Length 50th (ft)	44	151	0	79	83	49	215	48	46	157	0
Queue Length 95th (ft)	107	282	39	192	144	115	#447	168	110	329	46
Internal Link Dist (ft)		1066			831		722			1335	
Turn Bay Length (ft)	300		260	220		300		95	460		350
Base Capacity (vph)	891	986	884	459	1791	712	1473	722	712	1469	730
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.27	0.13	0.29	0.18	0.23	0.51	0.32	0.21	0.39	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	150	173	118	253	409	87	499	125	50	782	97
v/c Ratio	0.48	0.56	0.32	0.67	0.42	0.36	0.43	0.21	0.24	0.79	0.19
Control Delay	55.2	48.7	8.1	51.3	30.2	56.7	32.3	6.8	57.2	43.3	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	48.7	8.1	51.3	30.2	56.7	32.3	6.8	57.2	43.3	3.7
Queue Length 50th (ft)	49	109	0	151	106	28	141	0	16	248	0
Queue Length 95th (ft)	106	198	42	#368	180	70	257	48	45	433	24
Internal Link Dist (ft)		1066			831		722			1335	
Turn Bay Length (ft)	300		260	220		300		95	460		350
Base Capacity (vph)	840	930	854	433	1672	672	1399	691	672	1385	679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.19	0.14	0.58	0.24	0.13	0.36	0.18	0.07	0.56	0.14

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	148	270	132	135	344	186	745	228	153	572	118
v/c Ratio	0.46	0.66	0.30	0.59	0.40	0.52	0.77	0.44	0.47	0.62	0.23
Control Delay	53.9	45.6	7.8	58.0	31.1	53.0	42.4	19.1	53.8	38.9	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	45.6	7.8	58.0	31.1	53.0	42.4	19.1	53.8	38.9	7.4
Queue Length 50th (ft)	45	157	0	80	87	56	217	48	46	160	0
Queue Length 95th (ft)	108	297	49	194	154	129	440	167	111	332	46
Internal Link Dist (ft)		1066			831		722			1335	
Turn Bay Length (ft)	300		260	220		300		95	460		350
Base Capacity (vph)	883	977	880	455	1776	706	1460	717	706	1457	725
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.28	0.15	0.30	0.19	0.26	0.51	0.32	0.22	0.39	0.16

Intersection Summary

Appendix D

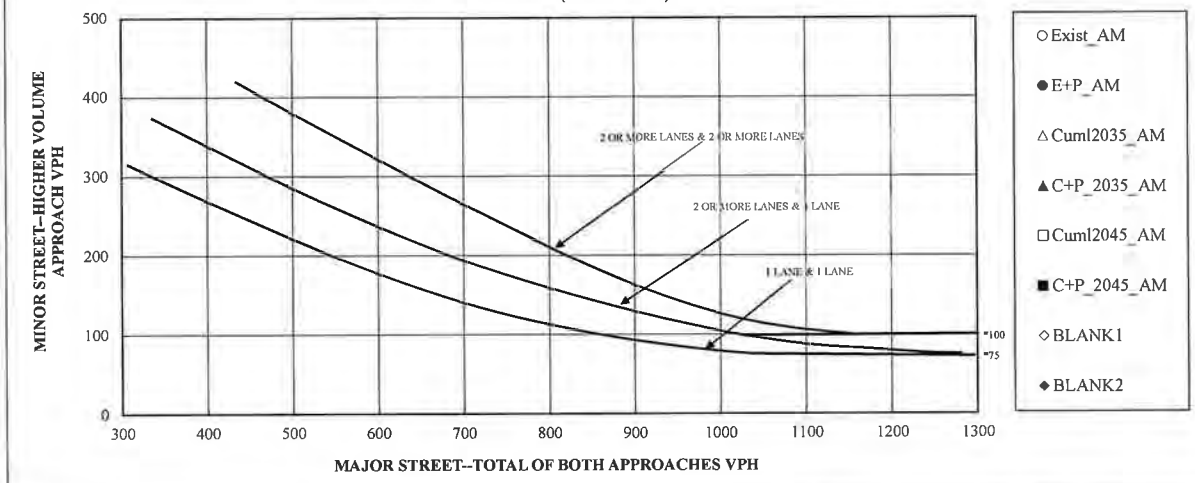
Signal Warrant Worksheets

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM PEAK HOUR" CONDITIONS

FIGURE 4C-4 WARRANT 3 PEAK HOUR (70% FACTOR)

(COMMUNITIES LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREETS)
(2009 MUTCD)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
Exist_AM	89	40	NO
E+P_AM	96	61	NO
Cuml2035_AM	174	45	NO
C+P_2035_AM	181	66	NO
Cuml2045_AM	184	49	NO
C+P_2045_AM	191	70	NO
BLANK1	0	0	
BLANK2	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **November 22, 2022** Intersection No.: **1**

Intersection: **GS Richards Blvd & Silver Oak Dr**

Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

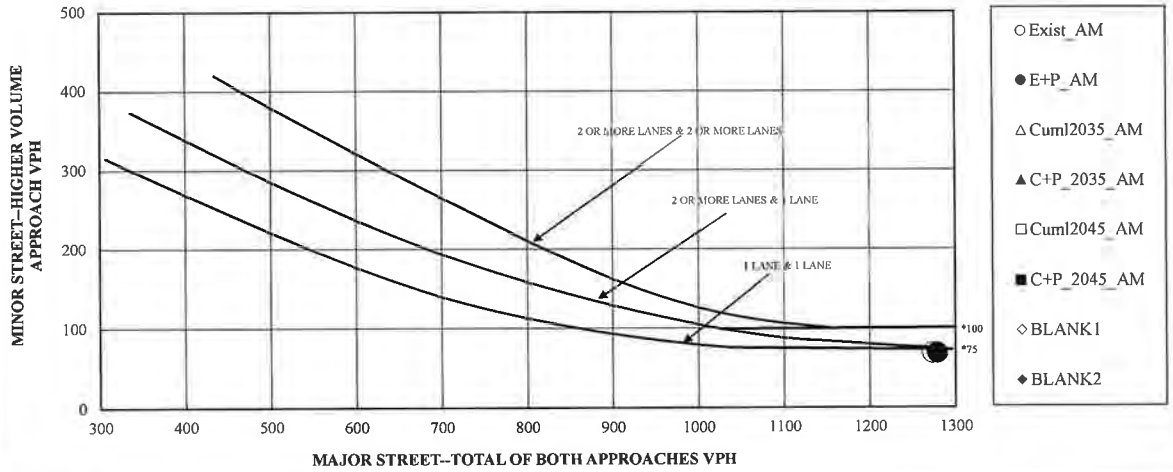
WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM PEAK HOUR" CONDITIONS

FIGURE 4C-4 WARRANT 3 PEAK HOUR (70% FACTOR)

(COMMUNITIES LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREETS)
(2009 MUTCD)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
Exist_AM	1273	68	NO
E+P_AM	1279	68	NO
Cuml2035_AM	1452	76	NO
C+P_2035_AM	1458	91	NO
Cuml2045_AM	1589	84	NO
C+P_2045_AM	1595	93	NO
BLANK1	0	0	
BLANK2	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **November 22, 2022** Intersection No.: **2**

Intersection: **N Carson St & Silver Oak Dr**

Number of lanes on MAJOR street: **2**

Number of lanes on MINOR street: **2**

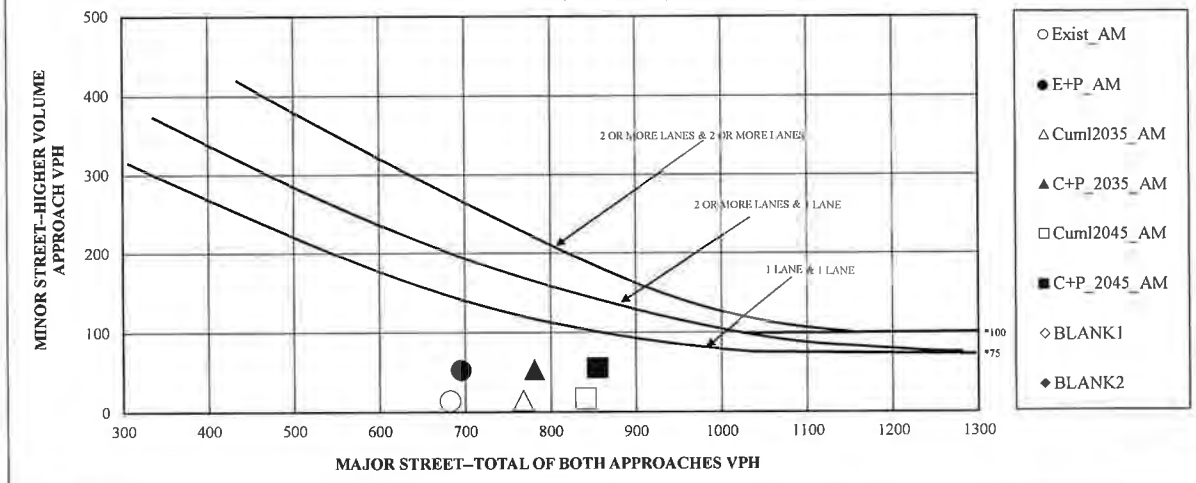
WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM PEAK HOUR" CONDITIONS

FIGURE 4C-4 WARRANT 3 PEAK HOUR (70% FACTOR)

(COMMUNITIES LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREETS)
(2009 MUTCD)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
Exist_AM	682	13	NO
E+P_AM	695	52	NO
Cuml2035_AM	768	14	NO
C+P_2035_AM	781	53	NO
Cuml2045_AM	842	16	NO
C+P_2045_AM	855	55	NO
BLANK1	0	0	
BLANK2	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **November 22, 2022** Intersection No.: **3**

Intersection: **GS Richards Blvd & W College Pkwy**

Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

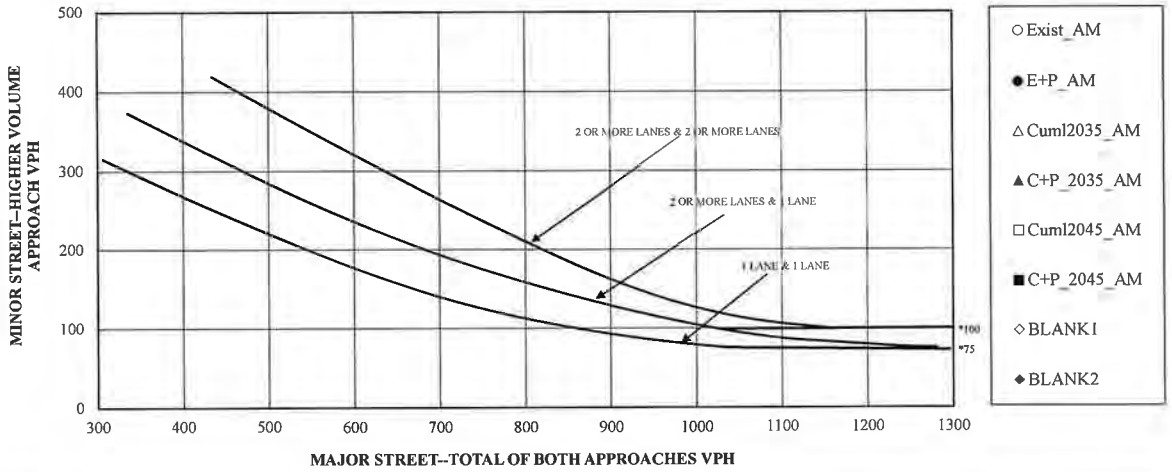
WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM PEAK HOUR" CONDITIONS

FIGURE 4C-4 WARRANT 3 PEAK HOUR (70% FACTOR)

(COMMUNITIES LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREETS)
(2009 MUTCD)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
Exist_AM	114	0	NO
E+P_AM	137	30	NO
Cuml2035_AM	128	0	NO
C+P_2035_AM	151	30	NO
Cuml2045_AM	141	0	NO
C+P_2045_AM	164	30	NO
BLANK1	0	0	
BLANK2	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **November 22, 2022** Intersection No.: **5**

Intersection: **GS Richards Blvd & Project Driveway 1**

Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

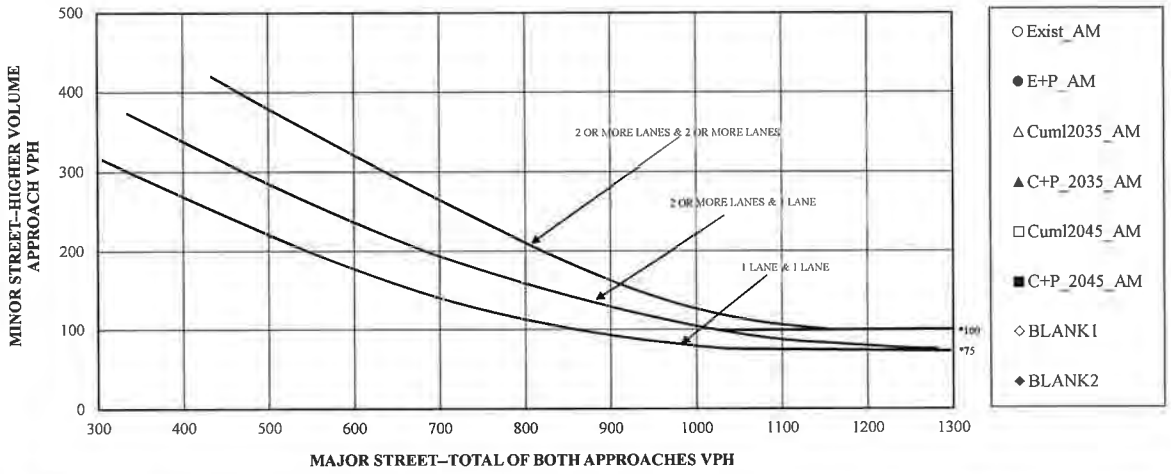
WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "AM PEAK HOUR" CONDITIONS

FIGURE 4C-4 WARRANT 3 PEAK HOUR (70% FACTOR)

(COMMUNITIES LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREETS)
(2009 MUTCD)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
Exist_AM	114	0	NO
E+P_AM	148	29	NO
Cuml2035_AM	128	0	NO
C+P_2035_AM	162	29	NO
Cuml2045_AM	141	0	NO
C+P_2045_AM	175	29	NO
BLANK1	0	0	
BLANK2	0	0	

Note: Major approach is the total of both approaches Minor approach is the highest of both approaches

Date: **November 22, 2022** Intersection No.: **6**

Intersection: **GS Richards Blvd & Project Driveway 1**

Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

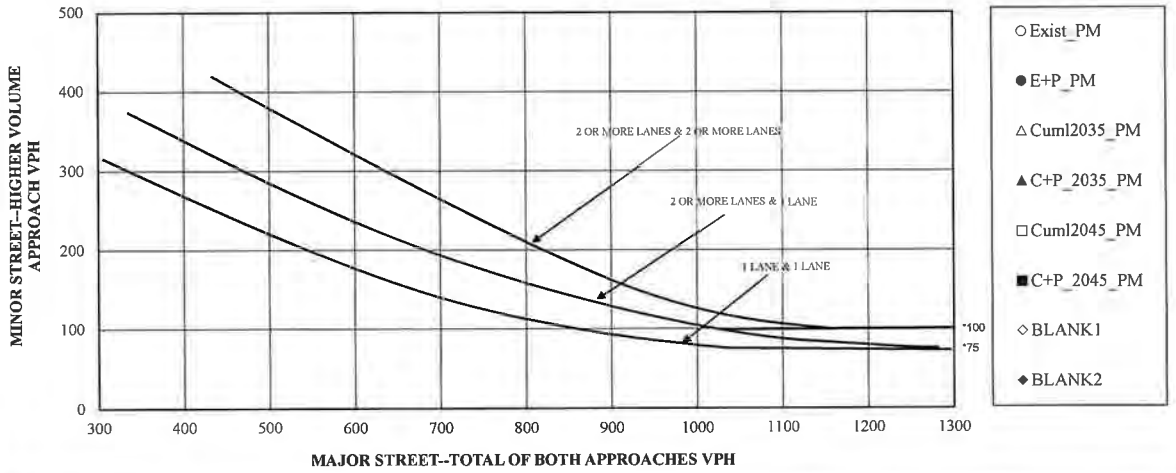
WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "PM PEAK HOUR" CONDITIONS

FIGURE 4C-4 WARRANT 3 PEAK HOUR (70% FACTOR)

(COMMUNITIES LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREETS)
(2009 MUTCD)



Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
Exist_PM	47	24	NO
E+P_PM	68	37	NO
Cuml2035_PM	160	26	NO
C+P_2035_PM	181	39	NO
Cuml2045_PM	166	28	NO
C+P_2045_PM	187	41	NO
BLANK1	0	0	
BLANK2	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **November 22, 2022** Intersection No.: **1**

Intersection: **GS Richards Blvd & Silver Oak Dr**

Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

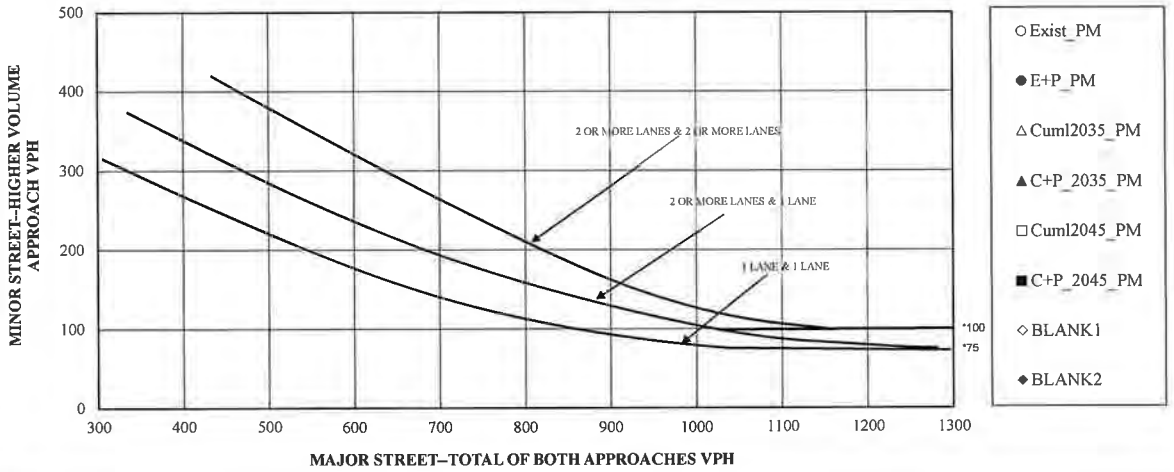
WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "PM PEAK HOUR" CONDITIONS

FIGURE 4C-4 WARRANT 3 PEAK HOUR (70% FACTOR)

(COMMUNITIES LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREETS)
(2009 MUTCD)



Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
Exist_PM	1411	35	NO
E+P_PM	1429	40	NO
Cuml2035_PM	1615	73	NO
C+P_2035_PM	1633	84	NO
Cuml2045_PM	1726	75	NO
C+P_2045_PM	1744	86	NO
BLANK1	0	0	
BLANK2	0	0	

Note: Major approach is the total of both approaches Minor approach is the highest of both approaches.

Date: **November 22, 2022** Intersection No.: **2**

Intersection: **N Carson St & Silver Oak Dr**

Number of lanes on MAJOR street: **2**

Number of lanes on MINOR street: **2**

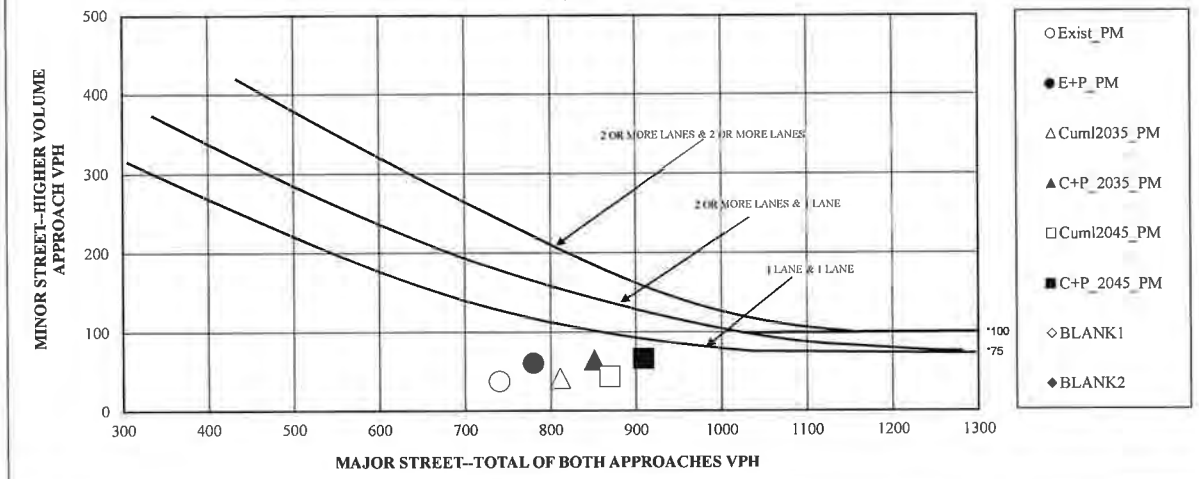
WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "PM PEAK HOUR" CONDITIONS

FIGURE 4C-4 WARRANT 3 PEAK HOUR (70% FACTOR)

(COMMUNITIES LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREETS)
(2009 MUTCD)



Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
Exist_PM	740	37	NO
E+P_PM	780	60	NO
Cuml2035_PM	811	41	NO
C+P_2035_PM	851	64	NO
Cuml2045_PM	869	43	NO
C+P_2045_PM	909	66	NO
BLANK1	0	0	
BLANK2	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **November 22, 2022** Intersection No.: **3**

Intersection: **GS Richards Blvd & W College Pkwy**

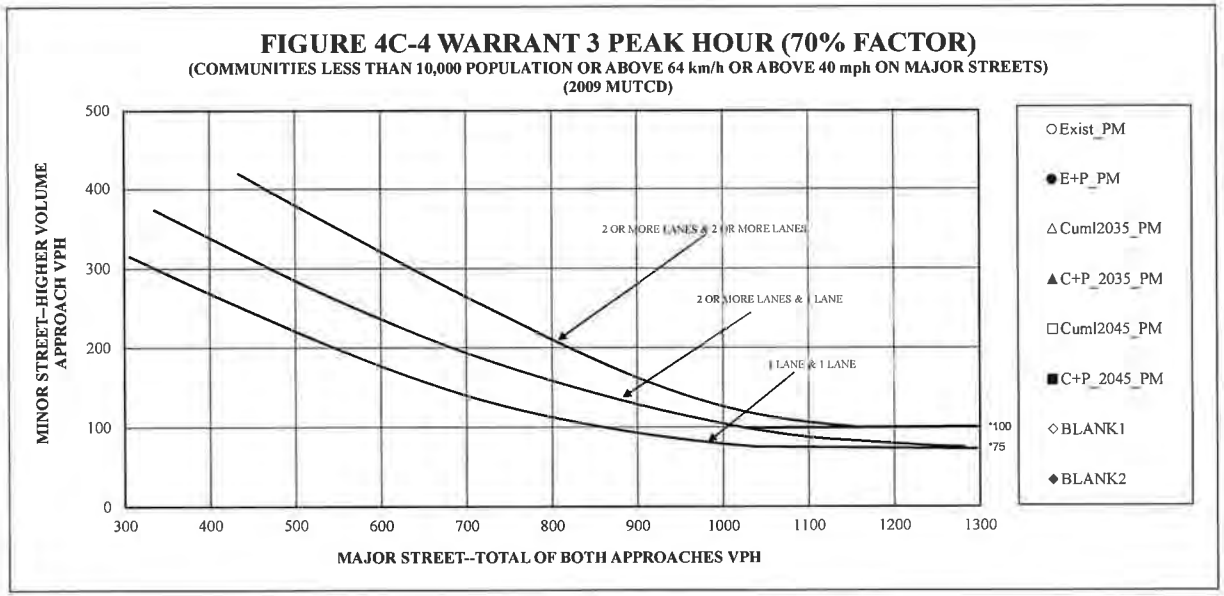
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "PM PEAK HOUR" CONDITIONS



Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
Exist_PM	61	0	NO
E+P_PM	108	18	NO
Cuml2035_PM	67	0	NO
C+P_2035_PM	114	18	NO
Cuml2045_PM	71	0	NO
C+P_2045_PM	118	18	NO
BLANK1	0	0	
BLANK2	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **November 22, 2022** Intersection No.: **5**

Intersection: **GS Richards Blvd & Project Driveway 1**

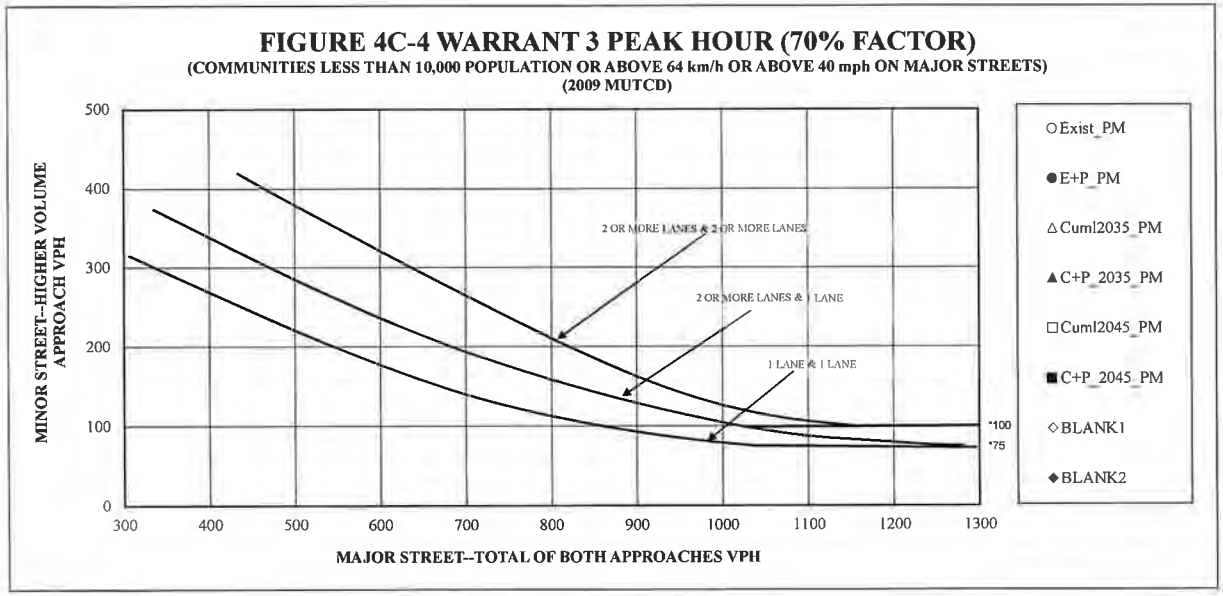
Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

CA SIGNAL WARRANT 3 ANALYSIS

SCENARIOS: "PM PEAK HOUR" CONDITIONS



Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SCENARIO	APPROACH(ES)		WARRANT MET?
	MAJOR	MINOR	
Exist_PM	61	0	NO
E+P_PM	124	18	NO
Cuml2035_PM	67	0	NO
C+P_2035_PM	130	18	NO
Cuml2045_PM	71	0	NO
C+P_2045_PM	134	18	NO
BLANK1	0	0	
BLANK2	0	0	

Note: Major approach is the total of both approaches. Minor approach is the highest of both approaches.

Date: **November 22, 2022** Intersection No.: **6**

Intersection: **GS Richards Blvd & Project Driveway 1**

Number of lanes on MAJOR street: **1**

Number of lanes on MINOR street: **1**

WOOD RODGERS
DEVELOPING INNOVATIVE DESIGN SOLUTIONS

Appendix E

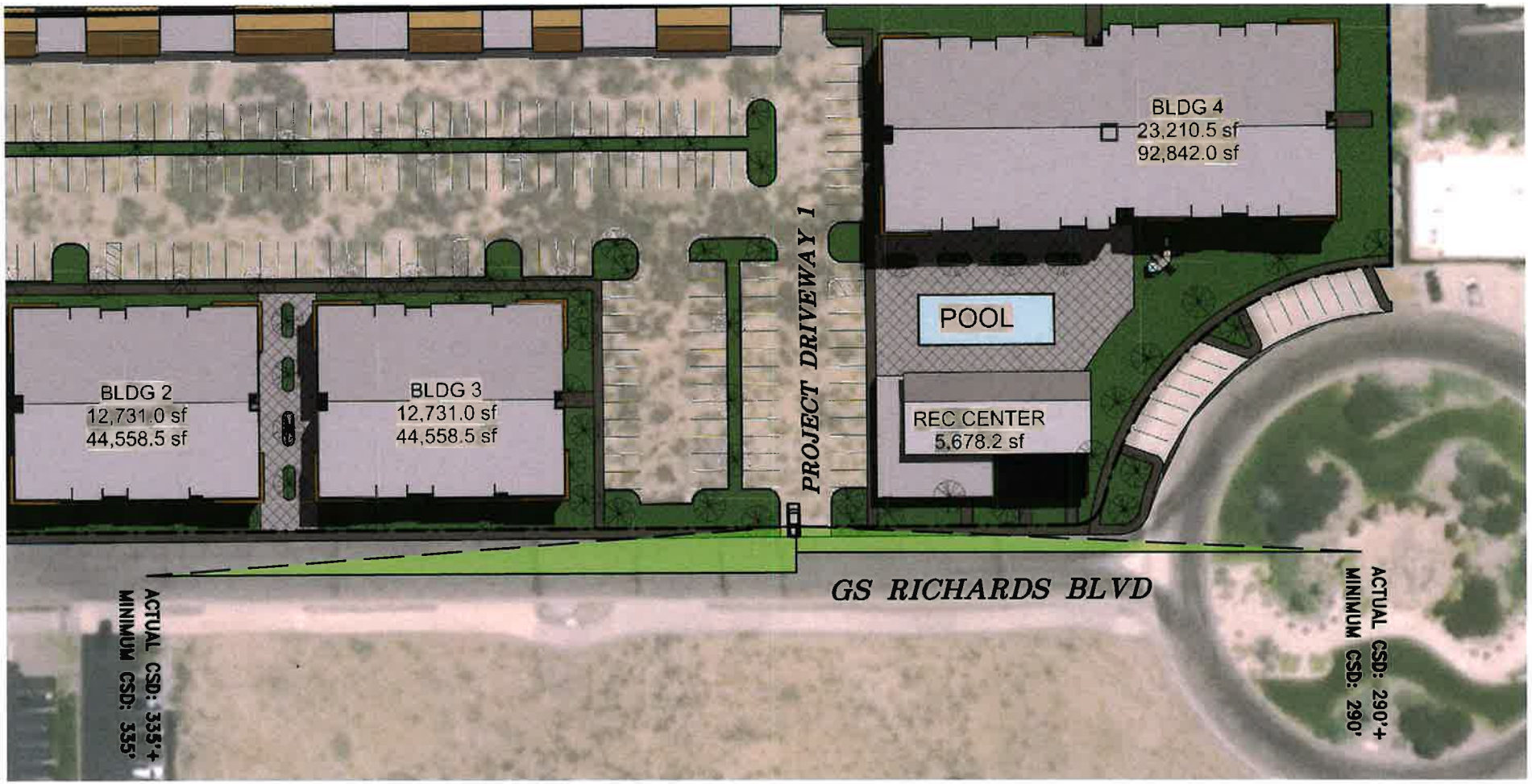
Corner Sight Distance Exhibits

CORNER SIGHT DISTANCE (CSD) TRIANGLES - LEFT-TURN FROM STOP

SILVER OAK APARTMENTS

CARSON CITY, NV

NOVEMBER, 2022



80' 40' 0 80'

SCALE: 1" = 80'

VISIBLE AREA

LINE OF SIGHT

WOOD RODGERS

BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

3301 C St, Bldg. 100-B Tel 916.341.7760

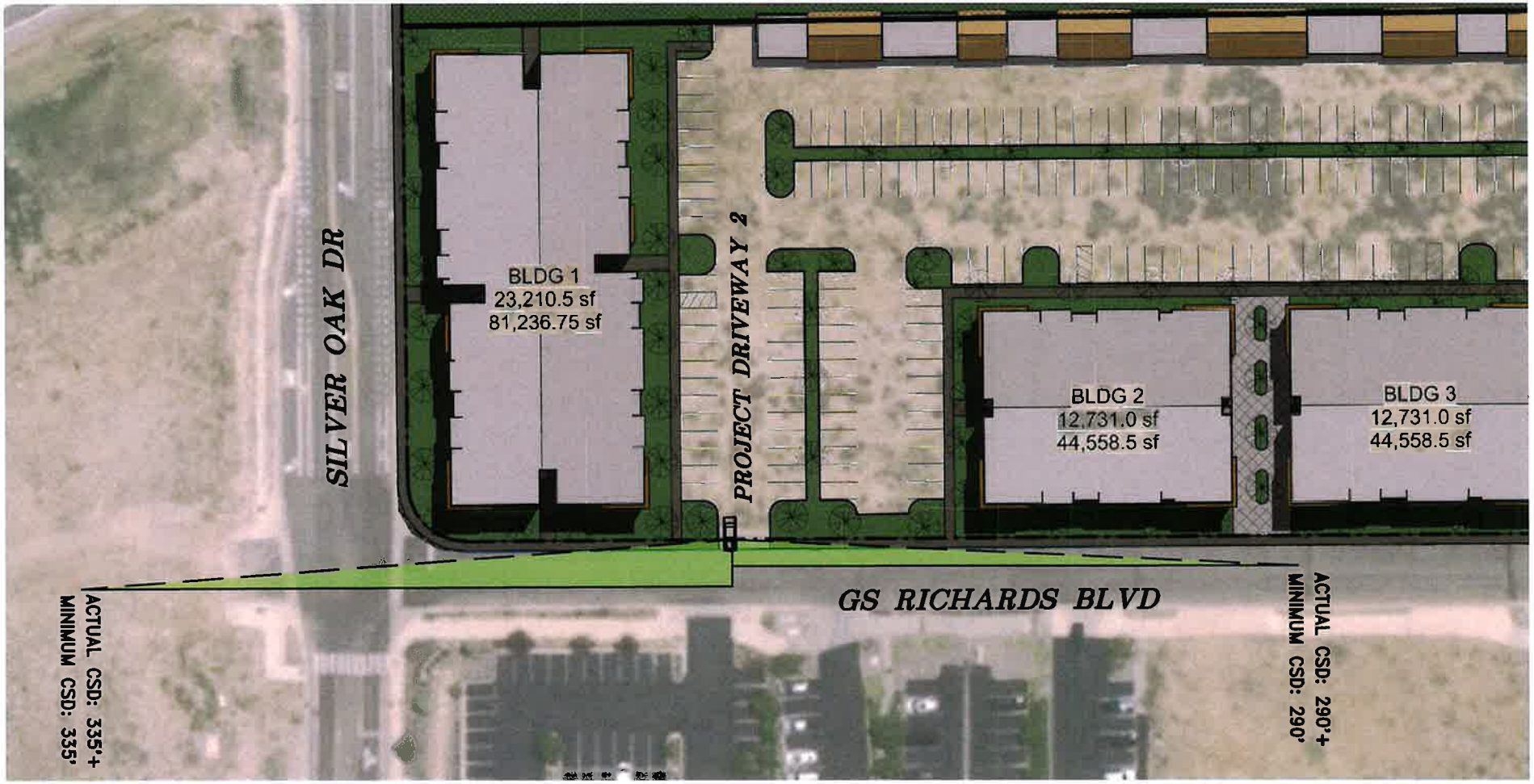
Sacramento, CA 95816 Fax 916.341.7767

CORNER SIGHT DISTANCE (CSD) TRIANGLES - LEFT-TURN FROM STOP

SILVER OAK APARTMENTS

CARSON CITY, NV

NOVEMBER, 2022



80' 40' 0 80'

SCALE: 1" = 80'

VISIBLE AREA

LINE OF SIGHT

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
3301 C St, Bldg. 100-B Tel 916.341.7760
Sacramento, CA 95816 Fax 916.341.7767

Appendix F

Crash Data

Intersection Detail
GS Richards Blvd @ Silver Oak Dr.
01 Jan 2015 to 31 Dec 2019
No crashes

Individual Detail
Person Crash @ Town Out
01 Jan 2015 to 13 Dec 2015

Crash Severity	County	Crash Date	Crash Time	Crash Time	Primary Street	Distance	Dir	Secondary Street	Weather	Fatalities	Injuries	Property Damage Only	Hit/Run Type	Crash Type	Total Vehicles	V1 Type	V1 Driver Factors	V1 Vehicle Factors	V1 Lic Issuer	V1 Type	V1 Action	V1 Driver Details	V1 Vehicle Factors
PROPERTY DAMAGE ONLY	CARSON CITY	4/11/2015 9:30	1015	11/10/1899 6:30:00 AM	CARSON ST	<Null>	EAST	SILVER OAK DR	CLEAR	<Null>	<Null>	PDO		REAR END	2	PICKUP	APPARENTLY NORMAL	RESUMED TOO CLOSELY		HATCHBACK, 4 DOOR	GOING STRAIGHT	APPARENTLY NORMAL	
PROPERTY DAMAGE ONLY	CARSON CITY	4/11/2015 9:23	1015	11/10/1899 9:23:00 AM	CARSON ST	<Null>	EAST	SILVER OAK DR	CLEAR	<Null>	<Null>	PDO		REAR END	4	AUTO CARRIER	APPARENTLY NORMAL	OPERATING VEHICLE IN ERRATIC, RECKLESS, CARELESS, NEGLIGENT OR AGGRESSIVE MANNER	SJ (NOT SPECIFIED)	STRAIN, 4 DOOR	STOPPED	APPARENTLY NORMAL	OPERATING VEHICLE IN ERRATIC, RECKLESS, CARELESS, NEGLIGENT OR AGGRESSIVE MANNER
PROPERTY DAMAGE ONLY	CARSON CITY	8/2/2014 17:53	1753	11/10/1899 5:53:00 PM	CARSON ST	<Null>	EAST	SILVER OAK DR	CLEAR	<Null>	<Null>	PDO		ANGLE	2	VIDEN, 4 DOOR	APPARENTLY NORMAL	FAILED TO YIELD RIGHT OF WAY		MINIVAN	GOING STRAIGHT	APPARENTLY NORMAL	
PROPERTY DAMAGE ONLY	CARSON CITY	1/28/2015 11:37	1137	11/10/1899 9:37:00 PM	CARSON ST	<Null>	EAST	SILVER OAK DR	CLEAR	<Null>	<Null>	PDO		ANGLE	2	CAMRY ALL	MAKE MOVE DRIVING	FAILED TO YIELD RIGHT OF WAY		SUV	GOING STRAIGHT	APPARENTLY NORMAL	
INJURY ONLY	CARSON CITY	3/5/2015 13:31	1331	11/10/1899 12:31:00 AM	CARSON ST	200 ft	S	SILVER OAK DR	RAIN	<Null>	1		C	HIT AND RUN	1	SEDAN, 4 DOOR	UNKNOWN	DROVE LEFT OF CENTER	PASCITT FOAD (UT) (UNKNOWN PROVINCE)	HATCHBACK, 4 DOOR	GOING STRAIGHT	APPARENTLY NORMAL	
PROPERTY DAMAGE ONLY	CARSON CITY	4/14/2015 8:08	808	11/10/1899 8:08:00 AM	SILVER OAK DR	<Null>	EAST	N CARSON ST	CLOUDY	<Null>	<Null>	PDO		NON-COLLISION	1	SEDAN, 4 DOOR	DRUG/ALCOHOL USE?	DROVE LEFT OF CENTER	NOT REPORTED				
INJURY ONLY	CARSON CITY	5/5/2015 11:51	1151	11/10/1899 11:51:00 PM	CARSON ST	<Null>	EAST	N CARSON ST	CLEAR	<Null>	1		C	ANGLE	2	SEDAN, 4 DOOR	APPARENTLY NORMAL	FAILED TO YIELD RIGHT OF WAY		HATCHBACK, 4 DOOR	GOING STRAIGHT	APPARENTLY NORMAL	
PROPERTY DAMAGE ONLY	CARSON CITY	11/17/2015 13:36	1336	11/10/1899 12:36:00 PM	SILVER OAK DR	<Null>	EAST	N CARSON ST	CLOUDY	<Null>	<Null>	PDO		NON-COLLISION	1	HATCHBACK, 4 DOOR	APPARENTLY NORMAL	FAILED TO YIELD RIGHT OF WAY					
PROPERTY DAMAGE ONLY	CARSON CITY	11/11/2015 12:36	1236	11/10/1899 10:36:00 AM	N CARSON ST	<Null>	EAST	S CURRY ST	CLEAR	<Null>	<Null>	PDO		ANGLE	2	SEDAN	APPARENTLY NORMAL	FAILED TO YIELD RIGHT OF WAY		HATCHBACK, 2 DOOR	GOING STRAIGHT	APPARENTLY NORMAL	

Intersection Detail
GS Richards Blvd @ College Parkway
01 Jan 2015 to 31 Dec 2019

Crash Severity	County	Crash Date	Crash Year	Crash Time	Primary Street	Distance	Dir	Secondary Street	Weather	Fatalities	Injured	Property Damage Only	Injury Type	Crash Type	Total Vehicles	V1 Type	V1 Action	V1 Driver Factors	V1 Vehicle Factors	V1 All Events	V2 Action	V2 Driver Factors	V2 All Events
INJURY CRASH	CARSON CITY	9/12/2016 12:20	2016	12/30/1899 12:20:00 PM	W COLLEGE PKWY	150	E	GS RICHARDS BLVD	CLOUDY	<Null>	1		C	ANGLE	2	SEDAN, 4 DOOR	TURNING LEFT	APPARENTLY NORMAL	FAILED TO YIELD RIGHT OF WAY	SLOW/STOPPED VEHICLE: SLOW/STOPPED VEHICLE	GOING STRAIGHT	APPARENTLY NORMAL	SLOW/STOPPED VEHICLE

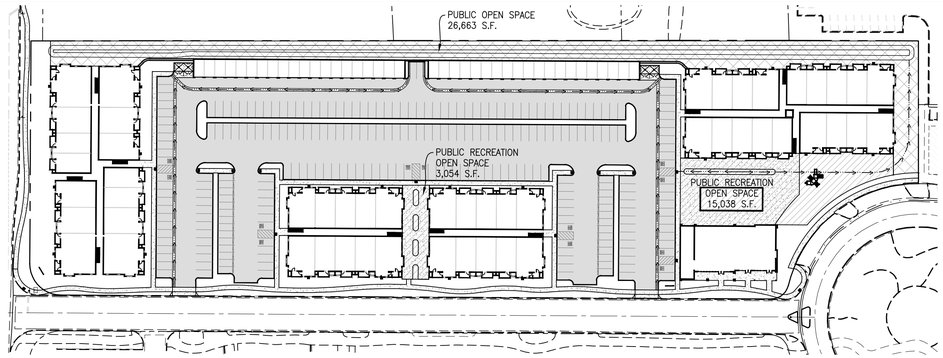
SITE & UTILITY LEGEND

- A.C. PAVEMENT AREA
- CONCRETE AREA
- UTILITY — PROPOSED UTILITY LINE W. DESCRIPTION
- (UTILITY) — EXISTING UTILITY LINE W. DESCRIPTION
- FIRE HYDRANT ASSEMBLY (EXISTING/PROPOSED)
- FLUSH VALVE ASSEMBLY (EXISTING/PROPOSED)
- DUAL/SIINGLE WATER SERVICE (EXISTING/PROPOSED)
- AIR RELEASE VALVE ASSEMBLY (EXISTING/PROPOSED)
- WATER MAIN TEE W. GATE VALVES & THRUST BLOCK
- BACKFLOW PREVENTION ASSEMBLY
- ELBOW W. THRUST BLOCK
- MAHHOLE W. DESCRIPTION (EXISTING/PROPOSED)
- CLEANOUT (EXISTING/PROPOSED)
- SANITARY SEWER LATERAL
- CATCH BASIN/DROP INLET
- YARD DRAIN
- ACCESSIBLE PARKING SPACE W. SIGN & PAVEMENT MARKINGS
- PEDESTRIAN ACCESS RAMP
- ACCESSIBLE ROUTE
- (12) PARKING SPACE COUNT
- (1)(1)(1)(1) KEYNOTE (REF. CORRESPONDING LEGEND)

THIS PLAN IS INTENDED FOR PRELIMINARY REVIEW ONLY NOT FOR CONSTRUCTION

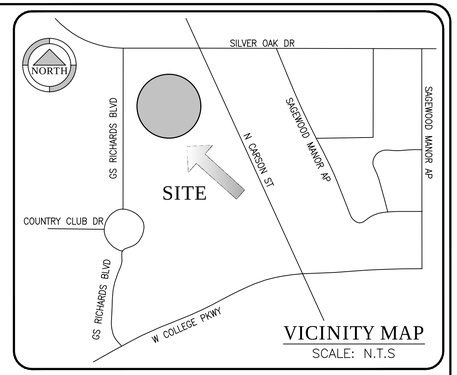
GENERAL NOTES

1. THESE PLANS ARE FOR SPECIAL USE PERMIT PURPOSES ONLY AND ARE NOT FOR CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL REQUIRED PERMITTING IS OBTAINED PRIOR TO COMMENCEMENT OF CONSTRUCTION, INCLUDING, BUT NOT LIMITED TO, DEMOLITION, ENCROACHMENT, BUILDING, GRADING, AND TRAFFIC CONTROL PERMITS.
3. UNLESS SPECIFICALLY PERMITTED OTHERWISE, CONSTRUCTION HOURS SHALL BE LIMITED TO BETWEEN THE HOURS OF 7:00 AM AND 6:00 PM MONDAY THROUGH FRIDAY AND BETWEEN THE HOURS OF 8:00 AM AND 6:00 PM ON SATURDAY. THERE SHALL BE NO CONSTRUCTION ON SUNDAY EXCLUDING DUST CONTROL AND STORM WATER POLLUTION PREVENTION PLAN MEASURES.
4. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC) AND THE STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION (SDPWC), AS ADOPTED BY CARSON CITY, AND SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER. ALL SPECIFICATIONS REFERENCED HEREIN REFER TO THE SSPWC UNLESS INDICATED OTHERWISE.
5. ALL QUANTITIES INDICATED IN THESE PLANS ARE APPROXIMATE AND INTENDED FOR PERMITTING & BONDING PURPOSES ONLY. THE CONTRACTOR SHALL PREPARE AN INDEPENDENT ESTIMATE FOR BIDDING & CONSTRUCTION PURPOSES.
6. THE FIELD SURVEY PREPARED BY WOOD RODGERS INC. IS THE BASIS OF THIS DESIGN. MVC TAKES NO RESPONSIBILITY FOR THE ACCURACY OF THE SURVEY.
7. AN ENCROACHMENT & EXCAVATION PERMIT IS REQUIRED FOR ALL WORK WITHIN THE CARSON CITY RIGHT-OF-WAY.
8. ALL WORK WITHIN THE CARSON CITY RIGHT-OF-WAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST CODES, STANDARD SPECIFICATIONS & DETAILS.
9. REFERENCE ARCHITECTURAL PLANS FOR ALL BUILDING DIMENSIONS.
10. ALL DIMENSIONS ARE TO FRONT FACE OF CURB, FACE OF BUILDING, FACE OF WALL, CENTER OF PIPE, CENTER OF MANHOLE OR PROPERTY LINE UNLESS OTHERWISE NOTED.
11. ALL PERMANENT STRIPING, SIGNAGE & TRAFFIC CONTROL IMPROVEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) REQUIREMENTS.
12. ALL NEW PEDESTRIAN INSTALLATIONS TO MEET CURRENT ADA REQUIREMENTS (ICC A117.1-2009 & PROWAG GUIDELINES).
13. THE ACCESSIBLE ROUTE SHALL NOT HAVE A RUNNING SLOPE EXCEEDING 5%(1:20) OR A CROSS SLOPE EXCEEDING 2%(1:48).
14. THE ACCESSIBLE ROUTE MAY CONTAIN RAMPS WITH A RUNNING SLOPE BETWEEN 5%(1:20)~8.33%(1:12). RAMPS SHALL HAVE A LANDING WITH A MAXIMUM SLOPE IN ANY DIRECTION OF 2%(1:48) AT THE TOP AND BOTTOM WITH A MAXIMUM VERTICAL RISE OF 30". RAMPS WITH A VERTICAL RISE GREATER THAN 6" SHALL HAVE A HANDRAIL.
15. ACCESSIBLE PARKING SPACES SHALL HAVE A MAXIMUM SLOPE OF 2%(1:48) IN ANY DIRECTION.
16. PROVIDE DETECTABLE WARNING (TRUNCATED DOMES) AT ALL LOCATIONS WHERE AN ACCESSIBLE PEDESTRIAN ROUTE ENTERS A VEHICULAR ROUTE. DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP (EXCLUSIVE OF FLARED SIDES).
17. REFERENCE ARCHITECTURAL PLANS FOR ALL ACCESSIBLE TRANSITIONS FROM THE SITE IMPROVEMENTS TO THE INTERIOR OF THE PROPOSED STRUCTURE.
18. UTILITIES MAY EXIST THAT ARE NOT SHOWN ON THE PLANS. THE LOCATIONS OF EXISTING UTILITIES ARE APPROXIMATE ONLY AND ARE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME OF DESIGN. THE INFORMATION IS NOT TO BE RELIED UPON AS EXACT OR COMPLETE. SPECIFICALLY, THE CONTRACTOR SHALL POT HOLE TO EXPOSE ANY UTILITY TIE IN PRIOR TO CONSTRUCTION TO VERIFY ACTUAL LOCATIONS AND ELEVATIONS OF UTILITIES PRIOR TO CONSTRUCTION. SHOULD THE CONTRACTOR DISCOVER ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THE INFORMATION SHOWN ON THESE DRAWINGS, THEY SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
19. UTILITY CONNECTIONS MAY REQUIRE REMOVAL, RELOCATION, REPAIR AND/OR REPLACEMENT OF EXISTING IMPROVEMENTS. THIS INCLUDES THE ADJUSTMENT/RELOCATION OF ALL EXISTING UTILITY VAULTS, MANHOLE LIDS & VALVE LIDS AS REQUIRED TO ACCOMMODATE THE PROPOSED FINISHED GRADES. THE CONTRACTOR SHALL OBTAIN ANY NECESSARY UTILITY COMPANY APPROVAL AND ENCROACHMENT OR EXCAVATION PERMIT PRIOR TO ANY CONSTRUCTION WITHIN THE CARSON CITY RIGHT-OF-WAY.
20. UNLESS SPECIFIED OTHERWISE, ALL PROPOSED UTILITY SEWER AND STORM DRAIN IMPROVEMENTS ARE PRIVATE AND SHALL BE MAINTAINED BY THE OWNER.
21. ALL SANITARY SEWER FACILITIES ARE INTENDED TO GRAVITY FLOW. SANITARY SEWER LATERALS SHALL MAINTAIN 3.0' MINIMUM COVER WITHIN THE RIGHT-OF-WAY, BE 4"ø PVC SDR 35 AND HAVE A MINIMUM SLOPE OF 2% UNLESS OTHERWISE NOTED.
22. MAINTAIN 3.5' MINIMUM COVER OVER ALL WATER MAINS AND SERVICE LINES.
23. MAINTAIN 3.0' MINIMUM HORIZONTAL CLEARANCE AROUND ALL FIRE HYDRANTS.
24. MAINTAIN 10' HORIZONTAL CLEARANCE BETWEEN DOMESTIC WATER AND SANITARY SEWER LINES. WHERE CROSSINGS ARE REQUIRED, DOMESTIC WATER SHALL MAINTAIN 18" MINIMUM CLEARANCE OVER SANITARY SEWER. FULL STICKS OF PIPE SHALL BE CENTERED ON THE CROSSING WHERE POSSIBLE. IF THESE CLEARANCES ARE NOT POSSIBLE, SPECIAL CONSTRUCTION IS REQUIRED (IF NOT SPECIFIED, CONTRACTOR SHALL NOTIFY MVC PRIOR TO PROCEEDING WITH CONSTRUCTION).
25. ALL PIPE SHALL BE CONSTRUCTED IN ACCORDANCE WITH PERTINENT REGULATIONS AND MANUFACTURES RECOMMENDATIONS.
26. ANY LOCATION FOR GAS, ELECTRICAL, TELEPHONE, CABLE TV, COMMUNICATION OR ANY OTHER LOW VOLTAGE IMPROVEMENT SHOWN IS SCHEMATIC ONLY (REF. DESIGN & DETAIL BY OTHERS).
27. ADD 4700' TO ALL SPOT ELEVATIONS.



OPEN SPACE PLAN

SCALE:1"=80'



VICINITY MAP

SCALE: N.T.S

SITE ANALYSIS

AREA	270,071 S.F.	
ZONING	RC-P	
SETBACKS (F/R/S)	0/0/0 (FT)	
BUILDING FOOTPRINT	87,555 S.F.	32.4%
PAVED/IMPERVIOUS	116,572 S.F.	43.2%
LANDSCAPED	65,944 S.F.	24.4%

FIRE FLOW ANALYSIS

BUILDING	1	2	3	4	5
AREA (FT²)	69,632	37,283	37,283	92,842	7,131
STORIES	3	3	3	4	2
HEIGHT	35'	35'	35'	45'	25'
CONST. TYPE	V-A	V-A	V-A	V-A	V-A
OCC. GROUP	R-2	R-2	R-2	R-2	A-3
FIRE SPRINKLERS	YES	YES	YES	YES	YES
FIRE FLOW (GPM)	2,375	1,750	1,750	2,750	1,500
DURATION (HRS)	2	2	2	2	2
HYDRANTS	3	1	1	3	1

NOTES:
1. MINIMUM RESIDUAL SYSTEM PRESSURE IS 20 PSI.
2. ALL BUILDING INFORMATION PROVIDED BY KRI ARCHITECTURE.
3. FIRE FLOW & DURATION DETERMINED USING IFC TABLE B105.1(2).
4. UP TO 50% REDUCTION ALLOWED FOR FIRE SPRINKLERS (IFC B105.2)
5. HYDRANT REQUIREMENTS DETERMINED USING IFC TABLE C105.1

OPEN SPACE CALCULATIONS

REQUIREMENTS	UNITS	REQUIRED OPEN SPACE	
MIN. 150 S.F./DWELLING UNIT OF COMMON OPEN SPACE	178	26,700 S.F.	
MIN. 100 S.F./DWELLING UNIT OF ADDITIONAL COMMON OR PRIVATE COMMON OPEN SPACE	178	17,800 S.F.	
TOTAL REQUIRED OPEN SPACE		COMMON OPEN SPACE PROVIDED	PRIVATE OPEN SPACE PROVIDED
44,500 S.F.		44,755 S.F.	0 S.F.
REQUIRED OPEN SPACE TO BE DESIGNED FOR RECREATION		OPEN SPACE TO BE DESIGNED FOR RECREATION	
17,800 S.F.		18,092 S.F.	

NOTES:
1. ALL BUILDING INFORMATION PROVIDED BY CATHEXES.
2. REQUIREMENTS DETERMINED USING CARSON CITY MUNICIPAL CODE TITLE 18 APPENDIX, DIVISION 1.17.

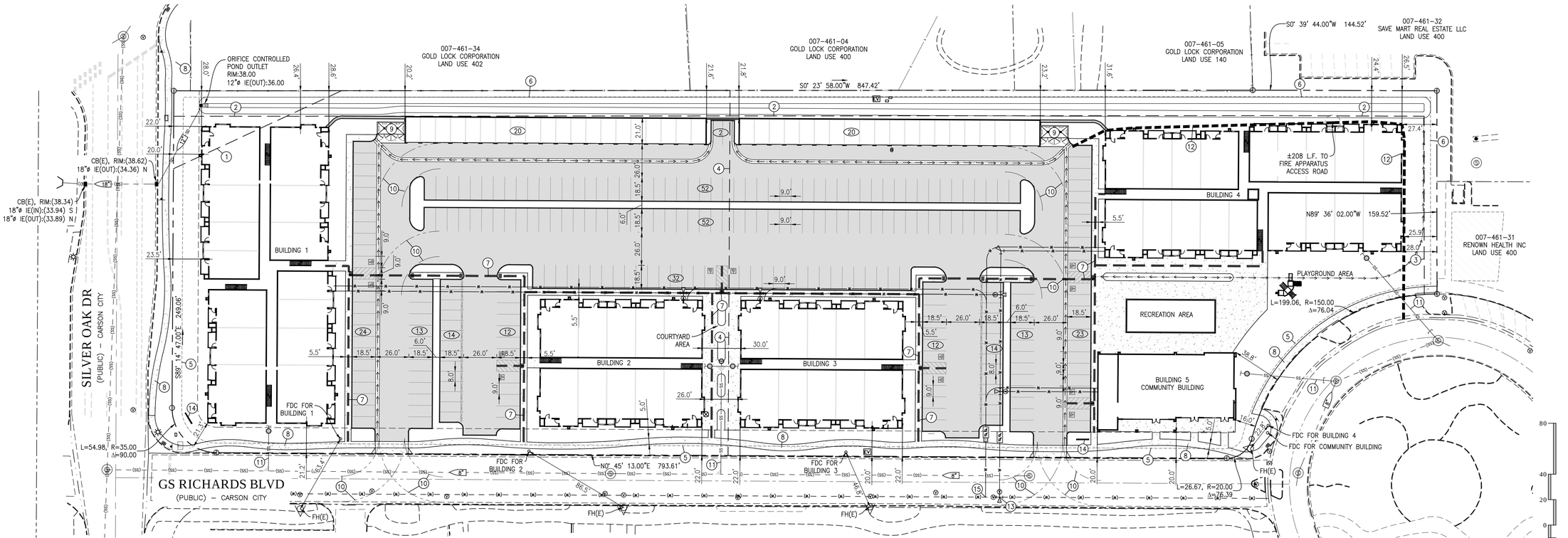
PARKING ANALYSIS

USE	AREA (FT²)	CRITERIA	REQUIRED SPACES
MULTI-FAMILY	178 UNITS	1.7/UNIT$_2$	303
TOTAL VEHICLE REQUIREMENT	SPACES PROVIDED	ADA SPACES	VAN ACCESSIBLE
303	303	12	6

NOTES:
1. ALL BUILDING INFORMATION PROVIDED BY **THE ARCHITECT.**
2. REQUIRED PARKING CRITERIA FROM THE TRAFFIC REPORT PREPARED BY WOOD RODGERS, INC.

SITE PLAN KEYNOTE LEGEND

1. OPEN SPACE PER FM 2176 (TO BE RELOCATED)
2. 20' DRAINAGE EASEMENT PER FM 2259
3. 10' DRAINAGE EASEMENT PER FM 2259
4. APPROX. LOCATION OF ELECTRIC & COMMUNICATION EASEMENT PER DOC. #943 AS SHOWN ON R.O.S. 1995 (NOT ON TITLE REPORT, TITLE COMPANY CONTACTED FOR DOC) (WIDTH UNDEFINED)
5. 7.5' PUE PER FM 2291
6. 5' PUE PER FM 2291
7. ACCESSIBLE ROUTE
8. 5' MEANDERING SIDEWALK
9. TRASH ENCLOSURE
10. FIRE TURNING RADIUS (R=30' INSIDE, R=50' OUTSIDE)
11. SEWER LATERAL
12. FIRE DIMENSION
13. FIRE SERVICE
14. MONUMENT SIGN
15. MASTER DOMESTIC WATER SERVICE



1"=40'

MONTE VISTA CONSULTING
575 E. Plumb Lane #101
Reno, NV 89502
775.636.7905
montevistaconsulting.com

Silver Oak Apartments

Preliminary Site & Utility Plan

0 GS Richards Blvd
APN: 007-461-19
Carson City, Nevada

Project #	22.032
Drawn	HBA
Checked	MWV
Date	11.8.2022
△	Revisions

FOR SPECIAL USE PERMIT ONLY
NOT FOR CONSTRUCTION

PROFESSIONAL ENGINEER-STATE OF NEVADA
MICHAEL W. VICKS
Exp: 6.30.2024
CIVIL
No. 21025

November 8, 2022

C1.0
1 of 2

GRADING LEGEND

- A.C. PAVEMENT AREA
- CONCRETE AREA
- UTILITY — PROPOSED UTILITY LINE W. DESCRIPTION
- (UTILITY) — EXISTING UTILITY LINE W. DESCRIPTION
- MAHHOLE W. DESCRIPTION (EXISTING/PROPOSED)
- CLEANOUT (EXISTING/PROPOSED)
- CATCH BASIN/DROP INLET
- YARD DRAIN
- DIRECTIONAL FLOW LINE
- GRADE BREAK
- 4900 PROPOSED CONTOUR LINE
- 4900 EXISTING CONTOUR LINE
- (FG:XX.XX) FG:XX.XX SPOT ELEVATION (EXISTING) ~ PROPOSED

ABBREVIATIONS

AC	– ASPHALT CONCRETE	GB	– GRADE BREAK	PUE	– PUBLIC UTILITY EASEMENT
AGG	– AGGREGATE	GF	– GARAGE FLOOR ELEVATION	PVC	– POLYVINYL CHLORIDE
BC	– BEGIN CURVE	GV	– GATE VALVE	PVI	– POINT OF VERTICAL INTERSECTION
BFC	– BACK FACE OF CURB	HC	– HANDICAPPED	Q_5	– FIVE YEAR FLOW RATE
BVC	– BEGIN VERTICAL CURVE	HP	– HIGH POINT	Q_{100}	– ONE HUNDRED YEAR FLOW RATE
BW	– BOTTOM OF WALL	IE	– INVERT ELEVATION	Q_{CAP}	– CAPACITY FLOW RATE
CL℄	– CENTERLINE	IN	– INCH	R	– RADIUS
CB	– CATCH BASIN	INT	– INTERSECTION	REF	– REFERENCE
CFS	– CUBIC FEET PER SECOND	IRR	– IRRIGATION	RJ	– RESTRAINED JOINT
CO	– CLEAN OUT	L	– LENGTH	RP	– RADIUS POINT
CONC	– CONCRETE	LAT	– LATERAL	RT	– RIGHT
CONST	– CONSTRUCT	LF	– LINEAR FEET	RW	– RIGHT–OF–WAY
COORD	– COORDINATE	LP	– LOW POINT	S	– SLOPE
DET	– DETAIL	LT	– LEFT	SCH	– SCHEDULE
DI	– DROP INLET	MAX	– MAXIMUM	SD	– STORM DRAIN
DIP	– DUCTILE IRON PIPE	MDD	– MAXIMUM DRY DENSITY	SF	– SQUARE FOOT
DOM	– DOMESTIC	MH	– MANHOLE	SS	– SANITARY SEWER
E	– EXISTING	MIN	– MINIMUM	STA	– STATION
EC	– END CURVE	MISC	– MISCELLANEOUS	STD	– STANDARD
EG	– EXISTING GRADE	NPWL	– NON POTABLE WATER LINE	SW	– SIDEWALK
ELEV	– ELEVATION	NTS	– NOT TO SCALE	T	– TANGENT
EVC	– END VERTICAL CURVE	OD	– OUTSIDE DIAMETER	TB	– THRUST BLOCK
FDC	– FIRE DEPARTMENT CONNECTION	P	– PROPOSED	TC	– TOP OF CURB
FF	– FINISHED FLOOR ELEVATION	PAD	– PAD GRADE	TOE	– TOE OF SLOPE
FFC	– FRONT FACE OF CURB	PCC	– PORTLAND CEMENT CONCRETE	TOP	– TOP OF SLOPE
FG	– FINISHED GRADE	PI	– POINT OF INTERSECTION	TW	– TOP OF WALL
FH	– FIRE HYDRANT	PIV	– POST INDICATOR VALVE	TYP	– TYPICAL
FL℄	– FLOW LINE	PL℄	– PROPERTY LINE	V	– VELOCITY
FLG	– FLANGE	PO	– PUSH ON	W	– WATER
FT	– FOOT	PRC	– POINT OF REVERSE CURVATURE	YD	– YARD DRAIN

GRADING & DRAINAGE NOTES

1. ALL GRADING SHALL BE IN ACCORDANCE WITH A GEOTECHNICAL REPORT.
2. ALL ELEVATIONS IDENTIFIED ARE TO FINAL SURFACE FINISH GRADE UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL ADJUST GRADING TO ACCOMMODATE THE DEPTH OF ANY RIP–RAP PROTECTION, LANDSCAPE SURFACE TREATMENTS OR THE LIKE TO ENSURE THE IDENTIFIED GRADES ARE ESTABLISHED WITH COMPLETE SITE STABILIZATION.
3. ANY RETAINED HEIGHTS INDICATED ARE FROM SURFACE TO SURFACE UNLESS OTHERWISE NOTED. MVC IS NOT RESPONSIBLE FOR ANY STRUCTURAL DESIGN OF SITE RETAINING WALLS OR FEATURES. REFERENCE APPLICABLE STRUCTURAL/ARCHITECTURAL DESIGN BY OTHERS FOR DESIGN AND DETAIL.
4. BACKFILL ESTABLISHING SEPARATION AS REQUIRED BY ARCHITECTURAL AND STRUCTURAL DESIGN BETWEEN FINISH GRADE AND SIDING (8" MIN SEPARATION TYP.).
5. UNLESS SPECIFIED OTHERWISE, ALL DRAINAGE IMPROVEMENTS ARE PRIVATE AND SHALL BE MAINTAINED BY THE PROPERTY OWNER.
6. ADD 4700' TO ALL ELEVATIONS.

THIS PLAN IS INTENDED FOR PRELIMINARY REVIEW ONLY NOT FOR CONSTRUCTION

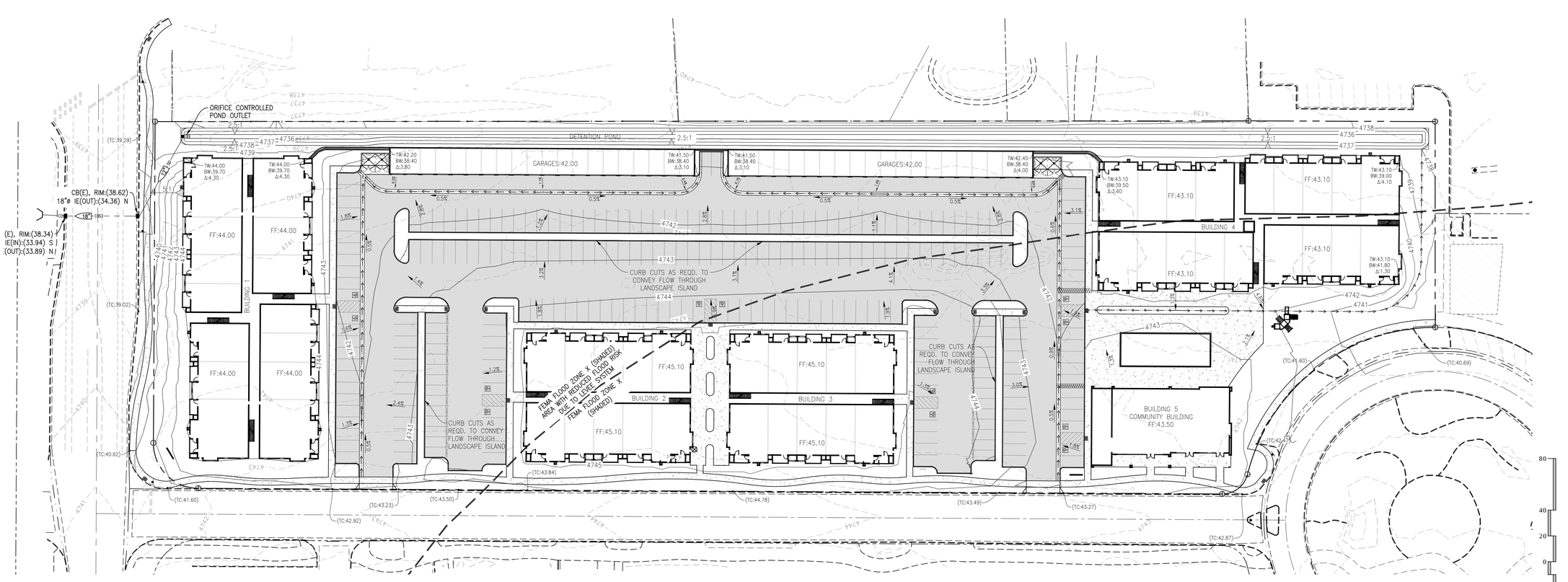
FLOOD ZONE

THIS SITE LIES IN FEMA FLOOD ZONE X (SHADED) (32000C0084F). MODERATE FLOOD HAZARD AREAS, LABELED ZONE X (SHADED) IS DEFINED AS A MODERATE FLOOD HAZARD AREA AND IS BETWEEN THE LIMITS OF THE BASE FLOOD AND THE 0.2–PERCENT–ANNUAL–CHANCE (OR 500–YEAR) FLOOD.

EARTHWORK ANALYSIS

SITE AREA	6.2 AC
SITE DISTURBANCE	6.4 AC
PROPOSED CUT	2,100 YD^3
PROPOSED FILL	14,000 YD^3
NET EARTHWORK	11,900 YD^3 FILL

THIS ANALYSIS COMPARES THE EXISTING FINISH GRADE SURFACE TO THE PROPOSED FINISH GRADE SURFACE AND IS INTENDED FOR PERMITTING PURPOSES ONLY. THE CONTRACTOR SHALL PREPARE AN INDEPENDENT EARTHWORK ANALYSIS INCORPORATING ANY OVER EXCAVATION, SHRINKAGE, EXPANSION AND/OR STRUCTURAL SECTIONS, ETC.



MONTE VISTA CONSULTING
575 E. Plumb Lane #101
Reno, NV 89502
775.636.7905
montevistaconsulting.com

NORTH

Silver Oak Apartments

Preliminary Grading Plan

0 GS Richards Blvd
APN: 007-461-19
Carson City, Nevada

Project #	22.032
Drawn	HBA
Checked	MWV
Date	11.8.2022
△	Revisions

FOR SPECIAL USE PERMIT ONLY
NOT FOR CONSTRUCTION

PROFESSIONAL ENGINEER–STATE OF NEVADA
MICHAEL W. VICKS
Exp: 6.30.2024
CIVIL
No. 21025

November 8, 2022

C2.0
2 of 2

Know what's below. Call before you dig.

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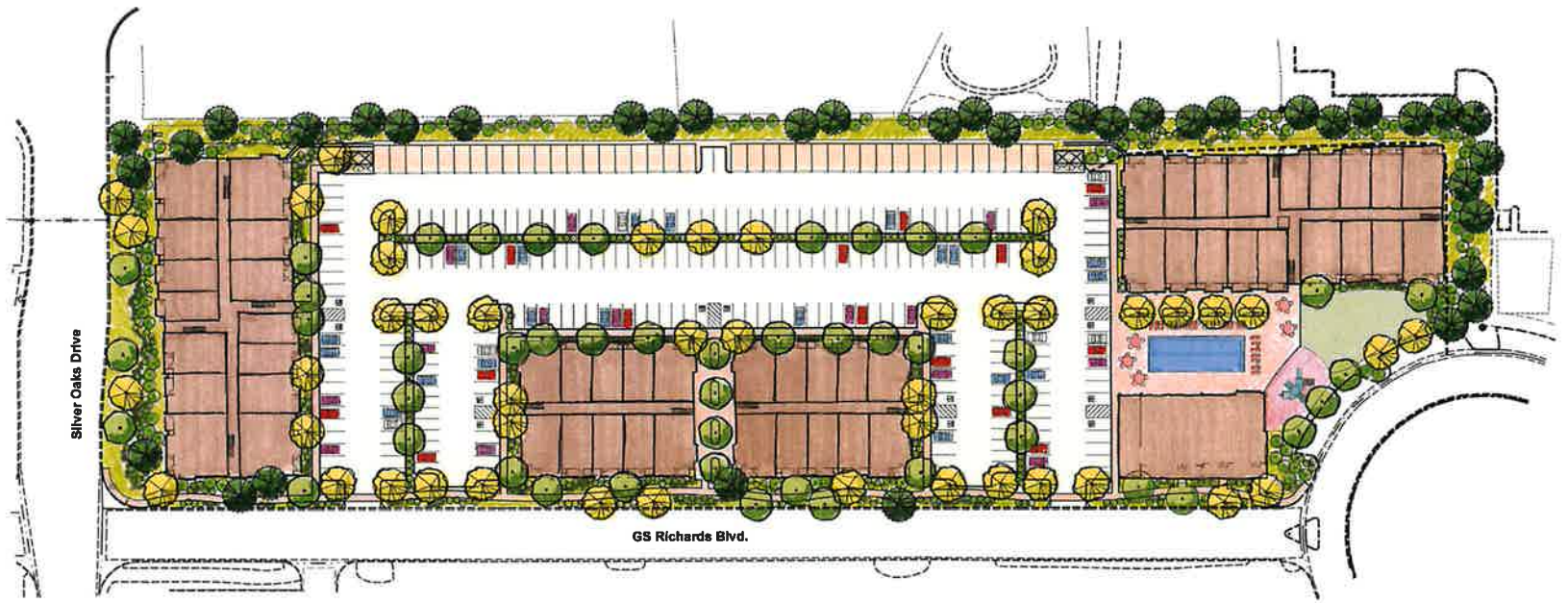

PLANT LIST

BOTANICAL NAME	COMMON NAME
CONIFEROUS TREES	
Pinus nigra	Austrian Pine
Pinus nigra	Austrian Pine
DECIDUOUS TREES	
Acer grandidentatum 'Schmidt'	Rocky Mountain Maple
Cercis canadensis var. texensis	Texas Redbud
Gleditsia triacanthos inermis	Thornless Honey Locust
Pyrus calleryana	Flowering Pear
Tilia cordata	Little Leaf Linden
SHRUBS	
Artemisia tridentata	Big Sagebrush
Caryopteris clandonensis	Blue Mist Spirea
Euonymus alatus	Burning Bush
Lavandula spp.	Lavender
Ribes alpinum	Alpine Currant
Perovskia atriplicifolia	Russian Sage
Spirea bumalda	Spirea
PERENNIALS / ORNAMENTAL GRASSES / GROUNDCOVER	
Achillea 'Moon Dust'	Moon Dust Yarrow
Agastache rupestris	Sunset Hyssop
Bouteloua gracilis	Blue Grama Grass
Calamagrostis x acutiflolia	Karl Foerster Feather Reed Grass
Nassella tenuissima	Blue Oat Grass
Leucanthemum 'Darling Daisy'	Darling Daisy
Nepeta x faassenii	Catmint

NORTH

0 20 40 80

ORIGINAL SCALE: 1"=40'-0"

Silver Oaks Apartments

0 GS Richard Blvd
Carson City, Nevada

ISSUE DATE:

REVISIONS

#	DATE	DESCRIPTION

DRAWN: REVIEWED:

Preliminary Landscape Plan

SHEET NUMBER

L1

PLANT LIST

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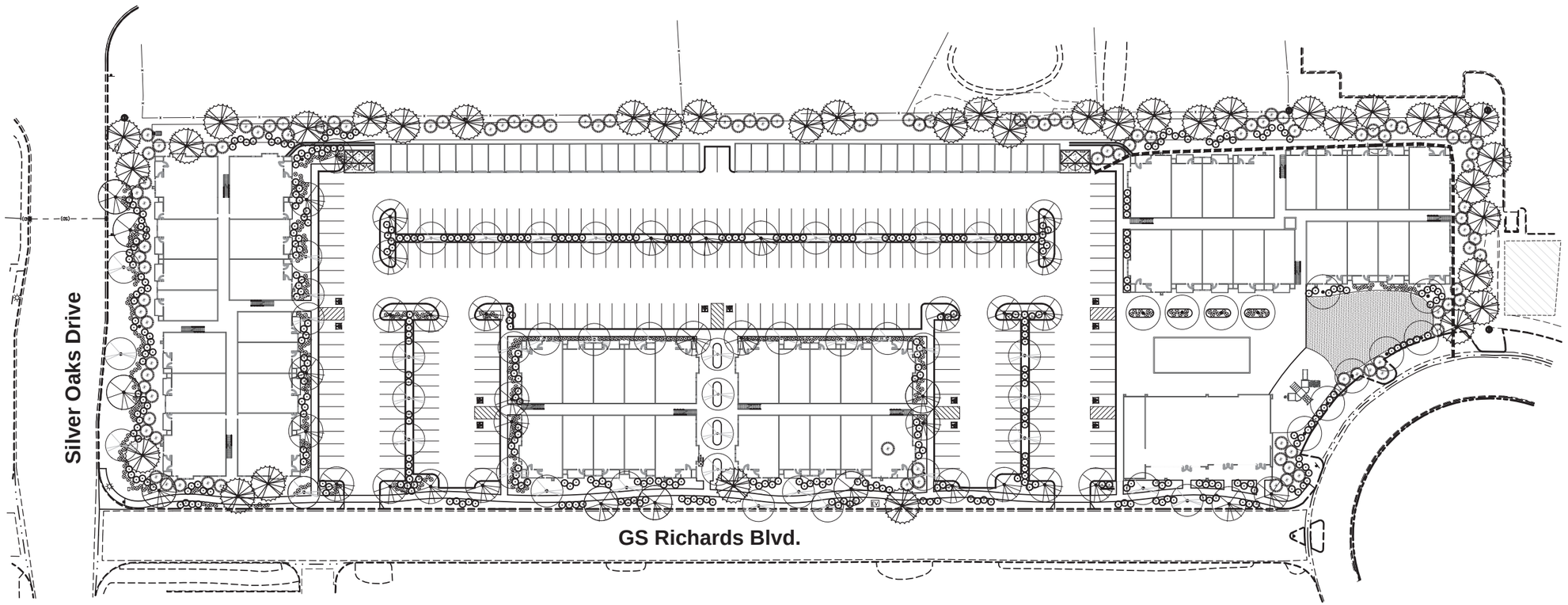

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