City of Albuquerque

DEVELOPMENT REVIEW BOARD APPLICATION

Please check the appropriate box(es) and refer to supplemental forms for submittal requirements. All fees must be paid at the time of application.

SUBDIVISIONS	☐ Final Sign off of EPC Site Plan(s) *(Form P2)*	
☒ Major – Preliminary Plat *(Form P1)*	☐ Amendment to Site Plan (Form P2)	☐ Vacation of Public Right-of-way *(Form V)*
☐ Minor – Preliminary/Final Plat *(Form S2)*	**MISCELLANEOUS APPLICATIONS**	☐ Vacation of Public Easement(s) DRB *(Form V)*
☐ Major - Final Plat *(Form S1)*	☐ Extension of Infrastructure List or IIA *(Form S1)*	☐ Vacation of Private Easement(s) *(Form V)*
☐ Amendment to Preliminary Plat *(Form S2)*	☐ Minor Amendment to Infrastructure List (*Form S2*)	**PRE-APPLICATIONS**
☐ Extension of Preliminary Plat *(FormS1)*	☐ Temporary Deferral of S/W *(Form V2)*	☐ Sketch Plat Review and Comment *(Form S2)*
	☐ Sidewalk Waiver *(Form V2)*	
SITE PLANS	☐ Waiver to IDO *(Form V2)*	**APPEAL**
☐ DRB Site Plan *(Form P2)*	☐ Waiver to DPM *(Form V2)*	☐ Decision of DRB *(Form A)*

BRIEF DESCRIPTION OF REQUEST

Requesting preliminary / final plat review to create 6 tracts from one existing tract by subdivision, grant easements and additional right-of-way.

APPLICATION INFORMATION			
Applicant: Red Sky Holdings			Phone: 504-428-4111
Address: 2560 King Arthur Blvd Suite 124-104			Email:
City: Lewisville		State: TX	Zip: 75056
Professional/Agent (if any): CSI - Cartesian Surveys, Inc.			Phone: 505-896-3050
Address: PO Box 44414			Email: cartesianryan@gmail.com
City: Rio Rancho		State: NM	Zip: 87174
Proprietary Interest in Site:		List all owners: Majic, LLC	
SITE INFORMATION (Accuracy of the existing legal description is crucial! Attach a separate sheet if necessary.)			
Lot or Tract No.: 12		Block:	Unit: 5
Subdivision/Addition: Avalon Subdivision		MRGCD Map No.:	UPC Code: 100905706518130705
Zone Atlas Page(s): K-09-Z	Existing Zoning: NR-BP		Proposed Zoning
# of Existing Lots: 1	# of Proposed Lots: 6		Total Area of Site (Acres): 11.0954
LOCATION OF PROPERTY BY STREETS			
Site Address/Street: E side of 98th Street NW	Between: Bluewater Road NW		and: Volcano Road NW
CASE HISTORY (List any current or prior project and case number(s) that may be relevant to your request.)			
PR-2019-002402 (prior); PR-2021-005864 (current) PS-2021-00097 (sketch plat)			

I certify that the information I have included here and sent in the required notice was complete, true, and accurate to the extent of my knowledge.

Signature: Ryan J. Mulhall	**Date:** 10/22/2021
Printed Name: Ryan J. Mulhall	☐ Applicant or ☒ Agent

FOR OFFICIAL USE ONLY

Case Numbers	Action	Fees	Case Numbers	Action	Fees

Meeting Date:		Fee Total:
Staff Signature:	Date:	**Project #**

FORM S1: SUBDIVISION OF LAND – MAJOR

Please refer to the DRB public meeting schedule for meeting dates and deadlines. Your attendance is required.

☒ **MAJOR SUBDIVISION PRELIMINARY PLAT APPROVAL**
☐ **MAJOR AMENDMENT TO PRELIMINARY PLAT**
☐ **BULK LAND SUBDIVISION**
☐ Interpreter Needed for Meeting? N/A if yes, indicate language: _____

X A Single PDF file of the complete application including all documents being submitted must be emailed to PLNDRS@cabq.gov prior to making a submittal. Zipped files or those over 9 MB cannot be delivered via email, in which case the PDF must be provided on a CD. PDF *shall be organized* with the Development Review Application and this Form S1 at the front followed by the remaining documents *in the order provided on this form.*
X Zone Atlas map with the entire site clearly outlined and labeled
X Letter of authorization from the property owner if application is submitted by an agent
X Sign Posting Agreement
X Sites 5 acres or greater: Archeological Certificate in accordance with IDO Section 14-16-6-5(A)
X TIS Traffic Impact Study Form
X Form DRWS Drainage Report, Grading and Drainage Plan, and Water & Sewer Availability Statement submittal information
X Letter describing, explaining, and justifying the request per the criteria in IDO Section 14-16-6-6(L)
X Proof of Sketch Plat per IDO Section 14-16-6-6(L)(2)(b)
X Required notices with content per IDO Section 14-16-6-4(K)(1)
- X Office of Neighborhood Coordination notice inquiry response
- X Copy of notification letter, completed notification form(s), proof of additional information provided in accordance with IDO Section 6-4(K)(1)(b), and proof of first-class mailing to affected Neighborhood Association representatives.
- X Proof of emailed notice to affected Neighborhood Association representatives
- X Buffer map and list of property owners within 100 feet (excluding public rights-of-way) provided by Planning Department or created by applicant, copy of notifying letter, completed notification forms(s), proof of additional information provided in accordance with IDO Section 6-4(K)(1)(b), and proof of first-class mailing

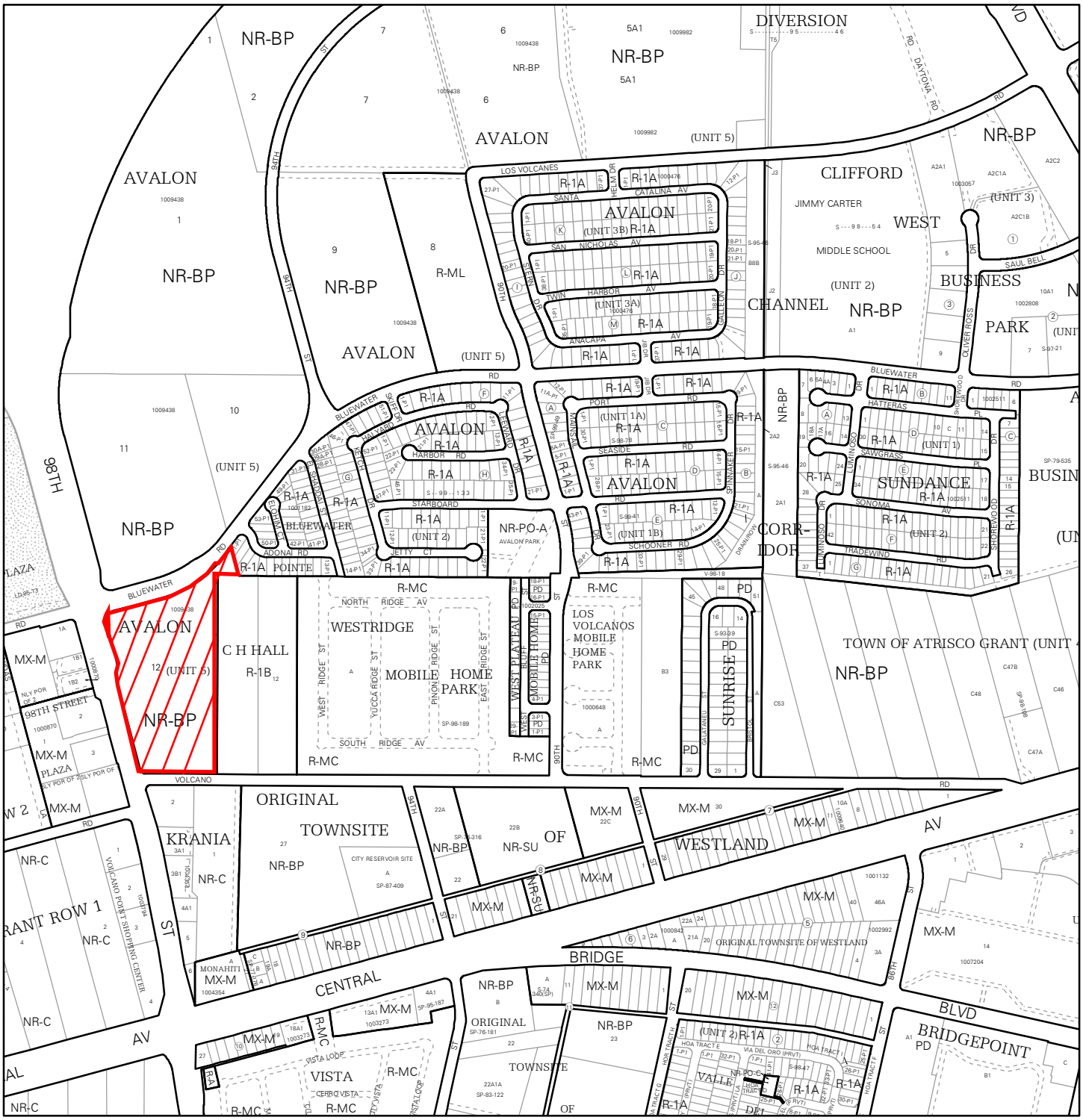
X Preliminary Plat including the Grading Plan with property owner's and City Surveyor's signatures on the plat
X Sidewalk Exhibit and/or cross sections of proposed streets
X Site sketch with measurements showing structures, parking, building setbacks, adjacent rights-of-way and street improvements (to include sidewalk, curb & gutter with distance to property line noted) if there is any existing land use
X Sensitive Lands Site Analysis for new subdivisions of land in accordance with IDO Section 5-2(C)
N/A Landfill disclosure statement on the plat per IDO Section 14-16-6-4(S)(5)(d)(2.)(d.) if site is within a designated landfill buffer zone
X Proposed Infrastructure List

☐ **EXTENSION OF PRELIMINARY PLAT**
☐ **INFRASTRUCTURE LIST EXTENSION OR AN INFRASTRUCTURE IMPROVEMENTS AGREEMENT (IIA) EXTENSION**
For temporary sidewalk deferral extension, use Form V.

__ A Single PDF file of the complete application including all documents being submitted must be emailed to PLNDRS@cabq.gov prior to making a submittal. Zipped files or those over 9 MB cannot be delivered via email, in which case the PDF must be provided on a CD. PDF *shall be organized* with the Development Review Application and this Form S1 at the front followed by the remaining documents *in the order provided on this form.*
___ Zone Atlas map with the entire site clearly outlined and labeled
___ Letter of authorization from the property owner if application is submitted by an agent
___ Letter describing, explaining, and justifying the request per IDO Section 14-16-6-4(X)(4)
___ Preliminary Plat or site plan
___ Copy of DRB approved infrastructure list

I, the applicant or agent, acknowledge that if any required information is not submitted with this application, the application will not be scheduled for a public meeting, if required, or otherwise processed until it is complete.	
Signature: Ryan J. Mulhall	**Date:** 10/22/2021
Printed Name: Ryan J. Mulhall	☐ Applicant or ☒ Agent

FOR OFFICIAL USE ONLY	
Case Numbers: Project Number:	
Staff Signature:	
Date:	



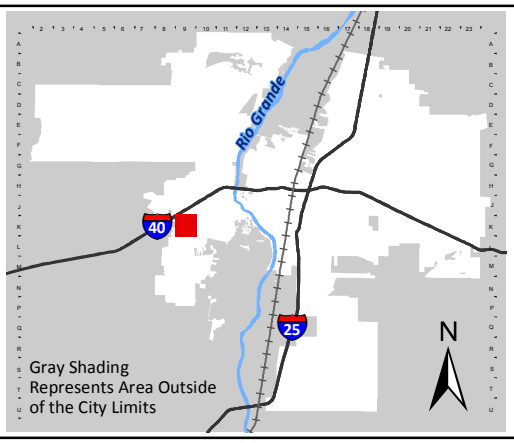
For more details about the Integrated Development Ordinance visit: http://www.cabq.gov/planning/codes-policies-regulations/integrated-development-ordinance

IDO Zone Atlas
May 2018

Albuquerque Geographic Information System

IDO Zoning information as of May 17, 2018

The Zone Districts and Overlay Zones are established by the Integrated Development Ordinance (IDO).



Zone Atlas Page:

K-09-Z

- Easement
- Escarpment
- Petroglyph National Monument
- Areas Outside of City Limits
- Airport Protection Overlay (APO) Zone
- Character Protection Overlay (CPO) Zone
- Historic Protection Overlay (HPO) Zone
- View Protection Overlay (VPO) Zone

Feet: 0 250 500 1,000

Majec, LLC, a New Mexico Limited Liability Company
P.O. Box 3168
Corrales, NM 87048

City of Albuquerque
600 2nd Street NW,
Albuquerque, NM 87102

RE: Letter of Authorization for Subdivision Plat

To whom it may concern,

I, Jacqueline J. Baca, do hereby give authorization to Cartesian Surveys Inc. to submit the preliminary plat for subdivision of Tract 12, of Avalon Subdivision, Unit 5 located at the southeast corner of Bluewater and 98th Street NW. The agent shall have the authority to submit any necessary documents for the subdivision platting action, vacation of easements or any deviations, waivers, or certificates associated with the project while the property is under contract to be sold to the future owner (RS Bluewater LLC). This Letter of Authorization does not constitute a consent to implementation of any plat.

Thank You,

10-19-21

Jacqueline J. Baca, Member
Majec, LLC, a New Mexico Limited Liability Company

Date

SIGN POSTING AGREEMENT

REQUIREMENTS

POSTING SIGNS ANNOUNCING PUBLIC HEARINGS

All persons making application to the City under the requirements and procedures established by the Integrated Development Ordinance are responsible for the posting and maintaining of one or more signs on the property which is subject to the application, as shown in Table 6-1-1. Vacations of public rights-of-way (if the way has been in use) also require signs. Waterproof signs are provided at the time of application for a $10 fee per sign. If the application is mailed, you must still stop at the Development Services Front Counter to pick up the sign(s).

The applicant is responsible for ensuring that the signs remain posted throughout the 15-day period prior to any public meeting or hearing. Failure to maintain the signs during this entire period may be cause for deferral or denial of the application. Replacement signs for those lost or damaged are available from the Development Services Front Counter.

1. LOCATION

   A. The sign shall be conspicuously located. It shall be located within twenty feet of the public sidewalk (or edge of public street). Staff may indicate a specific location.
   B. The face of the sign shall be parallel to the street, and the bottom of the sign shall be at least two feet from the ground.
   C. No barrier shall prevent a person from coming within five feet of the sign to read it.

2. NUMBER

   A. One sign shall be posted on each paved street frontage. Signs may be required on unpaved street frontages.
   B. If the land does not abut a public street, then, in addition to a sign placed on the property, a sign shall be placed on and at the edge of the public right-of-way of the nearest paved City street. Such a sign must direct readers toward the subject property by an arrow and an indication of distance.

3. PHYSICAL POSTING

   A. A heavy stake with two crossbars or a full plywood backing works best to keep the sign in place, especially during high winds.
   B. Large headed nails or staples are best for attaching signs to a post or backing; the sign tears out less easily.

4. TIME

Signs must be posted from _____To _____

5. REMOVAL

   A. The sign is not to be removed before the initial hearing on the request.
   B. The sign should be removed within five (5) days after the initial hearing.

I have read this sheet and discussed it with the Development Services Front Counter Staff. I understand (A) my obligation to keep the sign(s) posted for (15) days and (B) where the sign(s) are to be located. I am being given a copy of this sheet.

_____ _____
(Applicant or Agent) (Date)

I issued _____ signs for this application, _____, _____
(Date) (Staff Member)

PROJECT NUMBER: _____

Revised 2/6/19

SIGN POSTING AGREEMENT

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Ryan J Mitchell _____ 10/20/2021
(Applicant or Agent) (Date)

I issued _____ signs for this application, _____, _____
(Date) (Staff Member)

PROJECT NUMBER: PR-2021-005864

Revised 2/6/19

Tim Keller, Mayor
Sarita Nair, CAO

City of Albuquerque

P.O. Box 1293 Albuquerque, NM 87103
Planning Department
David S. Campbell, Director

DATE: May 9, 2019

SUBJECT: Albuquerque Archaeological Ordinance - Compliance Documentation

Case Number(s):
Agent: Bohannan Huston, Inc
Applicant: Titan Development
Legal Description: Tract 11 Avalon Subdivision Unit 5
Zoning: NR-BP
Acreage: 16.7
Zone Atlas Page(s): K-9

CERTIFICATE OF NO EFFECT: ☑ Yes ☐ No

CERTIFICATE OF APPROVAL: ☐ Yes ☑ No

SUPPORTING DOCUMENTATION:

Examination of historic aerial photographs on AGIS, contemporary aerial photographs on Google Earth, NMCRIS database, site inspection

SITE VISIT: Site inspection conducted May 8, 2019

RECOMMENDATIONS:

CERTIFICATE OF NO EFFECT ISSUED - ref O-07-72 Section 4B(1): no significant archaeological site exists on the property

SUBMITTED BY:

May 9, 2019
Date

Ethan Kalosky, MA
Cultural Resource Specialist
Acting City Archaeologist
Parametrix

SUBMITTED TO:

Russell Brito, Planning Manager
City of Albuquerque Planning Department

Traffic Impact Study
98th & Bluewater Commercial Development
Albuquerque, NM

June 2021

Prepared for:

Red Sky Holdings, LLC
904 Hidden Meadow Ct.
Southlake, TX 76092

Prepared by:

Civil Transformations Inc.
2929 Coors Blvd. NW, Suite 309
Albuquerque, NM 87120

Traffic Impact Study
98th & Bluewater Commercial Development
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Prepared by:

Civil Transformations Inc.
2929 Coors Blvd. NW, Suite 309
Albuquerque, NM 87120

The technical material and data contained in this document were prepared by the undersigned, whose seal as a Professional Engineer, licensed to practice in the State of New Mexico, is affixed below.

Timothy D. Simmons, PE, PTOE
06/04/2021

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1.0 EXECUTIVE SUMMARY

1.1 Purpose of Study

This report documents the results of a Traffic Impact Study (TIS) for a proposed commercial land development located in the southeast quadrant of the 98th St. and Bluewater Rd. intersection in Albuquerque, NM. The purpose of this TIS is to assess traffic operations associated with traffic generated by this proposed project on the adjacent transportation network, specifically 98th St.

This study evaluated both the existing and proposed conditions of 98th St. from Central Ave. to I-40 and the proposed site entrances, and was conducted in accordance with the City of Albuquerque Development Process Manual (COA DPM) Article 7-5, Traffic Studies. Study requirements were established through a traffic scoping meeting held with the COA Traffic Engineer and New Mexico Department of Transportation (NMDOT) District 3 Traffic Engineering staff (see scoping meeting minutes, Appendix A).

1.2 Principal Findings

Key findings of this analysis are summarized as follows:

1. Levels of service (LOS) at 98th St. signalized intersections are acceptable for baseline conditions.
2. Site-generated traffic is not expected to cause significant, adverse impacts to the adjacent roadway network, including the traffic signalized intersections along 98th St., but will incrementally increase delay.
3. The 98th St. corridor from Central Ave. to I-40 acts as a commuter route serving residential areas in southwest Albuquerque to other areas of the city. This corridor has seen a consistent high growth trend which may continue indefinitely given the amount of vacant lands in the vicinity. Sustained traffic growth in the region will exacerbate these conditions and necessitate improvements by Year 2025 including:
   a. Expansion of 98th St. to a 6-lane arterial;
   b. Traffic signal timing improvements to optimize throughput and traffic progression;
   c. Intersection improvements to add turn lanes and/or extend queue storage.
4. Regional improvements will also be necessary to alleviate congestion on 98th St. A review of the Transportation Improvement Program (TIP) prepared by MRCOG revealed at least two projects slated for implementation in the vicinity that should be advanced.

1.3 Recommendations

The following recommendations are offered concerning on- and off-site access modifications.

1. *On-Site Access*
   a. Four access driveways are proposed to provide ample circulation and on-site queueing space for the drive-through businesses as illustrated in Figure 5 and detailed in Section 7.1 of this report.
   b. These driveways will be designed in accordance with City of Albuquerque Development Process Manual (COA DPM) requirements.
2. *Off-Site Roadway Improvements*
   a. Extension of the third northbound through (NBT) lane and buffered bike lane along the property frontage from Bluewater Rd. to the Volcano Rd. return.
   b. Addition of a northbound right-turn (NBR) lane at 98th/Bluewater Rd. and accommodation of trucks.
   c. Installation of buffered sidewalk along the property frontage.
   d. Provision of a southbound left-turn (SBL) lane on 98th St. at Site Driveway 3.
   e. Other improvements to 98th St. at Central Ave. will be required to address background traffic growth; a fair share contribution from the developer should be established based on the proportion of site traffic contributed to this intersection.

See Section 9 of this report for further details of these recommendations.

2.0 INTRODUCTION

2.1 Description of Proposed Project

The project is comprised of six commercial lots within an 11-acre parcel. Construction is projected to commence in year 2021 and is slated for completion by 2025.

2.2 Project Location

The project is located in western Albuquerque south of Interstate 40 (I-40) as depicted in Figure 1.

Figure 1: Vicinity Map

Source: Google Earth

2.3 Study Area

The study area encompasses the site and adjacent roadways, namely 98th St. from Central Ave. to I-40 and Bluewater Rd. from 98th St. to 90th St. Included in the analysis are the traffic signalized intersections of 98th/Central, 98th/Bluewater/Avalon, and 98th/I-40 North Ramp as well as the unsignalized intersections of 98th/I-40 South Ramp and Bluewater/90th. 98th/Volcano was added to analyze a proposed site driveway east of 98th St.

2.4 Scope of Analysis

Primary tasks incorporated into this analysis include:

A. **<u>Data Collection</u>** – including traffic volume counts, other roadway network parameters, and regional data for the traffic analysis.

B. **<u>Traffic Operations Analysis</u>** – utilizing the collected data, computerized models were developed in *Synchro 10* software for analysis utilizing *Highway Capacity Manual (HCM)* procedures.

C. **<u>Geometric Evaluation</u>** – consideration of safe access measures such as auxiliary lanes and/or access geometry to mitigate traffic impacts, if necessary.

2.5 Planned Developments or Projects in the Vicinity

Two imminent development projects were identified for reference in this study:

A. Westpointe Industrial Park Development (April 2021) – a multi-acre development proposed in the southeast quadrant of the I-40/98th St. interchange consisting of distribution centers;
B. Mercado el Milagro Retail Development (November 2019) – located in the southwest quadrant of the 98th/Central intersection, this project consists of a multi-use commercial site.

The traffic impact studies for these projects were reviewed for comparison of traffic count data, trip estimates, and recommended mitigation measures as described in Section 6 of this report.

3.0 EXISTING CONDITIONS

3.1 Current Land Use & Zoning

The site is currently vacant and zoned NR-BP (formerly SU-1) for a business park. Adjacent land uses are predominantly developed with mixed commercial uses including retail strip malls and fast food restaurants along with the proposed Westpointe Industrial Park to the north. Residential neighborhoods are located east of the site.

3.2 Existing Roadway System

The existing study street network is shown in Figure 1 and described below. These routes are under the jurisdiction of the City of Albuquerque (COA) and with designations as shown on the Functional Classification in the Albuquerque Metropolitan Planning Area by the Mid-Region Council of Governments (MRCOG).

3.2.1 98th St.

Designated as a Principal Arterial, the route has a posted speed of 45 mph and consists of four travel lanes, a raised median, bike lanes, curb & gutter, and concrete sidewalks. Intersection approach or spot lighting exists at the signalized intersections. Average Weekday Traffic (AWDT) on 98th St. south of I-40 was 37,000 in year 2019. Bike lanes extend from Central Ave. to Volcano Rd. 98th St. is a commuter corridor serving southwest Albuquerque and exhibiting heavy directional traffic inbound toward the city core in the AM peak and outbound in the PM peak.

3.2.2 Central Ave.

Central Ave. is designated as a Principal Arterial roadway with $AWDT_{2019}$ of 8,500; west and $AWDT_{2019}$ of 13,300 east of 98th St. The roadway consists of 4 travel lanes, raised median, curb & gutter, and intermittent concrete sidewalks. The posted speed is 55 mph.

3.2.3 Bluewater Rd.

A 2-lane Major Collector with curb & gutter and sidewalks at developed parcels and a continuous two-way left-turn lane (TWLTL) between Adonai Rd. and 90th St. AWDT east of 98th St. was not published because the portion of Bluewater from 98th St. to Adonai Rd. was constructed in 2020.

3.2.4 Avalon Rd.

A local roadway within Bernalillo County's jurisdiction west of 98th St., Avalon currently provides access to a truck stop in the northwest quadrant and commercial land uses in the southwest quadrant of the intersection.

3.2.5 90th St.

90th St. is a local roadway within residential uses. However, 90th provides access to existing industrial uses, and will provide additional access to the distribution centers in the Westpointe development.

The study network is illustrated graphically in Figure 2.

Figure 2: Existing Roadway Network

3.3 Existing Traffic Data

3.3.1 Turning Movement Counts and Adjustments

Manual turning movement counts (TMCs) were collected on Wednesday and Thursday, April 7 & 8, 2021 during the AM (7-9 a.m.) and PM (4-6 p.m.) peak periods for use in analyzing traffic operations at the study intersections. Because signalized intersections on 98th St. comprise a coordinated network, combined peak hour periods for the corridor were established as beginning at 7:00 a.m. and 4:15 p.m., respectively. A lane closure was emplaced for construction along the west side of 98th St. at Volcano Rd. during the count, but traffic delay did not appear significant enough to cause diversions. Also, a collision occurred on 98th St. in the northbound (NB) direction south of Bluewater affecting one NB lane, but the collision was cleared in fairly short order and normal flows were restored.

Consideration was given to traffic impacts associated with the COVID-19 pandemic and government-mandated closures. Consequently, demand flows were not measured. MRCOG has been periodically monitoring traffic patterns and reported that, in the spring of 2020, traffic volumes had dropped by 32.5% overall throughout the metro area. The following data sources were utilized to derive adjustment factors to adjust for the COVID-19 closures:

A. 48-hour traffic volume counts collected by MRCOG in 2019 on 98th and Central were used to compare the AM and PM peak hours, revealing that the manual TMC data ranged from approximately 9% to 32% lower than the volume counts (depending on the location and time period).

B. TMCs recorded as part of the Mercado el Milagro project at 98th/Central and 98th/I-40 were also compared with those collected for this project and found to be 10%-20% higher at Central but up to 30-33% higher at I-40.

C. Annual Average Daily Traffic (AADT) collected by NMDOT at the I-40 ramps ranged from about 14-32% higher than the TMCs (it should be noted that the AADTs are adjusted to include weekend and not just weekday traffic volumes, resulting in slightly lower traffic volumes than AWDTs).

Therefore, certain adjustments to these TMCs accounting for reduced travel demand were applied as follows:

1. Traffic flows on the network map showed good balance between intersections except for the NB direction between central and Bluewater; this was “smoothed” by averaging the approach/departure volumes in between these two major intersections.
2. Adjustment factors were applied to the TMC data to expand it and replicate pre-COVID19 traffic for network analysis, varying by location and by time period and ranging from 1.10 to 1.40.

	Location	AM Factor	PM Factor
a.	98th/Central	1.23	1.00
b.	98th/Bluewater/Avalon	1.30	1.10
c.	98th/I40 South	1.40	1.20
d.	98th/I40 North	1.40	1.10
e.	Bluewater/90th	1.30	1.10

Adjusted peak hour traffic volumes derived for this analysis along 98th St. are presented in Figures 3 and 4, representing baseline conditions for analysis. Detailed reports of the TMC data and supporting volume counts are contained in Appendix B.

3.3.2 Traffic Distribution Summary

Utilizing these adjusted baseline traffic volumes, directional distribution of traffic to/from the site is tabulated in Table 1.

Figure 3: AM Peak Hour Volumes (Baseline)

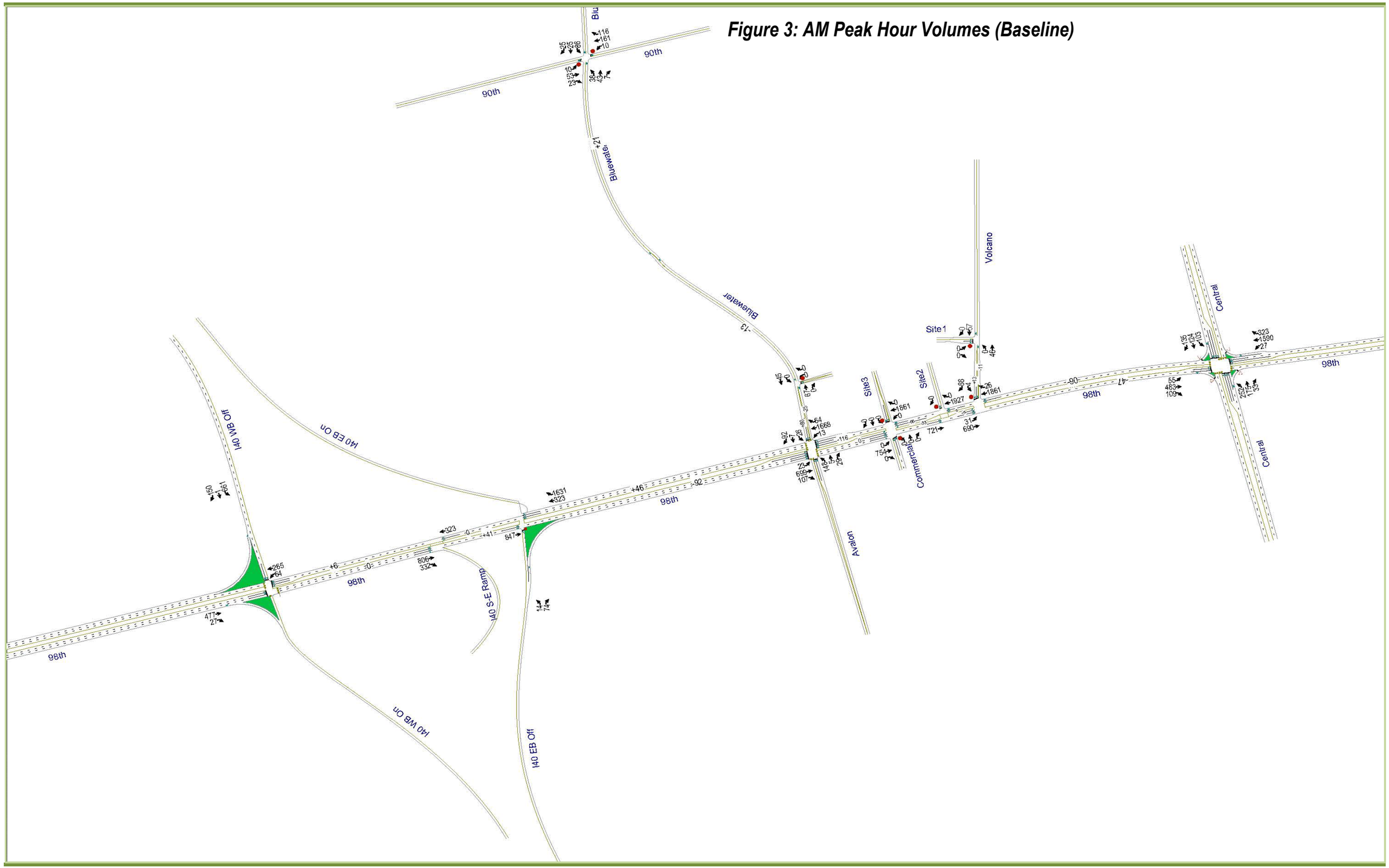


Figure 4: PM Peak Hour Volumes (Baseline)

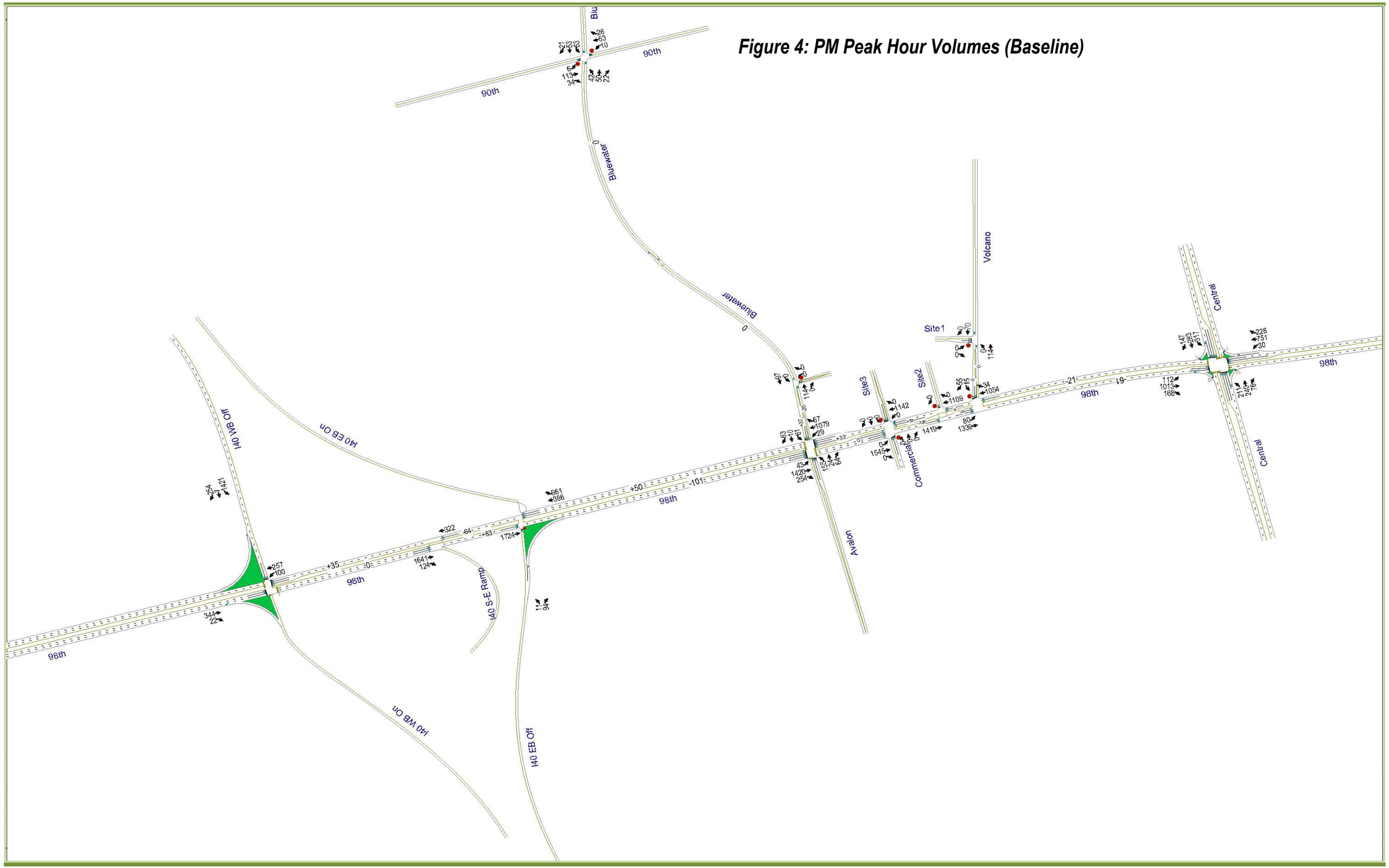


Table 1: Traffic Distribution Summary

Intersection and Traffic Movement	Inbound		Outbound	
	AM	PM	AM	PM
Central South	48.9%	24.3%	37.8%	42.3%
Volcano East	1.3%	1.4%	1.2%	3.8%
Avalon/Bluewater Northwest	18.8%	32.8%	3.7%	4.5%
Bluewater/90th Northeast	1.7%	2.0%	3.9%	3.8%
I40 S. Ramp - NW/NE	1.7%	1.9%	43.9%	32.7%
I40 N. Ramp - North	27.6%	37.7%	9.5%	12.9%
SUM	**100%**	**100%**	**100%**	**100%**

Because 98th St. acts as a commuter corridor serving predominantly residential land uses south of Central Ave., it was not deemed necessary to employ regional gravity distribution models and therefore these distribution values were applied to new trips generated by the proposed project (see Appendix C). Also, the proposed development will attract predominantly local traffic and significant pass-by traffic.

3.4 Existing Roadway/Intersection Capacity

An analysis of the study intersections was conducted for the existing and baseline (adjusted) conditions as described in Section 6.1 of this report. These were analyzed with the existing traffic signal timing plans as provided in Appendix B. It should be noted that the westbound phase 6 coordinated time setting was lower than the maximum split required to clear the pedestrian phase at Bluewater/Avalon. While the signalized intersections operated at satisfactory levels of service (LOS) D or above as summarized in Table 5, certain lane groups and unsignalized intersections fell below LOS D as shown in the worksheets contained in Appendix D.

3.5 Transit Service

No transit service currently exists on 98th St. north. Several routes run along Central Ave. from 98th eastward and two routes serve 98th St. south of Central Ave. Nearest stops are on 98th south of Central.

3.6 Bicycle & Pedestrian Facilities

Four foot (4') bike lanes exist from Central to Volcano along 98th St., which is designated for future bike facilities in the MRCOG long-range roadway system map.

4.0 PROPOSED SITE TRAFFIC CHARACTERISTICS

4.1 Proposed Project Phasing and Timing

The project is comprised of commercial uses including restaurants and auto care on six (6) parcels as depicted in Figure 5. Construction is projected to commence in year 2021 and full buildout is assumed to be completed by 2025.

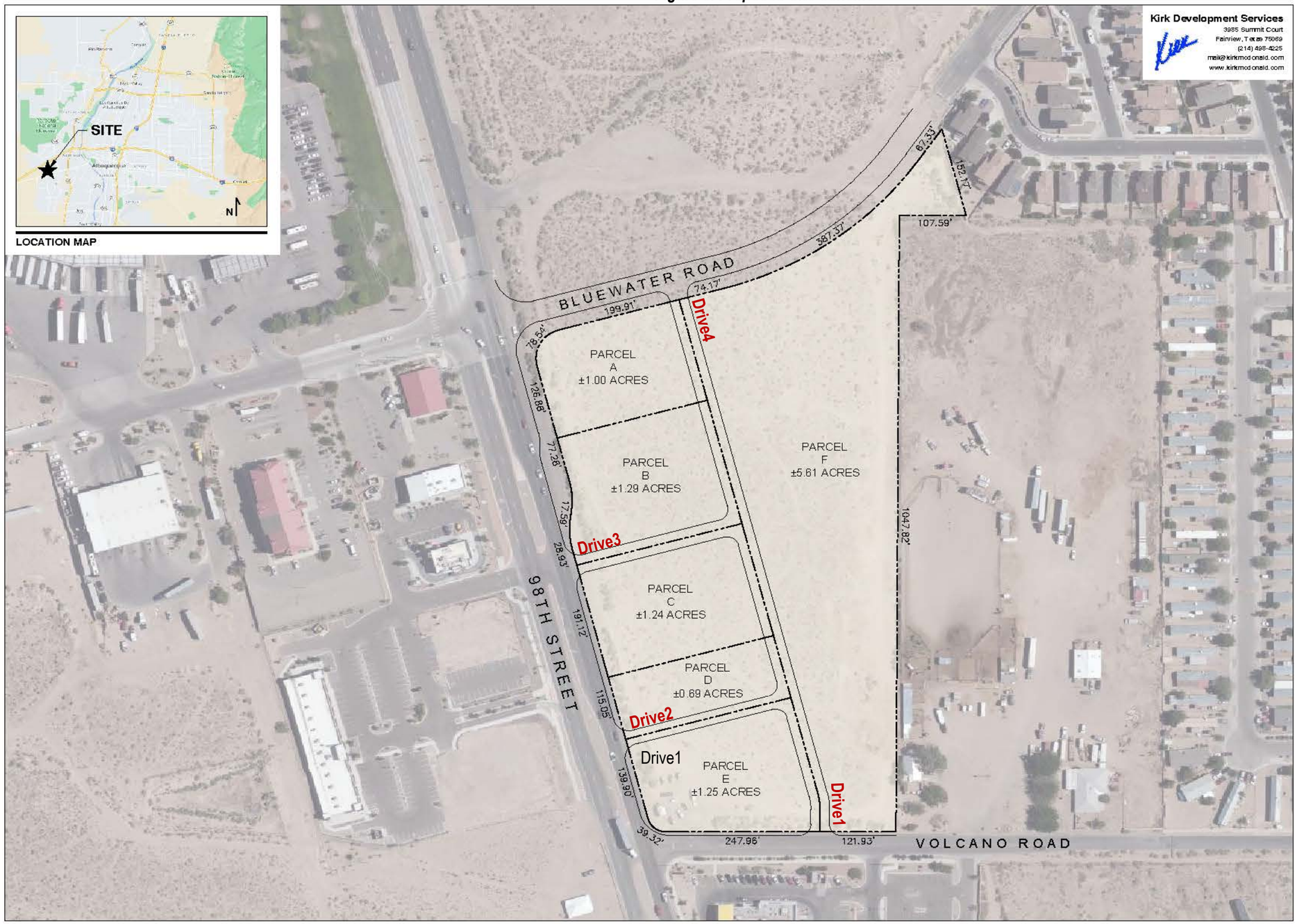
4.2 Site Access and Circulation

As illustrated on Figure 5, access is proposed via four site driveways:

1. Site Drive 1 – full access on Volcano Rd.;
2. Site Drive 2 – right-in/right-out access at 98th St. north of Volcano Rd.;
3. Site Drive 3 – full access on 98th St. aligned with the commercial center on the west side;
4. Site Drive 4 – full access on Bluewater Rd. aligned with the newly completed Maverick gas station.

Multiple access points exist within the adjacent commercial/retail sites to the south and west.

Figure 5: Proposed Site Scheme



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PROJECT INFORMATION

SITE AREA

PARCEL A	±1.00	ACRES
PARCEL B	±1.29	ACRES
PARCEL C	±1.24	ACRES
PARCEL D	±0.69	ACRES
PARCEL E	±1.25	ACRES
PARCEL F	±5.61	ACRES
TOTAL	±11.08	ACRES

ZONING CLASSIFICATION

JURISDICTION	CITY OF ALBUQUERQUE
EXISTING ZONING	TBV
REQUIRED ZONING	TBV

PROJECT NOTES

1. THIS CONCEPTUAL SITE PLAN IS FOR PLANNING PURPOSES ONLY: SITE SPECIFIC INFORMATION SUCH AS EXISTING CONDITIONS, ZONING, PARKING LANDSCAPE REQUIREMENTS MUST BE VERIFIED.
2. THIS SITE PLAN IS BASED ON AERIAL PHOTO DATA.
3. ALL CURB CUTS AND TRAFFIC SIGNALS SHOWN, EXISTING AND PROPOSED, MUST BE VERIFIED.

DRAWING ISSUE/REVISION RECORD

DATE	NARRATIVE	INITIALS
11/23/20	SCHEME 1	JKM

ALBUQUERQUE NM
98TH STREET & VOLCANO ROAD

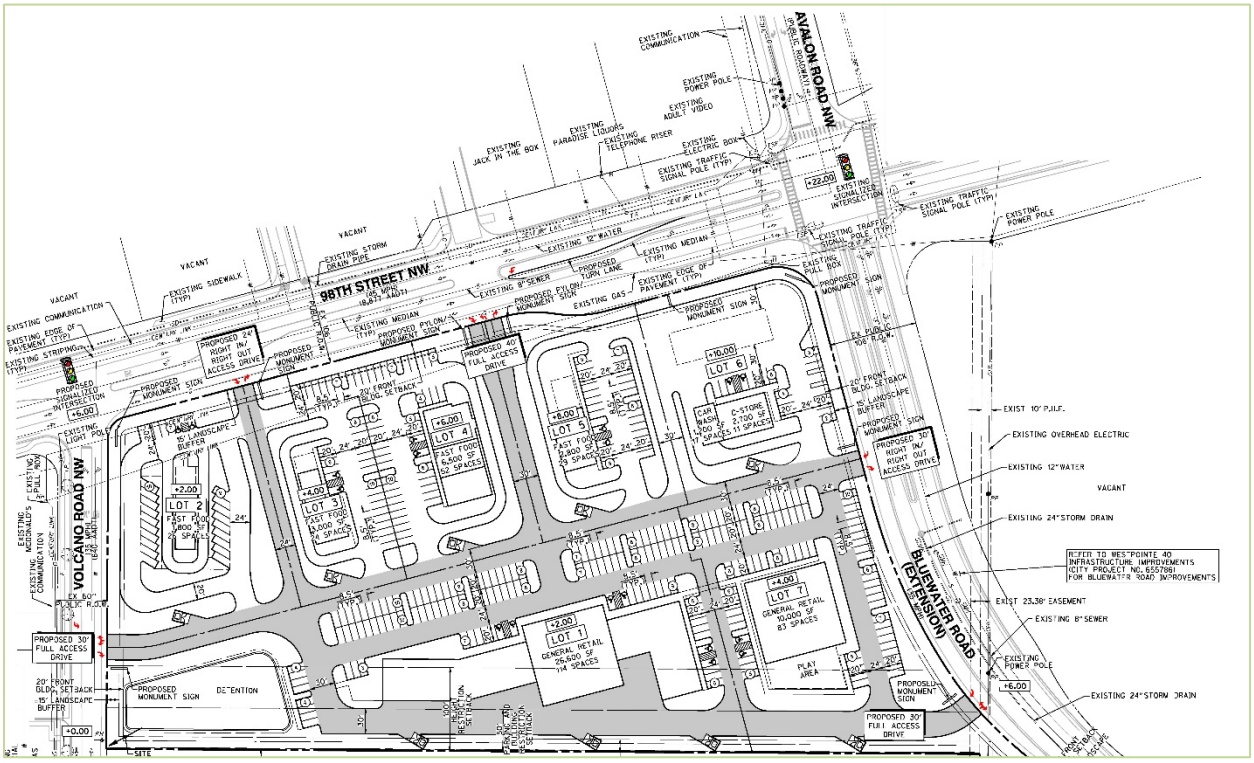
SCALE: 1"=150'-0"
0 75 150 225

SCHEME 1

4.3 Trip Generation

Institute of Transportation Engineers Trip Generation, 10th Edition (ITE, 2017) was used to estimate traffic generated by the proposed development. The peak of the adjacent street was selected for the calculations indicative of urban/suburban traffic patterns for typical AM and PM peak periods (i.e., 7-9 a.m., 4-6 p.m., respectively). The proposed land uses consist of restaurants and an automotive service. An early conceptual plan was prepared for preliminary planning purposes illustrating the approximate scale of the individual uses as shown in Figure 6. While this plan is not being advanced for development, the estimated building footprints were useful for traffic estimating purposes.

Figure 6: Conceptual Site Layout



The following steps and assumptions were applied to the data:

1. The "peak hour of the adjacent street traffic" was the criterion selected for the calculations as this would most likely be impacted by site traffic during typical AM and PM peak periods given the characteristics of the proposed land uses. In the vicinity of the site, 98th St. is urban/suburban in nature and thus "general urban/suburban" data were selected;
2. Gross floor area (GFA) was used for the independent variable;
3. Fitted equations were applied if available, otherwise average rates were used;
4. Internal capture trips (ICT) were calculated using the National Cooperative Highway Research Program (NCHRP) Report 684;
5. Pass-by or internal capture trips were not inherent to the proposed use and thus did not apply;
6. Pass-by trips were calculated by ITE methodology and deducted from the existing through traffic;
7. Transit trip reductions were not accounted for as service is not currently available and the proposed uses are not considered highly conducive to transit or pedestrian access.

Parcel D is proposed as a small-shell coffee shop with drive-through window and no indoor seating, though some outdoor seating may be provided. The trip generation rate for ITE Land Use 938 was derived for small kiosks and therefore the proposed site is outside of the scale for this land use category. A study conducted by K.D. Anderson & Associates, Inc. was conducted for three existing Dutch Brothers coffee stores with similar characteristics to the proposed site wherein trip generation rates were derived per 1,000 vehicles per day as the independent variable. This data was applied to at least one other site in the Albuquerque area, and thus was utilized to estimate trips for this site. The calculated site traffic volume estimates are contained in Appendix C and summarized in Table 2 below.

Table 2: Estimated Site Trip Generation

Description	ITE Code	Quant.	Units	Daily Total	AM Enter	AM Exit	AM Total	PM Enter	PM Exit	PM Total
Parcel A: Fast Food w/Drive-Thru	934	2.7	GFA[1]	1272	56	53	109	46	42	88
Parcel B: Fast Food w/Drive-Thru	934	2.8	GFA[1]	1319	58	55	113	47	44	91
Parcel C: Fast Food w/Drive-Thru	934	6.5	GFA[1]	3061	133	128	261	110	102	212
Parcel D: Coffee w/Drive-Thru no seat.	938	37.0	(2)	---	64	60	124	27	29	56
Parcel E: Fast Food w/Drive-Thru	934	1.8	GFA[1]	848	37	35	72	31	28	56
Parcel F: Automobile Care Center	942	36.6	GFA[1]	---	54	28	82	48	52	100
Total (unadjusted)				**6500**	**402**	**359**	**761**	**309**	**297**	**606**
-Internal Capture Trips					0	0	0	0	0	0
-Pass-By Trips[3]					-137	-137	-274	-113	-113	-226
Volume Added to Adjacent Street					**265**	**222**	**487**	**196**	**184**	**380**

[1]Gross Floor Area, per 1,000 square feet.
[2]Per 1,000 daily vehicles of adjacent street traffic.
[3]Included with driveway volumes but deducted from through traffic on adjacent street.

4.4 Site Traffic Distribution and Assignment

Distribution of proposed site trips was made in proportion to the directional distribution percentages inherent to the corridor at the external nodes as derived from the adjusted traffic counts shown in Figures 2 and 3 and summarized in Table 1. Those distribution percentages were applied to the estimated site trips in Table 2, and proposed trips were then assigned to 98th St., Bluewater Rd., and Volcano Rd. via the site driveways in the following proportions:

1. Site Driveway 1 = 15%;
2. Site Driveway 2 = 25%;
3. Site Driveway 3 = 25%;
4. Site Driveway 4 = 35%.

These trips were assigned by the above percentages using the TIA module in the traffic analysis software. A higher percentage was applied at Driveway 4 because southbound traffic has better access via the traffic signal at Bluewater/Avalon. The distributed trips and resulting intersection peak hour volumes are shown in the map views as well as on the “Future Volume” rows in the level of service worksheets contained in Appendix D.

5.0 FUTURE TRAFFIC CONDITIONS

5.1 Background Traffic Projection

The project was initiated in 2021, and adjustments attributed to COVID-19 closures were applied to existing traffic to establish the baseline condition for analysis. Construction and project opening is projected to be completed by year 2025, which was established as the Implementation Year. A Horizon Year analysis typically incorporates the Implementation Year plus 10 years, thus traffic was projected to year 2035.

Average Week Day Traffic (AWDT) data and recorded traffic volume counts were obtained from the MRCOG Transportation Analysis & Querying Application (TAQA). Historic traffic volumes are summarized in Table 3 below.

Table 3: Historic Traffic Volumes (AWDT)

Year	98th St. South of I-40
2009	26621
2010	26222
2011	25881
2012	30989
2013	30493
2014	30493
2015	34670
2016	35987
2017	37900
2018	39900
2019	37000

Trend line analysis was used to calculate growth rates as follows.

1. *98th St.*:
   a. Annualized compound growth rate between 2009 and 2019 was 3.35%;
   b. An annual rate calculated by trend line analysis yielded a rate of 4.58%;
   c. Because the trend line had a high degree of correlation, it was considered a reliable measure; nevertheless, it is uncertain if this rate can be sustained indefinitely;
   d. While the area along the 98th St. corridor is mostly developed, much vacant land remains in the vicinity and 98th St. is a principal arterial serving regional traffic, and thus further growth could be expected.
   e. A rate of +3.0% per year was selected for analysis, yielding growth factors of 1.13 and 1.51 for the implementation and horizon years, respectively.
2. *Adjacent Streets*:
   a. A growth rates of 1.0% per year was applied Central Ave. yielding growth factors of 1.04 and 1.15 for the implementation and horizon years, respectively;
   b. Insufficient historical data was available to forecast Bluewater traffic, but the eastern portion is mostly developed; therefore the minimum growth rate of 0.5% per year was applied and estimated trips from the Westpointe Industrial Park were added as part of the background traffic.
   c. Trends exhibited by the I-40 ramps varied and several growth rates were applied.

The calculated growth factors were input into the traffic models and applied to through traffic movements to expand background traffic volumes for analysis of the forecast traffic scenarios (see Appendix B for historic traffic data and projections). It should also be noted that the calculated growth rate was not indicative of statewide economic and related traffic growth but reflected local and regional activity in recent years. The recession associated with COVID-19 pandemic closures could be expected to negatively impact economic growth and therefore this growth rate may not be expected to continue unaltered but may result in a somewhat conservative traffic forecast estimate. In addition, the software expands the background plus site traffic, providing for additional conservativism in the traffic estimates.

6.0 TRANSPORTATION ANALYSIS

6.1 Site Traffic Operations Analysis

Intersection "nodes" constrain the capacity of a roadway segment, and therefore the baseline capacity of the study intersections were analyzed using the *Highway Capacity Manual 6th Edition (HCM)* methodology. The Level of Service (LOS) for an intersection is determined by the computed or measured delay and is defined for each minor movement at signalized, unsignalized, and roundabout intersections. LOS is assigned a letter grade from A (best) through F (worst), as summarized in Table 4 for signalized and unsignalized intersections. Signalized intersection have higher levels of delays due to higher volumes and driver expectation of greater delays. LOS D is generally considered acceptable in urban areas with right-of-way constraints; however, COA DPM Table 7.5.88 provides additional LOS criteria by location and corridor type. 98th St. is an arterial outside of any activity centers, thus LOS D is the threshold.

Table 4: Intersection Level of Service (LOS) Criteria (HCM 6th Ed.)

LOS[1]	Signalized Control Delay (sec/veh)	Unsignalized Control Delay (sec/veh)
A	0 – 10	0 – 10
B	10 – 20	10 – 15
C	20 – 35	15 – 25
D	35 – 55	25 – 35
E	55 – 80	35 – 50
F	> 80	> 50

[1]For Volume-to-Capacity Ratio (V/C) ≤1.0; LOS = F for V/C > 1.

Synchro 10 software package by *Trafficware Ltd.* was utilized to compute the results in HCM format. Traffic signal timing settings for the signalized intersections on 98th St. were provided by COA Traffic Engineering staff and input into the traffic models for analysis. These intersections are currently coordinated and therefore the appropriate time-of-day plans were used for the peak analyses. Capacity analyses were computed using the same, systematic method so results could be compared for these alternative scenarios:

1. **Scenario 1: Existing Traffic (2021)** – represents existing conditions prior to development of the site with traffic collected during COVID-19-related closures in April 2021.
2. **Scenario 2: Baseline (2021)** – baseline traffic adjusted to represent "normal" conditions without COVID-19 impacts, representing the baseline for analysis.
3. **Scenario 3: Implementation Year NO-Build (2025)** – baseline conditions plus background traffic growth without development, representing the implementation year operating conditions (includes Westpointe Industrial Park phases 1 and 2).

4. **Scenario 4: Implementation Year BUILD (2025)** – existing traffic plus background traffic growth and completion of development.
5. **Scenario 5: Horizon NO-Build (2035)** – existing traffic conditions plus background traffic growth without development, representing the horizon year operating conditions (includes Westpointe Industrial Park phases 1 through 3).
6. **Scenario 6: Horizon BUILD (2035)** – forecast conditions including background traffic growth and site traffic, to assess forecast traffic operations with developed conditions.

Computed results are contained in Appendix D and summarized in Table 5.

Table 5: LOS Summary for Alternative Concepts*

		AM Peak						PM Peak					
		Intersection		Max. (worst-case movement)				Intersection		Max. (worst-case movement)			
Scenario	Intersection	Delay	LOS	V/C	Delay	LOS	Dir.	Delay	LOS	V/C	Delay	LOS	Dir.
Baseline (2021)	**1 – Existing Traffic**												
	98th/Central	43.4	D	0.92	45.1	D	NBT	28.2	C	0.85	63.7	E	WBL
	98th/Volcano	0.8	(3)	0.081	102.8	F	WBL	1.3	(3)	0.322	110.1	F	WBL
	98th/Bluewater	22.3	C	0.73	16.5	B	NBT	20.3	C	0.83	75.3	E	EBL
	98th/I-40 South	0.2	(3)	0.031	15.8	C	EBL	0.3	(3)	0.107	50.7	F	EBL
	98th/I-40 North	34.9	C	0.86	55.7	E	WBL	28.9	C	0.90	32.0	C	WBL
	Bluewater/90th	9.6	(3)	0.365	13.2	B	NBL	7.8	(3)	0.257	13.2	B	SBT
	2 – Baseline Traffic (Adjusted)												
	98th/Central	77.1	E	1.13	103.9	F	NBT	28.2	C	0.85	63.7	E	WBL
	98th/Volcano	1.2	(3)	0.187	194.5	F	WBL	1.9	(3)	0.566	234.4	F	WBL
	98th/Bluewater	32.9	C	0.95	39.8	D	NBR	23.0	C	0.96	104.5	F	EBL
	98th/I-40 South	0.3	(3)	0.067	22.6	C	EBL	0.5	(3)	0.220	92.8	F	EBL
	98th/I-40 North	34.3	C	0.88	53.0	D	WBL	29.1	C	0.90	30.5	C	WBL
	Bluewater/90th	11.8	(3)	0.532	17.3	C	NBL	8.2	(3)	0.297	14.1	B	SBT
Implementation Year (2025)	**3 – Implementation Year NO-Build**												
	98th/Central	113.7	F	1.28	166.3	F	NBT	30.0	C	0.88	67.9	E	WBL
	98th/Volcano	1.6	(3)	0.344	388.6	F	WBL	1.9	(3)	0.566	234.4	F	WBL
	98th/Bluewater	55.9	E	1.09	78.8	F	NBR	24.4	C	0.96	104.5	F	EBL
	98th/I-40 South	0.3	(3)	0.086	27.1	D	EBL	0.7	(3)	0.340	153.8	F	EBL
	98th/I-40 North	34.0	C	0.89	52.8	D	WBL	29.4	C	0.91	29.7	C	WBL
	Bluewater/90th	15.2	(3)	0.672	25.9	D	NBL	8.3	(3)	0.305	14.2	B	SBT
	4 – Implementation Year BUILD												
	98th/Central	143.7	F	1.39	217.8	F	NBT	31.2	C	0.88	67.9	E	WBL
	98th/Volcano	6.3	(3)	1.74	1155.2	F	WBL	3.9	(3)	1.007	406.1	F	WBL
	98th/Bluewater	63.2	E	1.13	92.9	F	NBR	26.2	C	0.98	111.8	F	EBL
	98th/I-40 South	0.3	(3)	0.100	30.9	D	EBL	0.9	(3)	0.411	197.9	F	EBL

	98th/I-40 North	34.0	C	0.89	52.7	D	WBL	29.7	C	0.91	29.1	C	WBL
	Bluewater/90th	15.6	(3)	0.687	27.2	D	EBL	8.4	(3)	0.316	14.6	B	SBT
	Site1/Volcano	3.2	(3)	0.014	9.8	A	SBL	1.5	(3)	0.019	9.9	A	SBL
	Site2/98th	1.3	(3)	0.551	51.0	F	WBR	0.4	(3)	0.192	16.5	C	WBR
	Site3/98th	7.6	(3)	2.016	1362.3	F	WBL	2.5	(3)	0.874	500.3	F	WBL
	Site4/Bluewater	4.2	(3)	0.211	11.1	B	NBL	1.5	(3)	0.019	9.9	A	SBL
Horizon Year (2035)	**5 – Horizon NO-Build**												
	98th/Central	230.8	F	1.70	357.1	F	NBT	60.5	E	1.12	75.8	F	SBT
	98th/Volcano	5.3	(3)	1.649	2305.8	F	WBL	7.4	(3)	2.27	1476.4	F	WBL
	98th/Bluewater	154.9	F	1.49	244.6	F	NBR	32.1	C	1.02	119.8	F	EBL
	98th/I-40 South	0.5	(3)	0.177	50.4	F	EBL	3.6	(3)	1.318	904	F	EBL
	98th/I-40 North	33.6	C	0.90	52.5	D	WBL	31.8	C	0.93	28.5	C	WBL
	Bluewater/90th	36.4	(3)	0.993	81.5	F	NBL	11.1	(3)	0.537	17.2	C	SBT
	6 – Horizon BUILD												
	98th/Central	273.2	F	1.86	427.0	F	NBT	75.0	E	1.19	103.8	F	SBT
	98th/Volcano	54.2	(3)	17.31	####	F	WBL	19.3	(3)	4.64	####	F	WBL
	98th/Bluewater	158.0	F	1.51	251.3	F	NBR	30.2	C	1.03	124.7	F	EBL
	98th/I-40 South	0.5	(3)	0.215	62.6	F	EBL	4.5	(3)	1.647	####	F	EBL
	98th/I-40 North	33.7	C	0.91	52.5	D	WBL	33.5	C	0.94	29.0	C	WBL
	Bluewater/90th	18.1	(3)	0.753	32.9	D	NBT	8.6	(3)	0.341	15.2	C	SBT
	Site1/Volcano	3.1	(3)	0.014	9.8	A	SBL	1.4	(3)	0.019	10.0	B	SBL
	Site2/98th	3.7	(3)	1.026	189.4	F	WBR	0.4	(3)	0.269	22.8	C	WBR
	Site3/98th	25.8	(3)	8.07	####	F	WBL	8.9	(3)	3.495	####	F	WBL
	Site4/Bluewater	4.1	(3)	0.213	11.1	B	NBL	3.3	(3)	0.184	11.2	B	NBL

*Notes:

1. Delay is measured in seconds/vehicle
2. V/C = volume-to-capacity ratio for traffic movement
3. Only critical movement LOS at unsignalized intersections is reported (#### exceeds 3 digits).

6.2 Queueing Summary

Queue length measurements are useful in evaluating traffic operations and for determination of turn lane storage requirements. As shown in the *HCM Guide*, "The 95th-percentile queue is defined to be the queue length (in vehicles) that has only a 5-percent probability of being exceeded during the analysis time period." A procedure for calculating queues is provided in the HCM and computations are included in the LOS worksheets in Appendix D. A summary of queues is provided in Table 6 for key turning lane groups that could be impacted with site traffic in the implementation year.

Table 6: Calculated 95th Percentile Queue Lengths

Intersection	Movement	Available Storage[1]	Scenario 3 Queue[2]		Scenario 4 Queue[2]	
			AM	PM	AM	PM
Central	EBL	7 (165')	8.4*	5.6	9.3*	5.9
Central	SBL	4 (90')	2.1	3.2	2.4	3.6
Bluewater	NBR	--[3]	26.4	17.3	0.0	0.0
Bluewater	SBL	8 (200')	2.4	0.6	2.4	3.6
Bluewater	WBL	13 (330')	1.5	2.9	4.2	6.1
I40 North	NBL	4 (100')	2.0	3.7	2.1	4.2*

[1]Storage length per number of vehicles at an average of 25' per vehicle (feet in parenthesis).
[2]Calculated 95th Percentile queue per HCM procedures, listed in number of vehicles.
[3]NBR is shared with 3rd NBT lane which transitions 175' south of Bluewater.
*Exceeds available storage.

Queues that may require mitigation were identified at the following locations:

1. Central Ave. EBL – existing calculated queues exceed available storage in the AM peak periods, with the increase of less than one vehicle per lane attributed to site development. Mitigation analysis will evaluate whether timing adjustments could improve this condition.
2. Bluewater Rd. NBR – this movement is part of the shared lane group for the existing northbound direction. Provision of a NBR lane would improve this operation, though the NBR queue would likely be blocked by northbound traffic positioning for the N-to-E ramp at I-40.
3. NBL at I-40 North Ramp – the adjusted baseline traffic plus site traffic would be within the storage limit plus transition area.

6.3 Assessment of Impacts

Conclusions drawn from the results of these capacity analyses include:

1. Heavy directional NBT flows at Central Ave. in the AM lead to deficient LOS that becomes progressively worse; SBT also fell below LOS D for the horizon build scenario.
2. 98th/Bluewater/Avalon may also be expected to fall below LOS D by the Implementation Year No-Build with additional delay for the Build scenario.
3. Several lane groups experience high delays with poor LOS and exceeding v/c ratio of 1.0.
4. The Bluewater/90th intersection did not fall below LOS D.
5. Right turns onto 98th St. from site driveway 2 experienced extremely high delays in the AM peak due to the high through volumes on 98th St.
6. Left turns onto 98th St. at Volcano and site driveway 3 experienced extremely high delays due to the high through volumes on 98th St.
7. Site driveway 1 on Volcano and driveway 4 on Bluewater showed satisfactory LOS.
8. The EBL movement at the I-40 South Ramp experiences high levels of delay given the amount of through traffic on 98th St.; the availability of a median refuge facilitates access (though this operation was not modeled).
9. The WBL movement at I-40 North Ramp is configured with a shared through/left-turn lane, and operated satisfactorily under all scenarios.

Because intersection LOS fell below acceptable levels for some scenarios, mitigation measures were evaluated to resolve operational deficiencies as described in Section 6.4 below.

6.4 Mitigation Analysis

Based upon the results summarized in Tables 5 and 6, additional scenarios were analyzed to evaluate mitigation measures that would address operational deficiencies identified in the Horizon Year. These scenarios are described below and summarized in Table 7 (see Appendix E for LOS worksheets).

1. Mitigation Scenario 1 (MIT1) – Signal Timing Optimization Plus. Signalized intersections along 98th St. are coordinated, though coordinated phase numbers differ between the City and NMDOT intersections. Signal timing and offset optimization was run for this scenario to evaluate whether the corridor operations could be improved. In addition, recommended mitigation measures from the referenced traffic studies were incorporated as follows.
   a. Milagro and Westpointe studies recommended signal timing adjustments to improve operations.
   b. Westpointe added the following recommendations:
      i. Add a NB thru lane on 98th from south of Central to Bluewater;
      ii. Add a SB right-turn lane on 98th at Central and right-turn overlap signal phase;
      iii. Convert existing NB right-turn lane at Bluewater to a shared through/right-turn (T/R) lane.
   c. Network cycle lengths of C = 150s for AM peak and C = 145/100s for PM peak were determined to be optimal for throughput on 98th from Central to Bluewater:
      i. The I-40 North Ramp signal was set to Actuated-Uncoordinated mode;
      ii. Additional adjustments to the east-west phases may be needed to improve LOS for the left turns.
   d. This scenario improved signal operations above the Horizon Build as summarized in Table 7; however, Central and Bluewater/Avalon intersections were below LOS D.

2. Mitigation Scenario 2 (MIT2) – Add NBR at 98th/Bluewater. The existing third NB lane is a shared T/R lane and currently serves as a transitional through-lane for access to the N-E ramp at I-40.
   a. The Westpointe study recommended conversion of the existing NB right-turn lane at Bluewater to a shared through/right-turn (T/R) lane.
   b. Extension of this third through lane is essential to improve the operation of the corridor during the AM peak in particular.
   c. Addition of a NBR lane would reduce the NBT and NBR delay, improving overall operations and yielding 95th percentile queues of 0.1 vehicles in the AM and 0.0 vehicles PM for the NBR.
   d. Queue blocking by NBT traffic could impact the NBR during the most intense portion of the AM peak, but operations would benefit throughout the remainder of daily service.
   e. Network cycle lengths of C = 160s for AM peak and C = 140/100s for PM peak were determined in Year 2035 to be optimal for throughput on 98th from Central to Bluewater:
      i. The 98th/Bluewater/Avalon intersection shows higher delay than the Horizon Build due to a longer cycle length; however, the natural or equilibrium cycle is 150s for this intersection which more closely approximates the optimized timing plan.
      ii. The I-40 North Ramp signal was set to Actuated-Uncoordinated mode;
      iii. Additional adjustments to the east-west phases or lane modifications may be needed to improve LOS for the left turns.
   f. Addition of the NBR helped improve signalized operations above the Horizon Build as summarized in Table 7.

Table 7: LOS Summary for Mitigation Scenarios

	AM Peak						PM Peak					
	Intersection		Max. (worst-case movement)				Intersection		Max. (worst-case movement)			
Intersection	Delay	LOS	V/C	Delay	LOS	Dir.	Delay	LOS	V/C	Delay	LOS	Dir.
Mitigation Scenario 1 (2035)												
98th/Central	59.8	E	1.05	65.9	F	NBT	47.2	D	0.92	88.2	F	WBL
98th/Bluewater	65.6	E	1.16	85.0	F	NBR	50.2	D	1.36	268.1	F	EBL
98th/I-40 North	43.2	D	0.91	55.2	E	WBL	31.8	C	0.94	27.1	C	WBL
Mitigation Scenario 2 (2035)												
98th/Central	54.8	D	1.02	59.8	F	NBT	33.7	C	0.93	88.5	F	WBL
98th/Bluewater	38.1	D	1.07	38.8	F	NBT	53.4	D	1.42	294.5	F	EBL
98th/I-40 North	46.1	D	0.91	58.9	E	WBL	31.8	C	0.94	27.1	C	WBL

7.0 SITE ACCESS REQUIREMENTS

As illustrated in the Proposed Site Scheme (Figure 5), four access points are proposed to provide ample circulation and queueing space on site for the drive-through businesses.

7.1 Site Drive 1

1. A 2-lane commercial access
2. Perpendicular to and aligned with the site driveway on the south side of Volcano Rd.

7.2 Site Drive 2

1. A 2-lane commercial right-in/right-out (RIRO) access.
2. Perpendicular to 98th St.

7.3 Site Drive 3

1. A 3-lane commercial access with one ingress lane and two egress lanes for left- and right-turns.
2. Perpendicular to and aligned with the commercial driveway on the west side of 98th St.

7.4 Site Drive 4

1. A 2-lane commercial access.
2. Perpendicular to and aligned with the site driveway on the north side of Bluewater Rd.
3. Curb returns should be designed to accommodate trucks per DPM *TABLE 7.4.48*, and possibly expanded to accommodate a WB-67 vehicle if appropriate.

7.5 General Driveway Requirements

1. The proposed driveways along 98th St. meet the spacing criteria of DPM *TABLE 7.4.45* and *TABLE 7.4.46*.
2. Curb returns shall be provided as per DPM §*7-4(B)(5)(i)*.
3. Dimensional criteria are as per DPM §*7-4(B)(5)(ii)* and §*7-4(B)(5)(iii).*

7.6 Off-Site Improvements

1. Extend the third NBT lane southward to the return at Volcano Rd.
2. The extension of the third NBT lane southward through Central Ave. should be accomplished through a future project as also recommended in the Westpointe study (see Section 9).
3. Provide a 6' buffered bike lane along the outside of the NBT lane.

4. Provide a NBR turn lane at 98th/Bluewater Rd. per the turn lane warrant criteria of COA DPM *TABLE 7.4.67*.
   a. Mitigation Alternative 2 (NBR added) showed minimal queueing; however, NBT traffic queues will be extensive in the AM peak and partially block access to the NBR.
   b. It is therefore recommended that this NBR turn lane be designed to accommodate the minimum deceleration requirement per DPM §7-*4(I)(7)(iii)(d)* with consideration of geometric or other constraints. Based on the proposed location of Site Driveway 3, this would be limited to an approximately 200' lane plus 115' transition; this should be modified as needed.
   c. Truck turning templates should be accommodated on the receiving leg of Bluewater Rd.
   d. Provide bike lane markings through the lane transition.
5. Provide a 6' sidewalk with buffer along the property frontage.
6. Modify existing traffic signal mastarm and appurtenances in the southeast quadrant of the intersection as needed to accommodate the NBR lane:
   a. Some rerouting of electrical conduit plant will be required.
   b. Install new or relocate existing pedestal poles for pedestrian signals to meet ADA requirements at the pedestrian ramps.
   c. Existing mastarm may remain if it is set back beyond return radius.
   d. Supplemental signing should be posted on the north side mastarm denoting access to I-40 via the outer NBT lane.
7. Provide a SBL turn lane to Site Driveway 3 within the existing median, approximately 100' in length plus transition; the transition may be accomplished as a "back-to-back" transition beginning at the existing NBL turn lane transition if necessary.
8. Provide complementary signing and/or pavement markings for the new turn lanes.

8.0 SUMMARY OF FINDINGS

Key findings of this analysis are summarized as follows:

1. For existing (baseline) conditions, Levels of service (LOS) at traffic signalized intersections along 98th St. are within the acceptable range though certain lane groups currently exceed capacity thresholds of delay or volume to capacity (v/c) limits.
2. Site-generated traffic is not expected to cause significant, adverse impacts to the adjacent roadway network, including the traffic signalized intersections along 98th St., but will incrementally increase delay.
3. The 98th St. corridor from Central Ave. to I-40 acts as a commuter route serving residential areas in southwest Albuquerque to other areas of the city.
4. This corridor has seen a consistent high growth trend which may continue indefinitely given the amount of vacant lands in the vicinity.
5. Sustained traffic growth in the region will exacerbate these conditions and necessitate improvements by Year 2025 including:
   a. Expansion of 98th St. to a 6-lane arterial;
   b. Traffic signal timing improvements to optimize throughput and traffic progression;
   c. Intersection improvements to add turn lanes and/or extend queue storage.
6. Regional improvements will also be necessary to alleviate congestion on 98th St. in the near term. A review of the Transportation Improvement Program (TIP) prepared by MRCOG revealed at least two projects slated for implementation in the vicinity.

9.0 RECOMMENDATIONS & MITIGATION MEASURES

This analysis has demonstrated that the 98th St. corridor from Central Ave. to I-40 is experiencing rapid growth and is in need of near-term improvements. Significant detrimental traffic impacts associated with the proposed commercial development project are not expected to occur on the adjacent transportation system. The following recommendations are offered regarding on- and off-site access modifications.

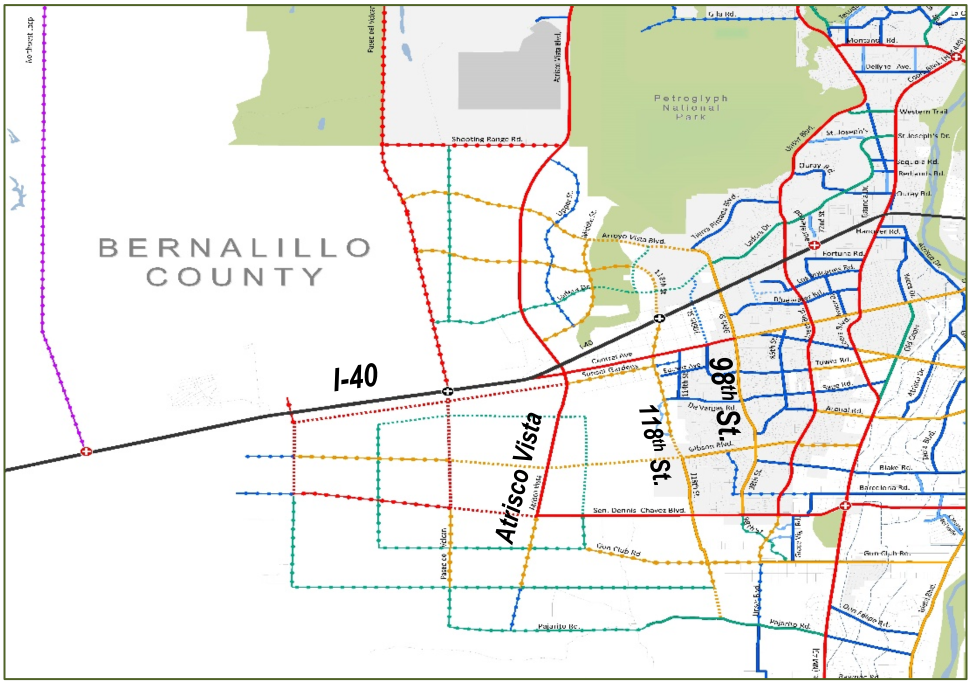
9.1 On-Site Access Roads

1. Four access driveways are proposed to provide ample circulation and queueing space on site for the drive-through businesses as illustrated in Figure 5 and detailed in Section 7.1 of this report.
2. These driveways will be designed in accordance with City of Albuquerque Development Process Manual (COA DPM) requirements.

9.2 Off-Site Roadway Improvements

1. Extension of the third northbound through (NBT) lane and buffered bike lane along the property frontage from Bluewater Rd to the Volcano Rd. return.
2. Addition of a northbound right-turn (NBR) lane at 98th/Bluewater Rd. and accommodation of turning trucks.
3. Installation of buffered sidewalk along the property frontage.
4. Provision of a southbound left-turn (SBL) lane on 98th St. at Site Driveway 3.
5. Widening of 98th St. to a 6-lane arterial roadway will be necessary in the near term to accommodate sustained growth in the region. The intersection is projected to exceed capacity by the Implementation Year 2025 based on background traffic growth and current signal timings. As recommended in the Westpointe Industrial Park traffic impact study (TIS) and as validated in this study, these improvements should be done under a separate project to include:
   a. Extension of the third northbound through lane (NBT) southward through the Central Ave. intersection.
   b. Addition of a SB right-turn lane on 98th at Central and right-turn overlap signal phase.
   c. Based on the Horizon Year (2035) traffic projection, intersection approach traffic volumes were tabulated to calculate the percentage of site traffic as a proportion of the total (see Appendix F), yielding:
      i. 5% in the AM peak hour
      ii. 3% in the PM peak hour
   d. A fair share contribution from the developer should be established based on these percentage as a contribution to the 98th/Central intersection improvements.
6. Other transportation improvements that have been identified in the TIP and illustrated in Figure 7 should be advanced to alleviate congestion along 98th St. and to provide enhanced mobility in the region, including:
   a. 118th St. from Eucariz Ave. to I-40 (MPO #526.4 & 526.7) – shown as a “near term” project.
   b. 118th St. Interchange at I-40 (MPO #526.7) – listed as a “late term” project.

Figure 7: Future Network Roadway Extensions



APPENDIX A
Traffic Scoping Requirements

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Albuquerque, NM 87120
505.508.3374
www.civiltransformations.com

Minutes

To: Distribution

From: Timothy D. Simmons, PE, PTOE

Date: February 24, 2021

Re: Scoping Meeting – Traffic Impact Study for 98th/Bluewater Commercial Development

---

A virtual meeting was held on this date to discuss the traffic study requirements for the proposed project located in the southwest quadrant of the 98th St./Bluewater Rd. intersection in Albuquerque, NM. This scoping meeting was held in accordance with the City of Albuquerque (COA) Development Process Manual (DPM). The following individuals participated:

- Matthew Grush, PE – COA Traffic Engineer
- Margaret Haynes, PE – NMDOT District 3 Assistant Traffic Engineer
- Brad Julian, PE – NMDOT Traffic Technical Support Engineer
- Ashley Klein – Red Sky Development, LLC
- Tim Simmons, PE, PTOE – Transportation and Traffic Engineer

- With reference to the previously emailed Traffic Scoping Form (TSF), Tim provided an overview of the project location, conceptual site plan, and proposed land uses consisting of retail space, a gas station with convenience market, and several fast-food restaurants with drive-through lanes.
- Proposed site land uses:
  - Land Use 820 Shopping Center (retail) may over-estimate trips, will be changed to Office which includes light retail.
  - Land Use 945 Gas Station with Convenience Market may have to be upgraded to Super Convenience Center (LU960) if the building size or number of pumps meet the definition.
  - Build-out period is estimated at 5 years for the implementation year; horizon year will be implementation plus 10 years.
  - Ashley noted that new version of the conceptual site plan is being developed.
- Study intersections will include:
  - 98th/Central Ave.
  - 98th/Bluewater Rd.
  - I-40 north & south ramp terminals.
  - Bluewater/90th St.
- Access considerations:
  - Proposed driveways look consistent with COA standards.
  - Driveways should align with existing opposing driveways on Volcano and Bluewater.
  - The median on Bluewater at 98th is established for left turn storage and should not be altered.
- Other issues:
  - Avalon Rd. west of 98th St. is in the jurisdiction of Bernalillo County; Tim will contact Julie Luna to coordinate their review.
  - A Maverick gas station is under construction on the north side of Bluewater Rd. Phase II of this development called Westpoint 40 will commence soon. Margaret will forward a copy of the traffic study to Tim for coordination.

- Peak period turning movement counts (TMCs) will be collected at the intersections listed above. Pre-COVID count data up to year 2018 may be available via the MRCOG interactive web site for use in adjusting the peak data.

END OF MEETING MINUTES

These meeting minutes represent a summary of the items discussed. Any corrections or revisions should be directed to the author within 5 business days, after which time they will be considered as final.

Prepared by: *Date:* February 25, 2021

Distribution: Attendees

APPENDIX B
Existing & Projected Traffic Data
-Traffic volumes
-Forecast Volumes
-Existing Signal Timings

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98th & Bluewater Commercial Development
Turning Movement Count
Traffic Impact Analysis

File Name : 1_98th-Central
Site Code : 1
Start Date : 4/8/2021
Page No : 1

Groups Printed- Cars - Trucks

	98TH ST From North					CENTRAL AVE From East					98TH ST From South					CENTRAL AVE From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	11	86	17	0	114	18	25	25	0	68	4	279	45	0	328	42	35	8	0	85	595
07:15 AM	12	86	22	0	120	19	19	26	0	64	6	330	78	2	416	48	28	10	0	86	686
07:30 AM	9	90	28	0	127	18	29	31	0	78	5	386	67	0	458	57	46	5	0	108	771
07:45 AM	13	131	22	0	166	29	28	28	0	85	7	298	73	0	378	58	33	4	1	96	725
Total	45	393	89	0	527	84	101	110	0	295	22	1293	263	2	1580	205	142	27	1	375	2777
08:00 AM	10	107	27	0	144	22	34	38	0	94	7	281	45	0	333	46	26	4	0	76	647
08:15 AM	14	90	26	0	130	18	40	32	0	90	8	269	38	0	315	55	37	9	0	101	636
08:30 AM	19	118	30	0	167	22	26	33	0	81	7	253	51	1	312	54	29	7	0	90	650
08:45 AM	22	91	26	0	139	28	33	26	0	87	4	202	44	0	250	37	38	7	0	82	558
Total	65	406	109	0	580	90	133	129	0	352	26	1005	178	1	1210	192	130	27	0	349	2491
*** BREAK ***																					
04:00 PM	25	229	41	0	295	92	51	30	1	174	9	183	55	0	247	44	51	20	0	115	831
04:15 PM	28	215	45	0	288	73	68	24	0	165	7	172	63	0	242	54	52	20	0	126	821
04:30 PM	30	257	34	0	321	81	53	45	0	179	10	178	33	0	221	68	68	15	0	151	872
04:45 PM	27	272	39	1	339	96	87	48	0	231	6	186	67	0	259	45	70	14	0	129	958
Total	110	973	159	1	1243	342	259	147	1	749	32	719	218	0	969	211	241	69	0	521	3482
05:00 PM	27	269	50	0	346	67	75	30	0	172	7	215	65	0	287	44	50	27	0	121	926
05:15 PM	34	228	49	0	311	89	64	32	1	186	8	211	76	0	295	41	60	11	1	113	905
05:30 PM	20	254	63	0	337	76	71	33	0	180	8	169	58	0	235	59	33	10	0	102	854
05:45 PM	32	266	49	0	347	87	78	33	0	198	8	181	42	1	232	38	45	12	1	96	873
Total	113	1017	211	0	1341	319	288	128	1	736	31	776	241	1	1049	182	188	60	2	432	3558
Grand Total	333	2789	568	1	3691	835	781	514	2	2132	111	3793	900	4	4808	790	701	183	3	1677	12308
Apprch %	9	75.6	15.4	0		39.2	36.6	24.1	0.1		2.3	78.9	18.7	0.1		47.1	41.8	10.9	0.2		
Total %	2.7	22.7	4.6	0	30	6.8	6.3	4.2	0	17.3	0.9	30.8	7.3	0	39.1	6.4	5.7	1.5	0	13.6	
Cars	317	2777										3775									12039
% Cars	95.2	99.6	91.5	100	97.9	98.2	94.6	95.1	100	96.2	89.2	99.5	97.4	100	98.9	97.3	96.6	92.9	100	96.5	97.8
Trucks	16	12	48	0	76	15	42	25	0	82	12	18	23	0	53	21	24	13	0	58	269
% Trucks	4.8	0.4	8.5	0	2.1	1.8	5.4	4.9	0	3.8	10.8	0.5	2.6	0	1.1	2.7	3.4	7.1	0	3.5	2.2

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Turning Movement Count
Traffic Impact Analysis

File Name : 1_98th-Central
Site Code : 1
Start Date : 4/8/2021
Page No : 2

	98TH ST From North					CENTRAL AVE From East					98TH ST From South					CENTRAL AVE From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	12	86	22	0	120	19	19	26	0	64	6	330	**78**	**2**	416	48	28	**10**	0	86	686
07:30 AM	9	90	**28**	0	127	18	29	31	0	78	5	**386**	67	0	**458**	57	**46**	5	0	**108**	**771**
07:45 AM	**13**	**131**	22	0	**166**	**29**	28	28	0	85	**7**	298	73	0	378	**58**	33	4	**1**	96	725
08:00 AM	10	107	27	0	144	22	**34**	**38**	0	**94**	7	281	45	0	333	46	26	4	0	76	647
Total Volume	44	414	99	0	557	88	110	123	0	321	25	1295	263	2	1585	209	133	23	1	366	2829
% App. Total	7.9	74.3	17.8	0		27.4	34.3	38.3	0		1.6	81.7	16.6	0.1		57.1	36.3	6.3	0.3		
PHF	.846	.790	.884	.000	.839	.759	.809	.809	.000	.854	.893	.839	.843	.250	.865	.901	.723	.575	.250	.847	.917
Cars	36	408	90	0	534	82	98	114	0	294	24	1292									
% Cars	81.8	98.6	90.9	0	95.9	93.2	89.1	92.7	0	91.6	96.0	99.8	97.0	100	99.2	97.1	91.7	87.0	100	94.5	97.1
Trucks	8	6	9	0	23	6	12	9	0	27	1	3	8	0	12	6	11	3	0	20	82
% Trucks	18.2	1.4	9.1	0	4.1	6.8	10.9	7.3	0	8.4	4.0	0.2	3.0	0	0.8	2.9	8.3	13.0	0	5.5	2.9
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	30	257	34	0	321	81	53	45	0	179	**10**					**68**				**151**	
04:45 PM	27	**272**	39	**1**	339	**96**	**87**	**48**	0	**231**	6	186	67	0	259	45	**70**	14	0	129	**958**
05:00 PM	27	269	**50**	0	**346**	67	75	30	0	172	7	**215**	65	0	287	44	50	**27**	0	121	926
05:15 PM	**34**	228	49	0	311	89	64	32	**1**	186	8	211	**76**	0	**295**	41	60	11	**1**	113	905
Total Volume	118	1026	172	1	1317	333	279	155	1	768	31	790	241	0	1062	198	248	67	1	514	3661
% App. Total	9	77.9	13.1	0.1		43.4	36.3	20.2	0.1		2.9	74.4	22.7	0		38.5	48.2	13	0.2		
PHF	.868	.943	.860	.250	.952	.867	.802	.807	.250	.831	.775	.919	.793	.000	.900	.728	.886	.620	.250	.851	.955
Cars	116	1026	166	1	1309	331	273	152	1	757	28	787	238	0	1053	196	245	67	1	509	3628
% Cars	98.3	100	96.5	100	99.4	99.4	97.8	98.1	100	98.6	90.3	99.6	98.8	0	99.2	99.0	98.8	100	100	99.0	99.1
Trucks	2	0	6	0	8	2	6	3	0	11	3	3	3	0	9	2	3	0	0	5	33
% Trucks	1.7	0	3.5	0	0.6	0.6	2.2	1.9	0	1.4	9.7	0.4	1.2	0	0.8	1.0	1.2	0	0	1.0	0.9

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File Name : 1_98th-Central
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Groups Printed- Cars

	98TH ST From North					CENTRAL AVE From East					98TH ST From South					CENTRAL AVE From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	11	85	16	0	112	16	24	21	0	61	4	279	42	0	325	37	33	6	0	76	574
07:15 AM	10	84	20	0	114	18	19	24	0	61	6	330	78	2	416	48	26	7	0	81	672
07:30 AM	7	88	25	0	120	17	23	30	0	70	5	385	64	0	454	57	45	5	0	107	751
07:45 AM	12	131	20	0	163	29	26	24	0	79	7	297	71	0	375	53	27	4	1	85	702
Total	40	388	81	0	509	80	92	99	0	271	22	1291	255	2	1570	195	131	22	1	349	2699
08:00 AM	7	105	25	0	137	18	30	36	0	84	6	280	42	0	328	45	24	4	0	73	622
08:15 AM	14	89	21	0	124	17	33	32	0	82	5	266	37	0	308	53	34	8	0	95	609
08:30 AM	17	117	23	0	157	21	24	27	0	72	7	253	48	1	309	52	28	3	0	83	621
08:45 AM	20	89	17	0	126	27	29	26	0	82	1	198	44	0	243	37	38	6	0	81	532
Total	58	400	86	0	544	83	116	121	0	320	19	997	171	1	1188	187	124	21	0	332	2384
*** BREAK ***																					
04:00 PM	25	229	34	0	288	91	46	29	1	167	9	182	54	0	245	41	49	18	0	108	808
04:15 PM	27	214	42	0	283	73	63	24	0	160	5	168	61	0	234	54	50	20	0	124	801
04:30 PM	30	257	31	0	318	80	51	44	0	175	8	177	32	0	217	67	67	15	0	149	859
04:45 PM	26	272	39	1	338	96	85	47	0	228	6	186	67	0	259	45	69	14	0	128	953
Total	108	972	146	1	1227	340	245	144	1	730	28	713	214	0	955	207	235	67	0	509	3421
05:00 PM	26	269	48	0	343	66	73	29	0	168	7	214	63	0	284	43	49	27	0	119	914
05:15 PM	34	228	48	0	310	89	64	32	1	186	7	210	76	0	293	41	60	11	1	113	902
05:30 PM	19	254	63	0	336	76	71	31	0	178	8	169	57	0	234	59	33	10	0	102	850
05:45 PM	32	266	48	0	346	86	78	33	0	197	8	181	41	1	231	37	45	12	1	95	869
Total	111	1017	207	0	1335	317	286	125	1	729	30	774	237	1	1042	180	187	60	2	429	3535
Grand Total	317	2777	520	1	3615	820	739	489	2	2050	99	3775	877	4	4755	769	677	170	3	1619	12039
Apprch %	8.8	76.8	14.4	0		40	36	23.9	0.1		2.1	79.4	18.4	0.1		47.5	41.8	10.5	0.2		
Total %	2.6	23.1	4.3	0	30	6.8	6.1	4.1	0	17	0.8	31.4	7.3	0	39.5	6.4	5.6	1.4	0	13.4	

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Turning Movement Count
Traffic Impact Analysis

File Name : 1_98th-Central
Site Code : 1
Start Date : 4/8/2021
Page No : 4

	98TH ST From North					CENTRAL AVE From East					98TH ST From South					CENTRAL AVE From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	10	84	20	0	114	18	19	24	0	61	6	330	**78**	**2**	416	48	26	**7**	0	81	672
07:30 AM	7	88	**25**	0	120	17	23	30	0	70	5	**385**	64	0	**454**	**57**	**45**	5	0	**107**	**751**
07:45 AM	**12**	**131**	20	0	**163**	**29**	26	24	0	79	**7**	297	71	0	375	53	27	4	**1**	85	702
08:00 AM	7	105	25	0	137	18	**30**	**36**	0	**84**	6	280	42	0	328	45	24	4	0	73	622
Total Volume	36	408	90	0	534	82	98	114	0	294	24	1292	255	2	1573	203	122	20	1	346	2747
% App. Total	6.7	76.4	16.9	0		27.9	33.3	38.8	0		1.5	82.1	16.2	0.1		58.7	35.3	5.8	0.3		
PHF	.750	.779	.900	.000	.819	.707	.817	.792	.000	.875	.857	.839	.817	.250	.866	.890	.678	.714	.250	.808	.914
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	30	257	31	0	318	80	51	44	0	175	**8**					**67**				**149**	
04:45 PM	26	**272**	39	**1**	338	**96**	**85**	**47**	0	**228**	6	186	67	0	259	45	**69**	14	0	128	**953**
05:00 PM	26	269	**48**	0	**343**	66	73	29	0	168	7	**214**	63	0	284	43	49	**27**	0	119	914
05:15 PM	**34**	228	48	0	310	89	64	32	**1**	186	7	210	**76**	0	**293**	41	60	11	**1**	113	902
Total Volume	116	1026	166	1	1309	331	273	152	1	757	28	787	238	0	1053	196	245	67	1	509	3628
% App. Total	8.9	78.4	12.7	0.1		43.7	36.1	20.1	0.1		2.7	74.7	22.6	0		38.5	48.1	13.2	0.2		
PHF	.853	.943	.865	.250	.954	.862	.803	.809	.250	.830	.875	.919	.783	.000	.898	.731	.888	.620	.250	.854	.952

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Transforming Infrastructure Needs into Sustainable Solutions

98th & Bluewater Commercial Development
Turning Movement Count
Traffic Impact Analysis

File Name : 1_98th-Central
Site Code : 1
Start Date : 4/8/2021
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Groups Printed- Trucks

	98TH ST From North					CENTRAL AVE From East					98TH ST From South					CENTRAL AVE From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	1	1	0	2	2	1	4	0	7	0	0	3	0	3	5	2	2	0	9	21
07:15 AM	2	2	2	0	6	1	0	2	0	3	0	0	0	0	0	0	2	3	0	5	14
07:30 AM	2	2	3	0	7	1	6	1	0	8	0	1	3	0	4	0	1	0	0	1	20
07:45 AM	1	0	2	0	3	0	2	4	0	6	0	1	2	0	3	5	6	0	0	11	23
Total	5	5	8	0	18	4	9	11	0	24	0	2	8	0	10	10	11	5	0	26	78
08:00 AM	3	2	2	0	7	4	4	2	0	10	1	1	3	0	5	1	2	0	0	3	25
08:15 AM	0	1	5	0	6	1	7	0	0	8	3	3	1	0	7	2	3	1	0	6	27
08:30 AM	2	1	7	0	10	1	2	6	0	9	0	0	3	0	3	2	1	4	0	7	29
08:45 AM	2	2	9	0	13	1	4	0	0	5	3	4	0	0	7	0	0	1	0	1	26
Total	7	6	23	0	36	7	17	8	0	32	7	8	7	0	22	5	6	6	0	17	107
*** BREAK ***																					
04:00 PM	0	0	7	0	7	1	5	1	0	7	0	1	1	0	2	3	2	2	0	7	23
04:15 PM	1	1	3	0	5	0	5	0	0	5	2	4	2	0	8	0	2	0	0	2	20
04:30 PM	0	0	3	0	3	1	2	1	0	4	2	1	1	0	4	1	1	0	0	2	13
04:45 PM	1	0	0	0	1	0	2	1	0	3	0	0	0	0	0	0	1	0	0	1	5
Total	2	1	13	0	16	2	14	3	0	19	4	6	4	0	14	4	6	2	0	12	61
05:00 PM	1	0	2	0	3	1	2	1	0	4	0	1	2	0	3	1	1	0	0	2	12
05:15 PM	0	0	1	0	1	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	3
05:30 PM	1	0	0	0	1	0	0	2	0	2	0	0	1	0	1	0	0	0	0	0	4
05:45 PM	0	0	1	0	1	1	0	0	0	1	0	0	1	0	1	1	0	0	0	1	4
Total	2	0	4	0	6	2	2	3	0	7	1	2	4	0	7	2	1	0	0	3	23
Grand Total	16	12	48	0	76	15	42	25	0	82	12	18	23	0	53	21	24	13	0	58	269
Apprch %	21.1	15.8	63.2	0		18.3	51.2	30.5	0		22.6	34	43.4	0		36.2	41.4	22.4	0		
Total %	5.9	4.5	17.8	0	28.3	5.6	15.6	9.3	0	30.5	4.5	6.7	8.6	0	19.7	7.8	8.9	4.8	0	21.6	

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98th & Bluewater Commercial Development
Turning Movement Count
Traffic Impact Analysis

File Name : 1_98th-Central
Site Code : 1
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	98TH ST From North					CENTRAL AVE From East					98TH ST From South					CENTRAL AVE From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	**3**	**2**	2	0	7	**4**	4	2	0	**10**	1	1	**3**	0	5	1	2	0	0	3	25
08:15 AM	0	1	5	0	6	1	**7**	0	0	8	**3**	3	1	0	**7**	**2**	**3**	1	0	6	27
08:30 AM	2	1	7	0	10	1	2	**6**	0	9	0	0	3	0	3	2	1	**4**	0	**7**	**29**
08:45 AM	2	2	**9**	0	**13**	1	4	0	0	5	3	**4**	0	0	7	0	0	1	0	1	26
Total Volume	7	6	23	0	36	7	17	8	0	32	7	8	7	0	22	5	6	6	0	17	107
% App. Total	19.4	16.7	63.9	0		21.9	53.1	25	0		31.8	36.4	31.8	0		29.4	35.3	35.3	0		
PHF	.583	.750	.639	.000	.692	.438	.607	.333	.000	.800	.583	.500	.583	.000	.786	.625	.500	.375	.000	.607	.922
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	**7**		**7**	**1**	**5**	**1**		**7**						**3**	**2**	**2**		**7**	**23**
04:15 PM	**1**	**1**	3	0	5	0	5	0	0	5	**2**	**4**	**2**	0	**8**	0	2	0	0	2	20
04:30 PM	0	0	3	0	3	1	2	1	0	4	2	1	1	0	4	1	1	0	0	2	13
04:45 PM	1	0	0	0	1	0	2	1	0	3	0	0	0	0	0	0	1	0	0	1	5
Total Volume	2	1	13	0	16	2	14	3	0	19	4	6	4	0	14	4	6	2	0	12	61
% App. Total	12.5	6.2	81.2	0		10.5	73.7	15.8	0		28.6	42.9	28.6	0		33.3	50	16.7	0		
PHF	.500	.250	.464	.000	.571	.500	.700	.750	.000	.679	.500	.375	.500	.000	.438	.333	.750	.250	.000	.429	.663

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98th & Bluewater Commercial Development
Traffic Impact Analysis
Turning Movement Count

File Name : 2_98th-Volcano
Site Code : 2
Start Date : 4/8/2021
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Groups Printed- Cars - Trucks

	98TH From North					VOLCANO From East					98TH From South					VOLCANO From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	9	122	0	0	131	0	0	14	0	14	2	360	5	0	367	0	0	0	0	0	512
07:15 AM	10	132	2	0	144	0	0	9	0	9	1	419	2	0	422	0	0	0	0	0	575
07:30 AM	3	144	2	0	149	0	0	17	0	17	0	457	4	0	461	1	0	0	0	1	628
07:45 AM	3	163	1	1	168	3	0	14	0	17	0	393	10	0	403	0	0	1	0	1	589
Total	25	561	5	1	592	3	0	54	0	57	3	1629	21	0	1653	1	0	1	0	2	2304
08:00 AM	11	153	0	0	164	0	0	15	0	15	0	348	7	0	355	0	0	0	0	0	534
08:15 AM	5	132	2	0	139	1	0	17	0	18	1	333	4	0	338	1	0	0	0	1	496
08:30 AM	8	163	1	0	172	2	0	27	0	29	0	325	2	0	327	0	0	0	0	0	528
08:45 AM	15	149	1	0	165	1	0	13	0	14	0	266	1	0	267	1	1	0	0	2	448
Total	39	597	4	0	640	4	0	72	0	76	1	1272	14	0	1287	2	1	0	0	3	2006
*** BREAK ***																					
04:00 PM	18	338	1	0	357	2	0	18	0	20	0	224	7	0	231	0	0	1	0	1	609
04:15 PM	19	332	0	0	351	5	0	5	0	10	0	229	13	3	245	0	0	3	2	5	611
04:30 PM	21	353	0	0	374	4	0	18	0	22	0	248	5	2	255	0	0	0	1	1	652
04:45 PM	17	384	0	0	401	3	2	12	0	17	1	256	6	1	264	0	0	0	0	0	682
Total	75	1407	1	0	1483	14	2	53	0	69	1	957	31	6	995	0	0	4	3	7	2554
05:00 PM	23	343	0	0	366	3	0	20	0	23	0	237	10	0	247	0	0	0	0	0	636
05:15 PM	16	234	0	0	250	2	0	4	0	6	0	196	6	0	202	0	0	0	0	0	458
*** BREAK ***																					
Total	39	577	0	0	616	5	0	24	0	29	0	433	16	0	449	0	0	0	0	0	1094
*** BREAK ***																					
Grand Total	178	3142	10	1	3331	26	2	203	0	231	5	4291	82	6	4384	3	1	5	3	12	7958
Apprch %	5.3	94.3	0.3	0		11.3	0.9	87.9	0		0.1	97.9	1.9	0.1		25	8.3	41.7	25		
Total %	2.2	39.5	0.1	0	41.9	0.3	0	2.6	0	2.9	0.1	53.9	1	0.1	55.1	0	0	0.1	0	0.2	
Cars	170	3035	8	1	3214	26	2	193	0	221	4	4195	81	6	4286	2	0	5	3	10	7731
% Cars	95.5	96.6	80	100	96.5	100	100	95.1	0	95.7	80	97.8	98.8	100	97.8	66.7	0	100	100	83.3	97.1
Trucks	8	107	2	0	117	0	0	10	0	10	1	96	1	0	98	1	1	0	0	2	227
% Trucks	4.5	3.4	20	0	3.5	0	0	4.9	0	4.3	20	2.2	1.2	0	2.2	33.3	100	0	0	16.7	2.9

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98th & Bluewater Commercial Development
Traffic Impact Analysis
Turning Movement Count

File Name : 2_98th-Volcano
Site Code : 2
Start Date : 4/8/2021
Page No : 2

	98TH From North					VOLCANO From East					98TH From South					VOLCANO From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	10	132	**2**	0	144	0	0	9	0	9	**1**	419	2	0	422	0	0	0	0	0	575
07:30 AM	3	144	2	0	149	0	0	**17**	0	**17**	0	**457**	4	0	**461**	**1**	0	0	0	**1**	**628**
07:45 AM	3	**163**	1	**1**	**168**	**3**	0	14	0	17	0	393	**10**	0	403	0	0	**1**	0	1	589
08:00 AM	**11**	153	0	0	164	0	0	15	0	15	0	348	7	0	355	0	0	0	0	0	534
Total Volume	27	592	5	1	625	3	0	55	0	58	1	1617	23	0	1641	1	0	1	0	2	2326
% App. Total	4.3	94.7	0.8	0.2		5.2	0	94.8	0		0.1	98.5	1.4	0		50	0	50	0		
PHF	.614	.908	.625	.250	.930	.250	.000	.809	.000	.853	.250	.885	.575	.000	.890	.250	.000	.250	.000	.500	.926
	4%	6%	20%			0	0	4%			0	2%	0			0	0	0			
Peak Hour Analysis From 12:00 PM to 06:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	19	332	0	0	351	**5**							**13**	**3**				**3**	**2**	**5**	
04:30 PM	21	353	0	0	374	4	0	18	0	22	0	248	5	2	255	0	0	0	1	1	652
04:45 PM	17	**384**	0	0	**401**	3	**2**	12	0	17	**1**	**256**	6	1	**264**	0	0	0	0	0	**682**
05:00 PM	**23**	343	0	0	366	3	0	**20**	0	**23**	0	237	10	0	247	0	0	0	0	0	636
Total Volume	80	1412	0	0	1492	15	2	55	0	72	1	970	34	6	1011	0	0	3	3	6	2581
% App. Total	5.4	94.6	0	0		20.8	2.8	76.4	0		0.1	95.9	3.4	0.6		0	0	50	50		
PHF	.870	.919	.000	.000	.930	.750	.250	.688	.000	.783	.250	.947	.654	.500	.957	.000	.000	.250	.375	.300	.946
	5%	1%	0																		

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Turning Movement Count

File Name : 2_98th-Volcano
Site Code : 2
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Groups Printed- Cars

	98TH From North					VOLCANO From East					98TH From South					VOLCANO From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	9	121	0	0	130	0	0	13	0	13	1	345	5	0	351	0	0	0	0	0	494
07:15 AM	9	125	2	0	136	0	0	9	0	9	1	410	2	0	413	0	0	0	0	0	558
07:30 AM	3	132	2	0	137	0	0	16	0	16	0	452	4	0	456	1	0	0	0	1	610
07:45 AM	2	155	0	1	158	3	0	14	0	17	0	383	10	0	393	0	0	1	0	1	569
Total	23	533	4	1	561	3	0	52	0	55	2	1590	21	0	1613	1	0	1	0	2	2231
08:00 AM	11	147	0	0	158	0	0	15	0	15	0	338	7	0	345	0	0	0	0	0	518
08:15 AM	5	120	2	0	127	1	0	16	0	17	1	327	4	0	332	1	0	0	0	1	477
08:30 AM	7	146	1	0	154	2	0	22	0	24	0	316	2	0	318	0	0	0	0	0	496
08:45 AM	15	134	0	0	149	1	0	12	0	13	0	261	1	0	262	0	0	0	0	0	424
Total	38	547	3	0	588	4	0	65	0	69	1	1242	14	0	1257	1	0	0	0	1	1915
*** BREAK ***																					
04:00 PM	17	331	1	0	349	2	0	17	0	19	0	214	7	0	221	0	0	1	0	1	590
04:15 PM	19	325	0	0	344	5	0	5	0	10	0	224	13	3	240	0	0	3	2	5	599
04:30 PM	18	345	0	0	363	4	0	18	0	22	0	243	5	2	250	0	0	0	1	1	636
04:45 PM	17	383	0	0	400	3	2	12	0	17	1	252	6	1	260	0	0	0	0	0	677
Total	71	1384	1	0	1456	14	2	52	0	68	1	933	31	6	971	0	0	4	3	7	2502
05:00 PM	22	339	0	0	361	3	0	20	0	23	0	235	9	0	244	0	0	0	0	0	628
05:15 PM	16	232	0	0	248	2	0	4	0	6	0	195	6	0	201	0	0	0	0	0	455
*** BREAK ***																					
Total	38	571	0	0	609	5	0	24	0	29	0	430	15	0	445	0	0	0	0	0	1083
*** BREAK ***																					
Grand Total	170	3035	8	1	3214	26	2	193	0	221	4	4195	81	6	4286	2	0	5	3	10	7731
Apprch %	5.3	94.4	0.2	0		11.8	0.9	87.3	0		0.1	97.9	1.9	0.1		20	0	50	30		
Total %	2.2	39.3	0.1	0	41.6	0.3	0	2.5	0	2.9	0.1	54.3	1	0.1	55.4	0	0	0.1	0	0.1	

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	98TH From North					VOLCANO From East					98TH From South					VOLCANO From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	9	125	**2**	0	136	0	0	9	0	9	**1**	410	2	0	413	0	0	0	0	0	558
07:30 AM	3	132	2	0	137	0	0	**16**	0	16	0	**452**	4	0	**456**	**1**	0	0	0	**1**	**610**
07:45 AM	2	**155**	0	**1**	**158**	**3**	0	14	0	**17**	0	383	**10**	0	393	0	0	**1**	0	1	569
08:00 AM	**11**	147	0	0	158	0	0	15	0	15	0	338	7	0	345	0	0	0	0	0	518
Total Volume	25	559	4	1	589	3	0	54	0	57	1	1583	23	0	1607	1	0	1	0	2	2255
% App. Total	4.2	94.9	0.7	0.2		5.3	0	94.7	0		0.1	98.5	1.4	0		50	0	50	0		
PHF	.568	.902	.500	.250	.932	.250	.000	.844	.000	.838	.250	.876	.575	.000	.881	.250	.000	.250	.000	.500	.924
Peak Hour Analysis From 12:00 PM to 06:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	19	325	0	0	344	**5**							**13**	**3**				**3**	**2**	**5**	
04:30 PM	18	345	0	0	363	4	0	18	0	22	0	243	5	2	250	0	0	0	1	1	636
04:45 PM	17	**383**	0	0	**400**	3	**2**	12	0	17	**1**	**252**	6	1	**260**	0	0	0	0	0	**677**
05:00 PM	**22**	339	0	0	361	3	0	**20**	0	**23**	0	235	9	0	244	0	0	0	0	0	628
Total Volume	76	1392	0	0	1468	15	2	55	0	72	1	954	33	6	994	0	0	3	3	6	2540
% App. Total	5.2	94.8	0	0		20.8	2.8	76.4	0		0.1	96	3.3	0.6		0	0	50	50		
PHF	.864	.909	.000	.000	.918	.750	.250	.688	.000	.783	.250	.946	.635	.500	.956	.000	.000	.250	.375	.300	.938

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98th & Bluewater Commercial Development
Traffic Impact Analysis
Turning Movement Count

File Name : 2_98th-Volcano
Site Code : 2
Start Date : 4/8/2021
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Groups Printed- Trucks

	98TH From North					VOLCANO From East					98TH From South					VOLCANO From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	1	0	0	1	0	0	1	0	1	1	15	0	0	16	0	0	0	0	0	18
07:15 AM	1	7	0	0	8	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	17
07:30 AM	0	12	0	0	12	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	18
07:45 AM	1	8	1	0	10	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	20
Total	2	28	1	0	31	0	0	2	0	2	1	39	0	0	40	0	0	0	0	0	73
08:00 AM	0	6	0	0	6	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	16
08:15 AM	0	12	0	0	12	0	0	1	0	1	0	6	0	0	6	0	0	0	0	0	19
08:30 AM	1	17	0	0	18	0	0	5	0	5	0	9	0	0	9	0	0	0	0	0	32
08:45 AM	0	15	1	0	16	0	0	1	0	1	0	5	0	0	5	1	1	0	0	2	24
Total	1	50	1	0	52	0	0	7	0	7	0	30	0	0	30	1	1	0	0	2	91
*** BREAK ***																					
04:00 PM	1	7	0	0	8	0	0	1	0	1	0	10	0	0	10	0	0	0	0	0	19
04:15 PM	0	7	0	0	7	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	12
04:30 PM	3	8	0	0	11	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	16
04:45 PM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	5
Total	4	23	0	0	27	0	0	1	0	1	0	24	0	0	24	0	0	0	0	0	52
05:00 PM	1	4	0	0	5	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	8
05:15 PM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
*** BREAK ***																					
Total	1	6	0	0	7	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	11
*** BREAK ***																					
Grand Total	8	107	2	0	117	0	0	10	0	10	1	96	1	0	98	1	1	0	0	2	227
Apprch %	6.8	91.5	1.7	0		0	0	100	0		1	98	1	0		50	50	0	0		
Total %	3.5	47.1	0.9	0	51.5	0	0	4.4	0	4.4	0.4	42.3	0.4	0	43.2	0.4	0.4	0	0	0.9	

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Turning Movement Count

File Name : 2_98th-Volcano
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	98TH From North					VOLCANO From East					98TH From South					VOLCANO From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	6	0	0	6	0	0	0	0	0	0	**10**	0	0	**10**	0	0	0	0	0	16
08:15 AM	0	12	0	0	12	0	0	1	0	1	0	6	0	0	6	0	0	0	0	0	19
08:30 AM	**1**	**17**	0	0	**18**	0	0	**5**	0	**5**	0	9	0	0	9	0	0	0	0	0	**32**
08:45 AM	0	15	**1**	0	16	0	0	1	0	1	0	5	0	0	5	**1**	**1**	0	0	**2**	24
Total Volume	1	50	1	0	52	0	0	7	0	7	0	30	0	0	30	1	1	0	0	2	91
% App. Total	1.9	96.2	1.9	0		0	0	100	0		0	100	0	0		50	50	0	0		
PHF	.250	.735	.250	.000	.722	.000	.000	.350	.000	.350	.000	.750	.000	.000	.750	.250	.250	.000	.000	.250	.711
Peak Hour Analysis From 12:00 PM to 06:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	1	7	0	0	8	0	0	**1**		**1**		**10**			**10**						**19**
04:15 PM	0	7	0	0	7	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	12
04:30 PM	**3**	**8**	0	0	**11**	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	16
04:45 PM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	5
Total Volume	4	23	0	0	27	0	0	1	0	1	0	24	0	0	24	0	0	0	0	0	52
% App. Total	14.8	85.2	0	0		0	0	100	0		0	100	0	0		0	0	0	0		
PHF	.333	.719	.000	.000	.614	.000	.000	.250	.000	.250	.000	.600	.000	.000	.600	.000	.000	.000	.000	.000	.684

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98th & Bluewater Commercial Development
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Turning Movement Count

File Name : 3_98th-Bluewater
Site Code : 3
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Groups Printed- Cars - Trucks

	98TH From North					BLUEWATER AVALON From East					98TH From South					BLUEWATER AVALON From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	4	127	20	0	151	2	2	21	0	25	3	349	18	0	370	31	1	5	0	37	583
07:15 AM	3	125	22	0	150	8	0	13	0	21	3	378	12	0	393	28	1	3	0	32	596
07:30 AM	6	140	18	0	164	6	1	19	0	26	1	294	11	0	306	26	1	8	0	35	531
07:45 AM	5	146	22	0	173	4	2	18	1	25	3	262	8	0	273	29	1	6	0	36	507
Total	18	538	82	0	638	20	5	71	1	97	10	1283	49	0	1342	114	4	22	0	140	2217
08:00 AM	8	120	25	0	153	8	3	7	0	18	4	246	8	0	258	32	3	7	0	42	471
08:15 AM	4	103	29	0	136	9	3	20	0	32	3	282	19	0	304	28	0	6	0	34	506
08:30 AM	14	136	26	1	177	10	2	16	0	28	6	347	6	0	359	34	4	8	0	46	610
08:45 AM	8	161	28	0	197	8	0	21	0	29	5	285	10	0	300	26	2	3	0	31	557
Total	34	520	108	1	663	35	8	64	0	107	18	1160	43	0	1221	120	9	24	0	153	2144
*** BREAK ***																					
04:00 PM	11	315	59	0	385	14	3	11	0	28	10	215	15	1	241	27	3	15	1	46	700
04:15 PM	12	315	74	0	401	13	0	14	0	27	5	242	11	1	259	44	8	19	0	71	758
04:30 PM	12	317	50	0	379	16	4	16	0	36	8	258	14	0	280	39	4	14	0	57	752
04:45 PM	6	321	53	0	380	12	5	15	2	34	7	263	19	0	289	30	5	14	0	49	752
Total	41	1268	236	0	1545	55	12	56	2	125	30	978	59	2	1069	140	20	62	1	223	2962
05:00 PM	9	338	54	0	401	14	0	12	0	26	6	218	17	0	241	28	5	11	0	44	712
05:15 PM	16	332	47	0	395	19	1	16	1	37	9	228	26	1	264	37	6	20	0	63	759
05:30 PM	10	336	39	0	385	11	0	11	0	22	5	224	18	0	247	25	3	17	0	45	699
05:45 PM	7	316	31	0	354	16	7	10	0	33	10	228	25	0	263	20	2	14	0	36	686
Total	42	1322	171	0	1535	60	8	49	1	118	30	898	86	1	1015	110	16	62	0	188	2856
*** BREAK ***																					
Grand Total	135	3648	597	1	4381	170	33	240	4	447	88	4319	237	3	4647	484	49	170	1	704	10179
Apprch %	3.1	83.3	13.6	0		38	7.4	53.7	0.9		1.9	92.9	5.1	0.1		68.8	7	24.1	0.1		
Total %	1.3	35.8	5.9	0	43	1.7	0.3	2.4	0	4.4	0.9	42.4	2.3	0	45.7	4.8	0.5	1.7	0	6.9	
Cars	122	3554	369	1	4046	163	27	218	4	412	76	4240	230	3	4549	264	39	161	1	465	9472
% Cars	90.4	97.4	61.8	100	92.4	95.9	81.8	90.8	100	92.2	86.4	98.2	97	100	97.9	54.5	79.6	94.7	100	66.1	93.1
Trucks	13	94	228	0	335	7	6	22	0	35	12	79	7	0	98	220	10	9	0	239	707
% Trucks	9.6	2.6	38.2	0	7.6	4.1	18.2	9.2	0	7.8	13.6	1.8	3	0	2.1	45.5	20.4	5.3	0	33.9	6.9

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	98TH From North					BLUEWATER AVALON From East					98TH From South					BLUEWATER AVALON From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	4	127	20	0	151	2	**2**	**21**	0	25	**3**	349	**18**	0	370	**31**	**1**	5	0	**37**	583
07:15 AM	3	125	**22**	0	150	**8**	0	13	0	21	3	**378**	12	0	**393**	28	1	3	0	32	**596**
07:30 AM	**6**	140	18	0	164	6	1	19	0	**26**	1	294	11	0	306	26	1	**8**	0	35	531
07:45 AM	5	**146**	22	0	**173**	4	2	18	**1**	25	3	262	8	0	273	29	1	6	0	36	507
Total Volume	18	538	82	0	638	20	5	71	1	97	10	1283	49	0	1342	114	4	22	0	140	2217
% App. Total	2.8	84.3	12.9	0		20.6	5.2	73.2	1		0.7	95.6	3.7	0		81.4	2.9	15.7	0		
PHF	.750	.921	.932	.000	.922	.625	.625	.845	.250	.933	.833	.849	.681	.000	.854	.919	1.00	.688	.000	.946	.930
Peak Hour Analysis From 12:00 PM to 06:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	12	317	50	0	379	16	4	**16**								**39**					
04:45 PM	6	321	53	0	380	12	**5**	15	**2**	34	7	**263**	19	0	**289**	30	5	14	0	49	752
05:00 PM	9	**338**	**54**	0	**401**	14	0	12	0	26	6	218	17	0	241	28	5	11	0	44	712
05:15 PM	**16**	332	47	0	395	**19**	1	16	1	**37**	**9**	228	**26**	**1**	264	37	**6**	**20**	0	**63**	**759**
Total Volume	43	1308	204	0	1555	61	10	59	3	133	30	967	76	1	1074	134	20	59	0	213	2975
% App. Total	2.8	84.1	13.1	0		45.9	7.5	44.4	2.3		2.8	90	7.1	0.1		62.9	9.4	27.7	0		
PHF	.672	.967	.944	.000	.969	.803	.500	.922	.375	.899	.833	.919	.731	.250	.929	.859	.833	.738	.000	.845	.980

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Groups Printed- Cars

	98TH From North					BLUEWATER AVALON From East					98TH From South					BLUEWATER AVALON From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	4	125	12	0	141	2	2	17	0	21	3	338	17	0	358	15	1	5	0	21	541
07:15 AM	3	120	9	0	132	8	0	11	0	19	3	373	12	0	388	16	1	3	0	20	559
07:30 AM	6	135	9	0	150	6	1	19	0	26	1	289	11	0	301	10	1	6	0	17	494
07:45 AM	3	140	8	0	151	3	1	17	1	22	3	260	7	0	270	15	1	4	0	20	463
Total	16	520	38	0	574	19	4	64	1	88	10	1260	47	0	1317	56	4	18	0	78	2057
08:00 AM	6	109	12	0	127	7	3	7	0	17	4	242	7	0	253	13	2	6	0	21	418
08:15 AM	1	92	15	0	108	8	3	16	0	27	1	274	18	0	293	8	0	6	0	14	442
08:30 AM	14	125	16	1	156	9	1	15	0	25	5	337	6	0	348	15	3	7	0	25	554
08:45 AM	7	149	4	0	160	8	0	16	0	24	4	278	10	0	292	7	2	3	0	12	488
Total	28	475	47	1	551	32	7	54	0	93	14	1131	41	0	1186	43	7	22	0	72	1902
*** BREAK ***																					
04:00 PM	10	306	44	0	360	14	2	10	0	26	9	209	14	1	233	18	3	15	1	37	656
04:15 PM	11	309	58	0	378	13	0	13	0	26	5	231	11	1	248	27	6	17	0	50	702
04:30 PM	11	313	36	0	360	16	4	15	0	35	5	253	14	0	272	28	3	14	0	45	712
04:45 PM	6	318	35	0	359	9	3	14	2	28	6	262	18	0	286	20	5	14	0	39	712
Total	38	1246	173	0	1457	52	9	52	2	115	25	955	57	2	1039	93	17	60	1	171	2782
05:00 PM	8	334	39	0	381	14	0	12	0	26	6	217	16	0	239	18	4	11	0	33	679
05:15 PM	16	329	35	0	380	19	1	16	1	37	7	227	26	1	261	23	4	20	0	47	725
05:30 PM	9	335	18	0	362	11	0	10	0	21	4	223	18	0	245	16	2	17	0	35	663
05:45 PM	7	315	19	0	341	16	6	10	0	32	10	227	25	0	262	15	1	13	0	29	664
Total	40	1313	111	0	1464	60	7	48	1	116	27	894	85	1	1007	72	11	61	0	144	2731
*** BREAK ***																					
Grand Total	122	3554	369	1	4046	163	27	218	4	412	76	4240	230	3	4549	264	39	161	1	465	9472
Apprch %	3	87.8	9.1	0		39.6	6.6	52.9	1		1.7	93.2	5.1	0.1		56.8	8.4	34.6	0.2		
Total %	1.3	37.5	3.9	0	42.7	1.7	0.3	2.3	0	4.3	0.8	44.8	2.4	0	48	2.8	0.4	1.7	0	4.9	

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	98TH From North					BLUEWATER AVALON From East					98TH From South					BLUEWATER AVALON From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	4	125	**12**	0	141	2	**2**	17	0	21	**3**	338	**17**	0	358	15	**1**	5	0	**21**	541
07:15 AM	3	120	9	0	132	**8**	0	11	0	19	3	**373**	12	0	**388**	**16**	1	3	0	20	**559**
07:30 AM	**6**	135	9	0	150	6	1	**19**	0	**26**	1	289	11	0	301	10	1	**6**	0	17	494
07:45 AM	3	**140**	8	0	**151**	3	1	17	**1**	22	3	260	7	0	270	15	1	4	0	20	463
Total Volume	16	520	38	0	574	19	4	64	1	88	10	1260	47	0	1317	56	4	18	0	78	2057
% App. Total	2.8	90.6	6.6	0		21.6	4.5	72.7	1.1		0.8	95.7	3.6	0		71.8	5.1	23.1	0		
PHF	.667	.929	.792	.000	.950	.594	.500	.842	.250	.846	.833	.845	.691	.000	.849	.875	1.00	.750	.000	.929	.920
Peak Hour Analysis From 12:00 PM to 06:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	11	313	36	0	360	16	**4**									**28**					
04:45 PM	6	318	35	0	359	9	3	14	**2**	28	6	**262**	18	0	**286**	20	**5**	14	0	39	712
05:00 PM	8	**334**	**39**	0	**381**	14	0	12	0	26	6	217	16	0	239	18	4	11	0	33	679
05:15 PM	**16**	329	35	0	380	**19**	1	**16**	1	**37**	**7**	227	**26**	**1**	261	23	4	**20**	0	**47**	**725**
Total Volume	41	1294	145	0	1480	58	8	57	3	126	24	959	74	1	1058	89	16	59	0	164	2828
% App. Total	2.8	87.4	9.8	0		46	6.3	45.2	2.4		2.3	90.6	7	0.1		54.3	9.8	36	0		
PHF	.641	.969	.929	.000	.971	.763	.500	.891	.375	.851	.857	.915	.712	.250	.925	.795	.800	.738	.000	.872	.975

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Groups Printed- Trucks

	98TH From North					BLUEWATER AVALON From East					98TH From South					BLUEWATER AVALON From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	2	8	0	10	0	0	4	0	4	0	11	1	0	12	16	0	0	0	16	42
07:15 AM	0	5	13	0	18	0	0	2	0	2	0	5	0	0	5	12	0	0	0	12	37
07:30 AM	0	5	9	0	14	0	0	0	0	0	0	5	0	0	5	16	0	2	0	18	37
07:45 AM	2	6	14	0	22	1	1	1	0	3	0	2	1	0	3	14	0	2	0	16	44
Total	2	18	44	0	64	1	1	7	0	9	0	23	2	0	25	58	0	4	0	62	160
08:00 AM	2	11	13	0	26	1	0	0	0	1	0	4	1	0	5	19	1	1	0	21	53
08:15 AM	3	11	14	0	28	1	0	4	0	5	2	8	1	0	11	20	0	0	0	20	64
08:30 AM	0	11	10	0	21	1	1	1	0	3	1	10	0	0	11	19	1	1	0	21	56
08:45 AM	1	12	24	0	37	0	0	5	0	5	1	7	0	0	8	19	0	0	0	19	69
Total	6	45	61	0	112	3	1	10	0	14	4	29	2	0	35	77	2	2	0	81	242
*** BREAK ***																					
04:00 PM	1	9	15	0	25	0	1	1	0	2	1	6	1	0	8	9	0	0	0	9	44
04:15 PM	1	6	16	0	23	0	0	1	0	1	0	11	0	0	11	17	2	2	0	21	56
04:30 PM	1	4	14	0	19	0	0	1	0	1	3	5	0	0	8	11	1	0	0	12	40
04:45 PM	0	3	18	0	21	3	2	1	0	6	1	1	1	0	3	10	0	0	0	10	40
Total	3	22	63	0	88	3	3	4	0	10	5	23	2	0	30	47	3	2	0	52	180
05:00 PM	1	4	15	0	20	0	0	0	0	0	0	1	1	0	2	10	1	0	0	11	33
05:15 PM	0	3	12	0	15	0	0	0	0	0	2	1	0	0	3	14	2	0	0	16	34
05:30 PM	1	1	21	0	23	0	0	1	0	1	1	1	0	0	2	9	1	0	0	10	36
05:45 PM	0	1	12	0	13	0	1	0	0	1	0	1	0	0	1	5	1	1	0	7	22
Total	2	9	60	0	71	0	1	1	0	2	3	4	1	0	8	38	5	1	0	44	125
*** BREAK ***																					
Grand Total	13	94	228	0	335	7	6	22	0	35	12	79	7	0	98	220	10	9	0	239	707
Apprch %	3.9	28.1	68.1	0		20	17.1	62.9	0		12.2	80.6	7.1	0		92.1	4.2	3.8	0		
Total %	1.8	13.3	32.2	0	47.4	1	0.8	3.1	0	5	1.7	11.2	1	0	13.9	31.1	1.4	1.3	0	33.8	

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98th & Bluewater Commercial Development
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Turning Movement Count

File Name : 3_98th-Bluewater
Site Code : 3
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	98TH From North					BLUEWATER AVALON From East					98TH From South					BLUEWATER AVALON From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	2	11	13	0	26	**1**	0	0	0	1	0	4	**1**	0	5	19	**1**	**1**	0	**21**	53
08:15 AM	**3**	11	14	0	28	1	0	4	0	**5**	**2**	8	1	0	**11**	**20**	0	0	0	20	64
08:30 AM	0	11	10	0	21	1	**1**	1	0	3	1	**10**	0	0	11	19	1	1	0	21	56
08:45 AM	1	**12**	**24**	0	**37**	0	0	**5**	0	5	1	7	0	0	8	19	0	0	0	19	**69**
Total Volume	6	45	61	0	112	3	1	10	0	14	4	29	2	0	35	77	2	2	0	81	242
% App. Total	5.4	40.2	54.5	0		21.4	7.1	71.4	0		11.4	82.9	5.7	0		95.1	2.5	2.5	0		
PHF	.500	.938	.635	.000	.757	.750	.250	.500	.000	.700	.500	.725	.500	.000	.795	.963	.500	.500	.000	.964	.877
Peak Hour Analysis From 12:00 PM to 06:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	**1**	**9**			**25**			**1**					**1**								
04:15 PM	1	6	16	0	23	0	0	1	0	1	0	**11**	0	0	**11**	**17**	**2**	**2**	0	**21**	**56**
04:30 PM	1	4	14	0	19	0	0	1	0	1	**3**	5	0	0	8	11	1	0	0	12	40
04:45 PM	0	3	**18**	0	21	**3**	**2**	1	0	**6**	1	1	1	0	3	10	0	0	0	10	40
Total Volume	3	22	63	0	88	3	3	4	0	10	5	23	2	0	30	47	3	2	0	52	180
% App. Total	3.4	25	71.6	0		30	30	40	0		16.7	76.7	6.7	0		90.4	5.8	3.8	0		
PHF	.750	.611	.875	.000	.880	.250	.375	1.00	.000	.417	.417	.523	.500	.000	.682	.691	.375	.250	.000	.619	.804

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98th & Bluewater Commercial Development
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Groups Printed- Cars - Trucks

	98TH From North					I40 SOUTH RAMPS From East					98TH From South					I40 SOUTH RAMPS From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	149	48	0	197	0	0	0	0	0	0	51	328	0	379	0	0	13	0	13	589
07:15 AM	0	142	56	0	198	0	0	0	0	0	0	69	300	0	369	1	0	10	0	11	578
07:30 AM	0	162	74	0	236	0	0	0	0	0	0	53	295	0	348	5	0	15	0	20	604
07:45 AM	0	152	59	0	211	0	0	0	0	0	0	58	242	0	300	4	0	15	0	19	530
Total	0	605	237	0	842	0	0	0	0	0	0	231	1165	0	1396	10	0	53	0	63	2301
08:00 AM	0	139	37	0	176	0	0	0	0	0	0	75	201	0	276	2	0	21	0	23	475
08:15 AM	0	119	37	0	156	0	0	0	0	0	0	112	252	0	364	7	0	20	0	27	547
08:30 AM	0	151	55	0	206	0	0	0	0	0	0	82	286	0	368	15	0	11	0	26	600
08:45 AM	0	169	46	0	215	0	0	0	0	0	0	56	237	0	293	2	0	15	0	17	525
Total	0	578	175	0	753	0	0	0	0	0	0	325	976	0	1301	26	0	67	0	93	2147
*** BREAK ***																					
04:00 PM	0	368	56	0	424	0	0	0	0	0	0	58	187	0	245	1	0	19	0	20	689
04:15 PM	0	391	44	0	435	0	0	0	0	0	0	61	218	0	279	1	0	14	0	15	729
04:30 PM	0	354	28	0	382	0	0	0	0	0	0	95	214	0	309	2	0	21	0	23	714
04:45 PM	0	326	30	0	356	0	0	0	0	0	0	86	190	0	276	3	0	24	0	27	659
Total	0	1439	158	0	1597	0	0	0	0	0	0	300	809	0	1109	7	0	78	0	85	2791
05:00 PM	0	366	22	0	388	0	0	0	0	0	0	80	179	0	259	3	0	19	0	22	669
05:15 PM	0	394	23	0	417	0	0	0	0	0	0	93	202	0	295	6	0	13	0	19	731
05:30 PM	0	358	25	1	384	0	0	0	0	0	0	89	170	0	259	3	0	16	0	19	662
05:45 PM	0	347	16	0	363	0	0	0	0	0	0	70	174	0	244	6	0	15	0	21	628
Total	0	1465	86	1	1552	0	0	0	0	0	0	332	725	0	1057	18	0	63	0	81	2690
Grand Total	0	4087	656	1	4744	0	0	0	0	0	0	1188	3675	0	4863	61	0	261	0	322	9929
Apprch %	0	86.2	13.8	0		0	0	0	0		0	24.4	75.6	0		18.9	0	81.1	0		
Total %	0	41.2	6.6	0	47.8	0	0	0	0	0	0	12	37	0	49	0.6	0	2.6	0	3.2	
Cars	0	3845	649	1	4495	0	0	0	0	0	0	1068	3493	0	4561	57	0	151	0	208	9264
% Cars	0	94.1	98.9	100	94.8	0	0	0	0	0	0	89.9	95	0	93.8	93.4	0	57.9	0	64.6	93.3
Trucks	0	242	7	0	249	0	0	0	0	0	0	120	182	0	302	4	0	110	0	114	665
% Trucks	0	5.9	1.1	0	5.2	0	0	0	0	0	0	10.1	5	0	6.2	6.6	0	42.1	0	35.4	6.7

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	98TH From North					I40 SOUTH RAMPS From East					98TH From South					I40 SOUTH RAMPS From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	149	48	0	197	0	0	0	0	0	0	51	**328**	0	**379**	0	0	13	0	13	589
07:15 AM	0	142	56	0	198	0	0	0	0	0	0	**69**	300	0	369	1	0	10	0	11	578
07:30 AM	0	**162**	**74**	0	**236**	0	0	0	0	0	0	53	295	0	348	**5**	0	**15**	0	**20**	**604**
07:45 AM	0	152	59	0	211	0	0	0	0	0	0	58	242	0	300	4	0	15	0	19	530
Total Volume	0	605	237	0	842	0	0	0	0	0	0	231	1165	0	1396	10	0	53	0	63	2301
% App. Total	0	71.9	28.1	0		0	0	0	0		0	16.5	83.5	0		15.9	0	84.1	0		
PHF	.000	.934	.801	.000	.892	.000	.000	.000	.000	.000	.000	.837	.888	.000	.921	.500	.000	.883	.000	.788	.952
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	368	**56**	0	424	0	0	0	0	0	0	58	187	0	245	1	0	19	0	20	689
04:15 PM	0	**391**	44	0	**435**	0	0	0	0	0	0	61	**218**	0	279	1	0	14	0	15	**729**
04:30 PM	0	354	28	0	382	0	0	0	0	0	0	**95**	214	0	**309**	2	0	21	0	23	714
04:45 PM	0	326	30	0	356	0	0	0	0	0	0	86	190	0	276	**3**	0	**24**	0	**27**	659
Total Volume	0	1439	158	0	1597	0	0	0	0	0	0	300	809	0	1109	7	0	78	0	85	2791
% App. Total	0	90.1	9.9	0		0	0	0	0		0	27.1	72.9	0		8.2	0	91.8	0		
PHF	.000	.920	.705	.000	.918	.000	.000	.000	.000	.000	.000	.789	.928	.000	.897	.583	.000	.813	.000	.787	.957

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Groups Printed- Cars

	98TH From North					I40 SOUTH RAMPS From East					98TH From South					I40 SOUTH RAMPS From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	142	48	0	190	0	0	0	0	0	0	45	301	0	346	0	0	6	0	6	542
07:15 AM	0	130	56	0	186	0	0	0	0	0	0	64	289	0	353	1	0	6	0	7	546
07:30 AM	0	146	73	0	219	0	0	0	0	0	0	46	277	0	323	5	0	12	0	17	559
07:45 AM	0	141	59	0	200	0	0	0	0	0	0	55	229	0	284	4	0	5	0	9	493
Total	0	559	236	0	795	0	0	0	0	0	0	210	1096	0	1306	10	0	29	0	39	2140
08:00 AM	0	120	37	0	157	0	0	0	0	0	0	63	188	0	251	2	0	11	0	13	421
08:15 AM	0	102	36	0	138	0	0	0	0	0	0	96	244	0	340	7	0	13	0	20	498
08:30 AM	0	131	53	0	184	0	0	0	0	0	0	67	278	0	345	12	0	8	0	20	549
08:45 AM	0	142	46	0	188	0	0	0	0	0	0	44	224	0	268	1	0	4	0	5	461
Total	0	495	172	0	667	0	0	0	0	0	0	270	934	0	1204	22	0	36	0	58	1929
*** BREAK ***																					
04:00 PM	0	349	54	0	403	0	0	0	0	0	0	54	177	0	231	1	0	12	0	13	647
04:15 PM	0	369	44	0	413	0	0	0	0	0	0	55	195	0	250	1	0	9	0	10	673
04:30 PM	0	342	28	0	370	0	0	0	0	0	0	87	205	0	292	2	0	16	0	18	680
04:45 PM	0	312	30	0	342	0	0	0	0	0	0	79	185	0	264	3	0	14	0	17	623
Total	0	1372	156	0	1528	0	0	0	0	0	0	275	762	0	1037	7	0	51	0	58	2623
05:00 PM	0	355	22	0	377	0	0	0	0	0	0	73	175	0	248	3	0	10	0	13	638
05:15 PM	0	381	23	0	404	0	0	0	0	0	0	87	193	0	280	6	0	11	0	17	701
05:30 PM	0	342	24	1	367	0	0	0	0	0	0	85	165	0	250	3	0	7	0	10	627
05:45 PM	0	341	16	0	357	0	0	0	0	0	0	68	168	0	236	6	0	7	0	13	606
Total	0	1419	85	1	1505	0	0	0	0	0	0	313	701	0	1014	18	0	35	0	53	2572
Grand Total	0	3845	649	1	4495	0	0	0	0	0	0	1068	3493	0	4561	57	0	151	0	208	9264
Apprch %	0	85.5	14.4	0		0	0	0	0		0	23.4	76.6	0		27.4	0	72.6	0		
Total %	0	41.5	7	0	48.5	0	0	0	0	0	0	11.5	37.7	0	49.2	0.6	0	1.6	0	2.2	

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	98TH From North					I40 SOUTH RAMPS From East					98TH From South					I40 SOUTH RAMPS From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	142	48	0	190	0	0	0	0	0	0	45	**301**	0	346	0	0	6	0	6	542
07:15 AM	0	130	56	0	186	0	0	0	0	0	0	**64**	289	0	**353**	1	0	6	0	7	546
07:30 AM	0	**146**	**73**	0	**219**	0	0	0	0	0	0	46	277	0	323	**5**	0	**12**	0	**17**	**559**
07:45 AM	0	141	59	0	200	0	0	0	0	0	0	55	229	0	284	4	0	5	0	9	493
Total Volume	0	559	236	0	795	0	0	0	0	0	0	210	1096	0	1306	10	0	29	0	39	2140
% App. Total	0	70.3	29.7	0		0	0	0	0		0	16.1	83.9	0		25.6	0	74.4	0		
PHF	.000	.957	.808	.000	.908	.000	.000	.000	.000	.000	.000	.820	.910	.000	.925	.500	.000	.604	.000	.574	.957
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	342	28	0	370	0	0	0	0	0	0	**87**	**205**	0	**292**	2	0	**16**	0	**18**	680
04:45 PM	0	312	**30**	0	342	0	0	0	0	0	0	79	185	0	264	3	0	14	0	17	623
05:00 PM	0	355	22	0	377	0	0	0	0	0	0	73	175	0	248	3	0	10	0	13	638
05:15 PM	0	**381**	23	0	**404**	0	0	0	0	0	0	87	193	0	280	**6**	0	11	0	17	**701**
Total Volume	0	1390	103	0	1493	0	0	0	0	0	0	326	758	0	1084	14	0	51	0	65	2642
% App. Total	0	93.1	6.9	0		0	0	0	0		0	30.1	69.9	0		21.5	0	78.5	0		
PHF	.000	.912	.858	.000	.924	.000	.000	.000	.000	.000	.000	.937	.924	.000	.928	.583	.000	.797	.000	.903	.942

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Groups Printed- Trucks

	98TH From North					I40 SOUTH RAMPS From East					98TH From South					I40 SOUTH RAMPS From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	7	0	0	7	0	0	0	0	0	0	6	27	0	33	0	0	7	0	7	47
07:15 AM	0	12	0	0	12	0	0	0	0	0	0	5	11	0	16	0	0	4	0	4	32
07:30 AM	0	16	1	0	17	0	0	0	0	0	0	7	18	0	25	0	0	3	0	3	45
07:45 AM	0	11	0	0	11	0	0	0	0	0	0	3	13	0	16	0	0	10	0	10	37
Total	0	46	1	0	47	0	0	0	0	0	0	21	69	0	90	0	0	24	0	24	161
08:00 AM	0	19	0	0	19	0	0	0	0	0	0	12	13	0	25	0	0	10	0	10	54
08:15 AM	0	17	1	0	18	0	0	0	0	0	0	16	8	0	24	0	0	7	0	7	49
08:30 AM	0	20	2	0	22	0	0	0	0	0	0	15	8	0	23	3	0	3	0	6	51
08:45 AM	0	27	0	0	27	0	0	0	0	0	0	12	13	0	25	1	0	11	0	12	64
Total	0	83	3	0	86	0	0	0	0	0	0	55	42	0	97	4	0	31	0	35	218
*** BREAK ***																					
04:00 PM	0	19	2	0	21	0	0	0	0	0	0	4	10	0	14	0	0	7	0	7	42
04:15 PM	0	22	0	0	22	0	0	0	0	0	0	6	23	0	29	0	0	5	0	5	56
04:30 PM	0	12	0	0	12	0	0	0	0	0	0	8	9	0	17	0	0	5	0	5	34
04:45 PM	0	14	0	0	14	0	0	0	0	0	0	7	5	0	12	0	0	10	0	10	36
Total	0	67	2	0	69	0	0	0	0	0	0	25	47	0	72	0	0	27	0	27	168
05:00 PM	0	11	0	0	11	0	0	0	0	0	0	7	4	0	11	0	0	9	0	9	31
05:15 PM	0	13	0	0	13	0	0	0	0	0	0	6	9	0	15	0	0	2	0	2	30
05:30 PM	0	16	1	0	17	0	0	0	0	0	0	4	5	0	9	0	0	9	0	9	35
05:45 PM	0	6	0	0	6	0	0	0	0	0	0	2	6	0	8	0	0	8	0	8	22
Total	0	46	1	0	47	0	0	0	0	0	0	19	24	0	43	0	0	28	0	28	118
Grand Total	0	242	7	0	249	0	0	0	0	0	0	120	182	0	302	4	0	110	0	114	665
Apprch %	0	97.2	2.8	0		0	0	0	0		0	39.7	60.3	0		3.5	0	96.5	0		
Total %	0	36.4	1.1	0	37.4	0	0	0	0	0	0	18	27.4	0	45.4	0.6	0	16.5	0	17.1	

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98th & Bluewater Commercial Development
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Turning Movement Count

File Name : 4_98th I40SOUTH
Site Code : 4
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	98TH From North					I40 SOUTH RAMPS From East					98TH From South					I40 SOUTH RAMPS From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	19	0	0	19	0	0	0	0	0	0	12	**13**	0	**25**	0	0	10	0	10	54
08:15 AM	0	17	1	0	18	0	0	0	0	0	0	**16**	8	0	24	0	0	7	0	7	49
08:30 AM	0	20	**2**	0	22	0	0	0	0	0	0	15	8	0	23	**3**	0	3	0	6	51
08:45 AM	0	**27**	0	0	**27**	0	0	0	0	0	0	12	13	0	25	1	0	**11**	0	**12**	**64**
Total Volume	0	83	3	0	86	0	0	0	0	0	0	55	42	0	97	4	0	31	0	35	218
% App. Total	0	96.5	3.5	0		0	0	0	0		0	56.7	43.3	0		11.4	0	88.6	0		
PHF	.000	.769	.375	.000	.796	.000	.000	.000	.000	.000	.000	.859	.808	.000	.970	.333	.000	.705	.000	.729	.852
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	19	**2**	0	21	0	0	0	0	0	0	4	10	0	14	0	0	7	0	7	42
04:15 PM	0	**22**	0	0	**22**	0	0	0	0	0	0	6	**23**	0	**29**	0	0	5	0	5	**56**
04:30 PM	0	12	0	0	12	0	0	0	0	0	0	**8**	9	0	17	0	0	5	0	5	34
04:45 PM	0	14	0	0	14	0	0	0	0	0	0	7	5	0	12	0	0	**10**	0	**10**	36
Total Volume	0	67	2	0	69	0	0	0	0	0	0	25	47	0	72	0	0	27	0	27	168
% App. Total	0	97.1	2.9	0		0	0	0	0		0	34.7	65.3	0		0	0	100	0		
PHF	.000	.761	.250	.000	.784	.000	.000	.000	.000	.000	.000	.781	.511	.000	.621	.000	.000	.675	.000	.675	.750

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98th & Bluewater Commercial Development
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Turning Movement Count

File Name : 5_98th I40NORTH
Site Code : 5
Start Date : 4/7/2021
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Groups Printed- Cars - Trucks

	98TH From North					I40 NORTH RAMPS From East					98TH From South					I40 NORTH RAMPS From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	74	4	0	78	102	1	21	0	124	13	37	0	0	50	0	0	0	0	0	252
07:15 AM	0	85	4	0	89	115	0	24	0	139	11	55	0	0	66	0	0	0	0	0	294
07:30 AM	0	97	6	0	103	127	0	32	0	159	12	46	0	0	58	0	0	0	0	0	320
07:45 AM	0	85	5	0	90	128	0	30	0	158	10	51	0	0	61	0	0	0	0	0	309
Total	0	341	19	0	360	472	1	107	0	580	46	189	0	0	235	0	0	0	0	0	1175
08:00 AM	0	54	3	0	57	124	3	34	0	161	17	57	0	0	74	0	0	0	0	0	292
08:15 AM	0	68	9	0	77	107	1	45	0	153	21	78	0	0	99	0	0	0	0	0	329
08:30 AM	0	102	6	0	108	113	0	30	0	143	19	84	0	0	103	0	0	0	0	0	354
08:45 AM	0	112	8	0	120	122	1	25	0	148	15	47	0	0	62	0	0	0	0	0	330
Total	0	336	26	0	362	466	5	134	0	605	72	266	0	0	338	0	0	0	0	0	1305
*** BREAK ***																					
04:00 PM	0	84	7	0	91	319	0	46	0	365	19	44	0	0	63	0	0	0	0	0	519
04:15 PM	0	94	4	0	98	350	3	55	0	408	15	53	0	0	68	0	0	0	0	0	574
04:30 PM	0	68	3	0	71	310	2	55	0	367	30	63	0	0	93	0	0	0	0	0	531
04:45 PM	0	64	6	0	70	302	0	64	0	366	29	61	0	0	90	0	0	0	0	0	526
Total	0	310	20	0	330	1281	5	220	0	1506	93	221	0	0	314	0	0	0	0	0	2150
05:00 PM	0	87	7	0	94	330	1	57	0	388	17	57	0	0	74	0	0	0	0	0	556
05:15 PM	0	73	7	0	80	355	0	69	0	424	23	69	0	0	92	0	0	0	0	0	596
05:30 PM	0	62	8	1	71	302	0	79	1	382	21	61	0	1	83	0	0	0	0	0	536
05:45 PM	0	62	4	0	66	294	1	60	0	355	14	61	0	0	75	0	0	0	0	0	496
Total	0	284	26	1	311	1281	2	265	1	1549	75	248	0	1	324	0	0	0	0	0	2184
*** BREAK ***																					
Grand Total	0	1271	91	1	1363	3500	13	726	1	4240	286	924	0	1	1211	0	0	0	0	0	6814
Apprch %	0	93.3	6.7	0.1		82.5	0.3	17.1	0		23.6	76.3	0	0.1		0	0	0	0		
Total %	0	18.7	1.3	0	20	51.4	0.2	10.7	0	62.2	4.2	13.6	0	0	17.8	0	0	0	0	0	
Cars	0	1242	90	1	1333	3282	10	713	1	4006	190	888	0	1	1079	0	0	0	0	0	6418
% Cars	0	97.7	98.9	100	97.8	93.8	76.9	98.2	100	94.5	66.4	96.1	0	100	89.1	0	0	0	0	0	94.2
Trucks	0	29	1	0	30	218	3	13	0	234	96	36	0	0	132	0	0	0	0	0	396
% Trucks	0	2.3	1.1	0	2.2	6.2	23.1	1.8	0	5.5	33.6	3.9	0	0	10.9	0	0	0	0	0	5.8

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98th & Bluewater Commercial Development
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Turning Movement Count

File Name : 5_98th I40NORTH
Site Code : 5
Start Date : 4/7/2021
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	98TH From North					I40 NORTH RAMPS From East					98TH From South					I40 NORTH RAMPS From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	54	3	0	57	**124**	**3**	34	0	**161**	17	57	0	0	74	0	0	0	0	0	292
08:15 AM	0	68	**9**	0	77	107	1	**45**	0	153	**21**	78	0	0	99	0	0	0	0	0	329
08:30 AM	0	102	6	0	108	113	0	30	0	143	19	**84**	0	0	**103**	0	0	0	0	0	**354**
08:45 AM	0	**112**	8	0	**120**	122	1	25	0	148	15	47	0	0	62	0	0	0	0	0	330
Total Volume	0	336	26	0	362	466	5	134	0	605	72	266	0	0	338	0	0	0	0	0	1305
% App. Total	0	92.8	7.2	0		77	0.8	22.1	0		21.3	78.7	0	0		0	0	0	0		
PHF	.000	.750	.722	.000	.754	.940	.417	.744	.000	.939	.857	.792	.000	.000	.820	.000	.000	.000	.000	.000	.922
Peak Hour Analysis From 12:00 PM to 06:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	64	6	0	70	302	0	64	0	366	**29**										
05:00 PM	0	**87**	7	0	**94**	330	**1**	57	0	388	17	57	0	0	74	0	0	0	0	0	556
05:15 PM	0	73	7	0	80	**355**	0	69	0	**424**	23	**69**	0	0	**92**	0	0	0	0	0	**596**
05:30 PM	0	62	**8**	**1**	71	302	0	**79**	**1**	382	21	61	0	**1**	83	0	0	0	0	0	536
Total Volume	0	286	28	1	315	1289	1	269	1	1560	90	248	0	1	339	0	0	0	0	0	2214
% App. Total	0	90.8	8.9	0.3		82.6	0.1	17.2	0.1		26.5	73.2	0	0.3		0	0	0	0		
PHF	.000	.822	.875	.250	.838	.908	.250	.851	.250	.920	.776	.899	.000	.250	.921	.000	.000	.000	.000	.000	.929

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Turning Movement Count

File Name : 5_98th I40NORTH
Site Code : 5
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Groups Printed- Cars

	98TH From North					I40 NORTH RAMPS From East					98TH From South					I40 NORTH RAMPS From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	72	4	0	76	100	1	19	0	120	7	35	0	0	42	0	0	0	0	0	238
07:15 AM	0	84	4	0	88	102	0	21	0	123	8	49	0	0	57	0	0	0	0	0	268
07:30 AM	0	97	6	0	103	113	0	32	0	145	5	44	0	0	49	0	0	0	0	0	297
07:45 AM	0	83	5	0	88	121	0	30	0	151	8	49	0	0	57	0	0	0	0	0	296
Total	0	336	19	0	355	436	1	102	0	539	28	177	0	0	205	0	0	0	0	0	1099
08:00 AM	0	52	3	0	55	107	1	33	0	141	6	55	0	0	61	0	0	0	0	0	257
08:15 AM	0	66	9	0	75	88	1	42	0	131	11	76	0	0	87	0	0	0	0	0	293
08:30 AM	0	94	6	0	100	96	0	29	0	125	7	74	0	0	81	0	0	0	0	0	306
08:45 AM	0	108	8	0	116	97	0	23	0	120	8	43	0	0	51	0	0	0	0	0	287
Total	0	320	26	0	346	388	2	127	0	517	32	248	0	0	280	0	0	0	0	0	1143
*** BREAK ***																					
04:00 PM	0	82	6	0	88	299	0	46	0	345	15	43	0	0	58	0	0	0	0	0	491
04:15 PM	0	91	4	0	95	334	3	55	0	392	12	50	0	0	62	0	0	0	0	0	549
04:30 PM	0	68	3	0	71	298	2	55	0	355	22	62	0	0	84	0	0	0	0	0	510
04:45 PM	0	64	6	0	70	290	0	63	0	353	23	61	0	0	84	0	0	0	0	0	507
Total	0	305	19	0	324	1221	5	219	0	1445	72	216	0	0	288	0	0	0	0	0	2057
05:00 PM	0	87	7	0	94	318	1	57	0	376	11	56	0	0	67	0	0	0	0	0	537
05:15 PM	0	72	7	0	79	342	0	69	0	411	18	69	0	0	87	0	0	0	0	0	577
05:30 PM	0	60	8	1	69	289	0	79	1	369	17	61	0	1	79	0	0	0	0	0	517
05:45 PM	0	62	4	0	66	288	1	60	0	349	12	61	0	0	73	0	0	0	0	0	488
Total	0	281	26	1	308	1237	2	265	1	1505	58	247	0	1	306	0	0	0	0	0	2119
*** BREAK ***																					
Grand Total	0	1242	90	1	1333	3282	10	713	1	4006	190	888	0	1	1079	0	0	0	0	0	6418
Apprch %	0	93.2	6.8	0.1		81.9	0.2	17.8	0		17.6	82.3	0	0.1		0	0	0	0		
Total %	0	19.4	1.4	0	20.8	51.1	0.2	11.1	0	62.4	3	13.8	0	0	16.8	0	0	0	0	0	

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Turning Movement Count

File Name : 5_98th I40NORTH
Site Code : 5
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	98TH From North					I40 NORTH RAMPS From East					98TH From South					I40 NORTH RAMPS From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	83	5	0	88	**121**	0	30	0	**151**	8	49	0	0	57	0	0	0	0	0	296
08:00 AM	0	52	3	0	55	107	**1**	33	0	141	6	55	0	0	61	0	0	0	0	0	257
08:15 AM	0	66	**9**	0	75	88	1	**42**	0	131	**11**	**76**	0	0	**87**	0	0	0	0	0	293
08:30 AM	0	**94**	6	0	**100**	96	0	29	0	125	7	74	0	0	81	0	0	0	0	0	**306**
Total Volume	0	295	23	0	318	412	2	134	0	548	32	254	0	0	286	0	0	0	0	0	1152
% App. Total	0	92.8	7.2	0		75.2	0.4	24.5	0		11.2	88.8	0	0		0	0	0	0		
PHF	.000	.785	.639	.000	.795	.851	.500	.798	.000	.907	.727	.836	.000	.000	.822	.000	.000	.000	.000	.000	.941
Peak Hour Analysis From 12:00 PM to 06:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	64	6	0	70	290	0	63	0	353	**23**										
05:00 PM	0	**87**	7	0	**94**	318	**1**	57	0	376	11	56	0	0	67	0	0	0	0	0	537
05:15 PM	0	72	7	0	79	**342**	0	69	0	**411**	18	**69**	0	0	**87**	0	0	0	0	0	**577**
05:30 PM	0	60	**8**	**1**	69	289	0	**79**	**1**	369	17	61	0	**1**	79	0	0	0	0	0	517
Total Volume	0	283	28	1	312	1239	1	268	1	1509	69	247	0	1	317	0	0	0	0	0	2138
% App. Total	0	90.7	9	0.3		82.1	0.1	17.8	0.1		21.8	77.9	0	0.3		0	0	0	0		
PHF	.000	.813	.875	.250	.830	.906	.250	.848	.250	.918	.750	.895	.000	.250	.911	.000	.000	.000	.000	.000	.926

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Groups Printed- Trucks

	98TH From North					I40 NORTH RAMPS From East					98TH From South					I40 NORTH RAMPS From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	2	0	0	2	2	0	2	0	4	6	2	0	0	8	0	0	0	0	0	14
07:15 AM	0	1	0	0	1	13	0	3	0	16	3	6	0	0	9	0	0	0	0	0	26
07:30 AM	0	0	0	0	0	14	0	0	0	14	7	2	0	0	9	0	0	0	0	0	23
07:45 AM	0	2	0	0	2	7	0	0	0	7	2	2	0	0	4	0	0	0	0	0	13
Total	0	5	0	0	5	36	0	5	0	41	18	12	0	0	30	0	0	0	0	0	76
08:00 AM	0	2	0	0	2	17	2	1	0	20	11	2	0	0	13	0	0	0	0	0	35
08:15 AM	0	2	0	0	2	19	0	3	0	22	10	2	0	0	12	0	0	0	0	0	36
08:30 AM	0	8	0	0	8	17	0	1	0	18	12	10	0	0	22	0	0	0	0	0	48
08:45 AM	0	4	0	0	4	25	1	2	0	28	7	4	0	0	11	0	0	0	0	0	43
Total	0	16	0	0	16	78	3	7	0	88	40	18	0	0	58	0	0	0	0	0	162
*** BREAK ***																					
04:00 PM	0	2	1	0	3	20	0	0	0	20	4	1	0	0	5	0	0	0	0	0	28
04:15 PM	0	3	0	0	3	16	0	0	0	16	3	3	0	0	6	0	0	0	0	0	25
04:30 PM	0	0	0	0	0	12	0	0	0	12	8	1	0	0	9	0	0	0	0	0	21
04:45 PM	0	0	0	0	0	12	0	1	0	13	6	0	0	0	6	0	0	0	0	0	19
Total	0	5	1	0	6	60	0	1	0	61	21	5	0	0	26	0	0	0	0	0	93
05:00 PM	0	0	0	0	0	12	0	0	0	12	6	1	0	0	7	0	0	0	0	0	19
05:15 PM	0	1	0	0	1	13	0	0	0	13	5	0	0	0	5	0	0	0	0	0	19
05:30 PM	0	2	0	0	2	13	0	0	0	13	4	0	0	0	4	0	0	0	0	0	19
05:45 PM	0	0	0	0	0	6	0	0	0	6	2	0	0	0	2	0	0	0	0	0	8
Total	0	3	0	0	3	44	0	0	0	44	17	1	0	0	18	0	0	0	0	0	65
*** BREAK ***																					
Grand Total	0	29	1	0	30	218	3	13	0	234	96	36	0	0	132	0	0	0	0	0	396
Apprch %	0	96.7	3.3	0		93.2	1.3	5.6	0		72.7	27.3	0	0		0	0	0	0		
Total %	0	7.3	0.3	0	7.6	55.1	0.8	3.3	0	59.1	24.2	9.1	0	0	33.3	0	0	0	0	0	

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Turning Movement Count

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	98TH From North					I40 NORTH RAMPS From East					98TH From South					I40 NORTH RAMPS From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	2	0	0	2	17	**2**	1	0	20	11	2	0	0	13	0	0	0	0	0	35
08:15 AM	0	2	0	0	2	19	0	**3**	0	22	10	2	0	0	12	0	0	0	0	0	36
08:30 AM	0	**8**	0	0	**8**	17	0	1	0	18	**12**	**10**	0	0	**22**	0	0	0	0	0	**48**
08:45 AM	0	4	0	0	4	**25**	1	2	0	**28**	7	4	0	0	11	0	0	0	0	0	43
Total Volume	0	16	0	0	16	78	3	7	0	88	40	18	0	0	58	0	0	0	0	0	162
% App. Total	0	100	0	0		88.6	3.4	8	0		69	31	0	0		0	0	0	0		
PHF	.000	.500	.000	.000	.500	.780	.375	.583	.000	.786	.833	.450	.000	.000	.659	.000	.000	.000	.000	.000	.844
Peak Hour Analysis From 12:00 PM to 06:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	2	**1**		**3**	**20**				**20**											**28**
04:15 PM	0	**3**	0	0	3	16	0	0	0	16	3	**3**	0	0	6	0	0	0	0	0	25
04:30 PM	0	0	0	0	0	12	0	0	0	12	**8**	1	0	0	**9**	0	0	0	0	0	21
04:45 PM	0	0	0	0	0	12	0	**1**	0	13	6	0	0	0	6	0	0	0	0	0	19
Total Volume	0	5	1	0	6	60	0	1	0	61	21	5	0	0	26	0	0	0	0	0	93
% App. Total	0	83.3	16.7	0		98.4	0	1.6	0		80.8	19.2	0	0		0	0	0	0		
PHF	.000	.417	.250	.000	.500	.750	.000	.250	.000	.763	.656	.417	.000	.000	.722	.000	.000	.000	.000	.000	.830

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98th & Bluewater Commercial Development
Traffic Impact Analysis
Turning Movement Count

File Name : 6_Bluewater-90th-AM
Site Code : 6
Start Date : 4/7/2021
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Groups Printed- Cars - Trucks

	90TH From North					BLUEWATER From East					90TH From South					BLUEWATER From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	7	1	0	9	3	1	0	0	4	3	24	5	0	32	2	9	3	0	14	59
07:15 AM	2	12	6	0	20	5	1	2	0	8	2	38	8	0	48	10	4	2	0	16	92
07:30 AM	2	16	3	0	21	8	3	7	1	19	3	31	16	0	50	5	7	2	0	14	104
07:45 AM	2	5	4	0	11	27	6	4	2	39	3	31	37	0	71	8	7	0	0	15	136
Total	7	40	14	0	61	43	11	13	3	70	11	124	66	0	201	25	27	7	0	59	391
08:00 AM	2	8	5	0	15	26	9	6	2	43	0	24	28	0	52	6	15	1	0	22	132
08:15 AM	2	10	12	0	24	6	3	2	1	12	2	14	14	0	30	1	9	1	0	11	77
08:30 AM	0	6	7	0	13	7	5	2	0	14	2	11	4	0	17	5	7	4	0	16	60
08:45 AM	2	3	1	0	6	4	7	2	0	13	3	11	2	0	16	5	11	1	0	17	52
Total	6	27	25	0	58	43	24	12	3	82	7	60	48	0	115	17	42	7	0	66	321
*** BREAK ***																					
04:00 PM	2	25	11	1	39	13	8	3	0	24	2	4	4	0	10	6	11	6	0	23	96
04:15 PM	2	26	9	0	37	14	11	3	0	28	2	13	5	0	20	8	8	4	0	20	105
04:30 PM	1	56	5	1	63	10	6	2	0	18	1	13	6	0	20	2	8	7	1	18	119
04:45 PM	0	27	10	0	37	6	7	3	0	16	2	10	6	0	18	6	11	4	0	21	92
Total	5	134	35	2	176	43	32	11	0	86	7	40	21	0	68	22	38	21	1	82	412
05:00 PM	1	24	6	0	31	9	13	6	0	28	2	14	7	0	23	8	7	5	0	20	102
05:15 PM	2	23	11	0	36	14	17	6	0	37	2	12	5	0	19	9	15	11	0	35	127
05:30 PM	1	34	7	0	42	23	2	6	0	31	1	8	10	0	19	11	13	2	0	26	118
05:45 PM	1	22	7	0	30	11	16	1	0	28	4	14	2	0	20	10	10	2	0	22	100
Total	5	103	31	0	139	57	48	19	0	124	9	48	24	0	81	38	45	20	0	103	447
*** BREAK ***																					
Grand Total	23	304	105	2	434	186	115	55	6	362	34	272	159	0	465	102	152	55	1	310	1571
Apprch %	5.3	70	24.2	0.5		51.4	31.8	15.2	1.7		7.3	58.5	34.2	0		32.9	49	17.7	0.3		
Total %	1.5	19.4	6.7	0.1	27.6	11.8	7.3	3.5	0.4	23	2.2	17.3	10.1	0	29.6	6.5	9.7	3.5	0.1	19.7	
Cars	21	299	96	2	418	184	112	54	6	356	33	267	153	0	453	96	151	54	1	302	1529
% Cars	91.3	98.4	91.4	100	96.3	98.9	97.4	98.2	100	98.3	97.1	98.2	96.2	0	97.4	94.1	99.3	98.2	100	97.4	97.3
Trucks	2	5	9	0	16	2	3	1	0	6	1	5	6	0	12	6	1	1	0	8	42
% Trucks	8.7	1.6	8.6	0	3.7	1.1	2.6	1.8	0	1.7	2.9	1.8	3.8	0	2.6	5.9	0.7	1.8	0	2.6	2.7

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Turning Movement Count

File Name : 6_Bluewater-90th-AM
Site Code : 6
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	90TH From North					BLUEWATER From East					90TH From South					BLUEWATER From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	**2**	12	**6**	0	20	5	1	2	0	8	2	**38**	8	0	48	**10**	4	**2**	0	16	92
07:30 AM	2	**16**	3	0	**21**	8	3	**7**	1	19	**3**	31	16	0	50	5	7	2	0	14	104
07:45 AM	2	5	4	0	11	**27**	6	4	**2**	39	3	31	**37**	0	**71**	8	7	0	0	15	**136**
08:00 AM	2	8	5	0	15	26	**9**	6	2	**43**	0	24	28	0	52	6	**15**	1	0	**22**	132
Total Volume	8	41	18	0	67	66	19	19	5	109	8	124	89	0	221	29	33	5	0	67	464
% App. Total	11.9	61.2	26.9	0		60.6	17.4	17.4	4.6		3.6	56.1	40.3	0		43.3	49.3	7.5	0		
PHF	1.00	.641	.750	.000	.798	.611	.528	.679	.625	.634	.667	.816	.601	.000	.778	.725	.550	.625	.000	.761	.853
Cars	7	39	14	0	60	65	18	18	5	106	8	121	86	0	215	27	33	5	0	65	446
% Cars	87.5	95.1	77.8	0	89.6	98.5	94.7	94.7	100	97.2	100	97.6	96.6	0	97.3	93.1	100	100	0	97.0	96.1
Trucks	1	2	4	0	7	1	1	1	0	3	0	3	3	0	6	2	0	0	0	2	18
% Trucks	12.5	4.9	22.2	0	10.4	1.5	5.3	5.3	0	2.8	0	2.4	3.4	0	2.7	6.9	0	0	0	3.0	3.9
Peak Hour Analysis From 12:00 PM to 06:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	1	24	6	0	31	9	13	**6**				**14**			**23**						
05:15 PM	**2**	23	**11**	0	36	14	**17**	6	0	**37**	2	12	5	0	19	9	**15**	**11**	0	**35**	**127**
05:30 PM	1	**34**	7	0	**42**	**23**	2	6	0	31	1	8	**10**	0	19	**11**	13	2	0	26	118
05:45 PM	1	22	7	0	30	11	16	1	0	28	**4**	14	2	0	20	10	10	2	0	22	100
Total Volume	5	103	31	0	139	57	48	19	0	124	9	48	24	0	81	38	45	20	0	103	447
% App. Total	3.6	74.1	22.3	0		46	38.7	15.3	0		11.1	59.3	29.6	0		36.9	43.7	19.4	0		
PHF	.625	.757	.705	.000	.827	.600	.706	.792	.000	.838	.563	.857	.600	.000	.880	.864	.750	.455	.000	.736	.880
Cars	5	103	31	0	139	56	47	19	0	122	9	48	24	0	81	35	44	20	0	99	441
% Cars	100	100	100	0	100	98.2	97.9	100	0	98.4	100	100	100	0	100	92.1	97.8	100	0	96.1	98.7
Trucks	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	3	1	0	0	4	6
% Trucks	0	0	0	0	0	1.8	2.1	0	0	1.6	0	0	0	0	0	7.9	2.2	0	0	3.9	1.3

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98th & Bluewater Commercial Development
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Turning Movement Count

File Name : 6_Bluewater-90th-AM
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Groups Printed- Cars

	90TH From North					BLUEWATER From East					90TH From South					BLUEWATER From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	7	1	0	9	3	1	0	0	4	2	24	3	0	29	2	9	3	0	14	56
07:15 AM	1	12	6	0	19	5	1	2	0	8	2	38	7	0	47	10	4	2	0	16	90
07:30 AM	2	16	3	0	21	8	3	7	1	19	3	30	16	0	49	5	7	2	0	14	103
07:45 AM	2	5	2	0	9	26	5	3	2	36	3	29	35	0	67	7	7	0	0	14	126
Total	6	40	12	0	58	42	10	12	3	67	10	121	61	0	192	24	27	7	0	58	375
08:00 AM	2	6	3	0	11	26	9	6	2	43	0	24	28	0	52	5	15	1	0	21	127
08:15 AM	1	10	10	0	21	6	3	2	1	12	2	13	13	0	28	1	9	1	0	11	72
08:30 AM	0	5	5	0	10	7	5	2	0	14	2	11	4	0	17	5	7	3	0	15	56
08:45 AM	2	3	1	0	6	4	7	2	0	13	3	11	2	0	16	5	11	1	0	17	52
Total	5	24	19	0	48	43	24	12	3	82	7	59	47	0	113	16	42	6	0	64	307
*** BREAK ***																					
04:00 PM	2	25	11	1	39	13	8	3	0	24	2	4	4	0	10	6	11	6	0	23	96
04:15 PM	2	25	9	0	36	14	11	3	0	28	2	12	5	0	19	8	8	4	0	20	103
04:30 PM	1	55	5	1	62	10	6	2	0	18	1	13	6	0	20	2	8	7	1	18	118
04:45 PM	0	27	9	0	36	6	6	3	0	15	2	10	6	0	18	5	11	4	0	20	89
Total	5	132	34	2	173	43	31	11	0	85	7	39	21	0	67	21	38	21	1	81	406
05:00 PM	1	24	6	0	31	9	13	6	0	28	2	14	7	0	23	7	6	5	0	18	100
05:15 PM	2	23	11	0	36	13	17	6	0	36	2	12	5	0	19	8	15	11	0	34	125
05:30 PM	1	34	7	0	42	23	2	6	0	31	1	8	10	0	19	10	13	2	0	25	117
05:45 PM	1	22	7	0	30	11	15	1	0	27	4	14	2	0	20	10	10	2	0	22	99
Total	5	103	31	0	139	56	47	19	0	122	9	48	24	0	81	35	44	20	0	99	441
*** BREAK ***																					
Grand Total	21	299	96	2	418	184	112	54	6	356	33	267	153	0	453	96	151	54	1	302	1529
Apprch %	5	71.5	23	0.5		51.7	31.5	15.2	1.7		7.3	58.9	33.8	0		31.8	50	17.9	0.3		
Total %	1.4	19.6	6.3	0.1	27.3	12	7.3	3.5	0.4	23.3	2.2	17.5	10	0	29.6	6.3	9.9	3.5	0.1	19.8	

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	90TH From North					BLUEWATER From East					90TH From South					BLUEWATER From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	1	12	**6**	0	19	5	1	2	0	8	2	**38**	7	0	47	**10**	4	**2**	0	16	90
07:30 AM	**2**	**16**	3	0	**21**	8	3	**7**	1	19	**3**	30	16	0	49	5	7	2	0	14	103
07:45 AM	2	5	2	0	9	**26**	5	3	**2**	36	3	29	**35**	0	**67**	7	7	0	0	14	126
08:00 AM	2	6	3	0	11	26	**9**	6	2	**43**	0	24	28	0	52	5	**15**	1	0	**21**	**127**
Total Volume	7	39	14	0	60	65	18	18	5	106	8	121	86	0	215	27	33	5	0	65	446
% App. Total	11.7	65	23.3	0		61.3	17	17	4.7		3.7	56.3	40	0		41.5	50.8	7.7	0		
PHF	.875	.609	.583	.000	.714	.625	.500	.643	.625	.616	.667	.796	.614	.000	.802	.675	.550	.625	.000	.774	.878
Peak Hour Analysis From 12:00 PM to 06:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	1	24	6	0	31	9	13	**6**				**14**			**23**						
05:15 PM	**2**	23	**11**	0	36	13	**17**	6	0	**36**	2	12	5	0	19	8	**15**	**11**	0	**34**	**125**
05:30 PM	1	**34**	7	0	**42**	**23**	2	6	0	31	1	8	**10**	0	19	**10**	13	2	0	25	117
05:45 PM	1	22	7	0	30	11	15	1	0	27	**4**	14	2	0	20	10	10	2	0	22	99
Total Volume	5	103	31	0	139	56	47	19	0	122	9	48	24	0	81	35	44	20	0	99	441
% App. Total	3.6	74.1	22.3	0		45.9	38.5	15.6	0		11.1	59.3	29.6	0		35.4	44.4	20.2	0		
PHF	.625	.757	.705	.000	.827	.609	.691	.792	.000	.847	.563	.857	.600	.000	.880	.875	.733	.455	.000	.728	.882

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Groups Printed- Trucks

	90TH From North					BLUEWATER From East					90TH From South					BLUEWATER From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3	0	0	0	0	0	3
07:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
07:45 AM	0	0	2	0	2	1	1	1	0	3	0	2	2	0	4	1	0	0	0	1	10
Total	1	0	2	0	3	1	1	1	0	3	1	3	5	0	9	1	0	0	0	1	16
08:00 AM	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	5
08:15 AM	1	0	2	0	3	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	5
08:30 AM	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4
*** BREAK ***																					
Total	1	3	6	0	10	0	0	0	0	0	0	1	1	0	2	1	0	1	0	2	14
*** BREAK ***																					
04:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	3
Total	0	2	1	0	3	0	1	0	0	1	0	1	0	0	1	1	0	0	0	1	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2
05:15 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	3	1	0	0	4	6
*** BREAK ***																					
Grand Total	2	5	9	0	16	2	3	1	0	6	1	5	6	0	12	6	1	1	0	8	42
Apprch %	12.5	31.2	56.2	0		33.3	50	16.7	0		8.3	41.7	50	0		75	12.5	12.5	0		
Total %	4.8	11.9	21.4	0	38.1	4.8	7.1	2.4	0	14.3	2.4	11.9	14.3	0	28.6	14.3	2.4	2.4	0	19	

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	90TH From North					BLUEWATER From East					90TH From South					BLUEWATER From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	**2**	0	2	**1**	**1**	**1**	0	**3**	0	**2**	**2**	0	**4**	**1**	0	0	0	**1**	**10**
08:00 AM	0	**2**	2	0	**4**	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	5
08:15 AM	**1**	0	2	0	3	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	5
08:30 AM	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	1	4
Total Volume	1	3	8	0	12	1	1	1	0	3	0	3	3	0	6	2	0	1	0	3	24
% App. Total	8.3	25	66.7	0		33.3	33.3	33.3	0		0	50	50	0		66.7	0	33.3	0		
PHF	.250	.375	1.00	.000	.750	.250	.250	.250	.000	.250	.000	.375	.375	.000	.375	.500	.000	.250	.000	.750	.600

Peak Hour Analysis From 12:00 PM to 06:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	**1**			**1**							**1**			**1**						
04:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	**1**	0	1	0	**1**	0	0	**1**	0	0	0	0	0	**1**	0	0	0	1	**3**
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	0	0	**2**	2
Total Volume	0	2	1	0	3	0	1	0	0	1	0	1	0	0	1	2	1	0	0	3	8
% App. Total	0	66.7	33.3	0		0	100	0	0		0	100	0	0		66.7	33.3	0	0		
PHF	.000	.500	.250	.000	.750	.000	.250	.000	.000	.250	.000	.250	.000	.000	.250	.500	.250	.000	.000	.375	.667

Observed Counts (TAQA)_98th-Bluewater

COGID	Route	FuncClass	FromLocation	StartDate	Capac _NB	Capac _SB	Capac _EB	Capac _WB	Daily Vol	DayVol _NB	DayVol _SB	DayVol _EB	DayVol _WB	DDS	AM Time	AMHr Vol	AMDir Split	AM_Vol _NB	AM_Vol _SB	AM_Vol _EB	AM_Vol _WB	PM Time	PMHr Vol	PMDir Split	PM_Vol _NB	PM_Vol _SB	PM_Vol _EB	PM_Vol _WB	VC_AM _NB	VC_AM _SB	VC_AM _EB	VC_AM _WB	VC_PM _NB	VC_PM _SB	VC_PM _EB	VC_PM _WB
24348	I-40 WBD	Urban Interstate	98TH OFF RAMP - UNSER ON RAMP	2015-03-0	0	0	0	5500	29480	0	0	0	29480	1	815	1357	1	0	0	0	1357	1645	2524	1	0	0	0	2524	0	0	0	0.25	0	0	0	0.46
24392	I-40 EBD	Urban Interstate	98TH ON RAMP 2 - UNSER OFF RAMP	2015-03-0	0	0	5500	0	26437	0	0	26437	0	1	630	2345	1	0	0	2345	0	1500	1654	1	0	0	1654	0	0	0	0.43	0	0	0	0.3	0
24442	ARROYO VISTA	Urban Minor Arterial	NORTH OF I-40 NORTH RAMPS	2018-12-0	1630	1630	0	0	10723	5949	4774	0	0	0.55	745	1241	0.66	813	428	0	0	1515	1045	0.59	611	434	0	0	0.5	0.26	0	0	0.38	0.27	0	0
24443	ARROYO VISTA	Urban Minor Arterial	NORTH OF I-40 WBD OFF RAMP	2018-09-1	1630	2520	0	0	8461	3911	4550	0	0	0.54	645	1063	0.53	501	562	0	0	1515	766	0.53	364	402	0	0	0.31	0.22	0	0	0.22	0.16	0	0
24444	98TH STREET	Urban Principal Arterial	NORTH OF I-40 S. RAMPS	2017-06-0	2000	2000	0	0	23340	4490	18850	0	0	0.81	730	1232	0.73	331	901	0	0	1730	2080	0.83	363	1717	0	0	0.17	0.45	0	0	0.18	0.86	0	0
24446	98TH STREET	Urban Principal Arterial	NORTH OF I-40 EBD ON RAMP	2018-03-0	2000	2000	0	0	24726	5548	19178	0	0	0.78	700	1726	0.6	686	1040	0	0	1530	2271	0.82	404	1867	0	0	0.34	0.52	0	0	0.2	0.93	0	0
24676	I-40 WBD	Urban Interstate	98TH ON RAMP - 98TH OFF RAMP	2019-05-1	0	0	0	3660	19417	0	0	0	19417	1	930	1252	1	0	0	0	1252	1715	1300	1	0	0	0	1300	0	0	0	0.34	0	0	0	0.35
24824	I-40 EBD	Urban Interstate	98TH ON RAMP 1 - 98TH ON RAMP 2	1992-05-0	0	0	3660	0	11287	0	0	11287	0	1	730	880	1	0	0	880	0	1700	824	1	0	0	824	0	0	0	0.24	0	0	0	0.22	0
24992	I-40 EBD	Urban Interstate	98TH OFF RAMP - 98TH ON RAMP 1	2019-05-1	0	0	3660	0	21252	0	0	21252	0	1	845	1204	1	0	0	1204	0	1815	1700	1	0	0	1700	0	0	0	0.33	0	0	0	0.46	0
25728	CENTRAL	Urban Principal Arterial	WEST OF BRIDGE	2016-04-0	0	0	2000	2000	18799	0	0	8794	10005	0.53	700	1378	0.62	0	0	860	518	1600	1533	0.57	0	0	656	877	0	0	0.43	0.26	0	0	0.33	0.44
25764	98TH STREET	Urban Principal Arterial	SOUTH OF I-40 S. RAMPS	2019-09-1	2000	2000	0	0	39463	20586	18877	0	0	0.52	645	3039	0.71	2145	894	0	0	1615	3062	0.61	1195	1867	0	0	1.07	0.45	0	0	0.6	0.93	0	0
26293	CENTRAL	Urban Principal Arterial	EAST OF 114TH ST.	2019-11-1	0	0	2000	2000	8739	0	0	4196	4543	0.52	645	668	0.65	0	0	434	234	1630	845	0.58	0	0	359	486	0	0	0.22	0.12	0	0	0.18	0.24
26532	98TH STREET	Urban Principal Arterial	SOUTH OF CENTRAL	2017-08-1	2000	2000	0	0	30258	16208	14050	0	0	0.54	645	2193	0.79	1735	458	0	0	1700	2358	0.61	912	1446	0	0	0.87	0.23	0	0	0.46	0.72	0	0

Traffic Count Data Sheet

Year Counts Taken: **2019**

E-W Street: **Central Ave.**
N-S Street: **98th St.**

Speed Limit (Central Ave.)= **55** MPH
Speed Limit (98th St.)= **45** MPH

Signalized

2/7/19

Begin Time	End Time	Eastbound (Central Ave.)				Westbound (Central Ave.)				Northbound (98th St.)				Southbound (98th St.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
7:00 AM	7:15 AM	98	44	0	0	29	26	32	0	3	365	46	0	15	84	28	0
7:15 AM	7:30 AM	124	67	6	0	21	27	53	0	4	410	35	0	16	122	28	0
7:30 AM	7:45 AM	96	60	7	0	28	27	76	0	0	381	30	0	20	121	24	1
7:45 AM	8:00 AM	88	61	5	0	34	38	34	0	7	395	53	1	14	103	30	0
8:00 AM	8:15 AM	~~72~~	~~42~~	~~3~~	~~0~~	~~38~~	~~39~~	~~46~~	~~0~~	~~4~~	~~292~~	~~49~~	~~1~~	~~15~~	~~120~~	~~16~~	~~0~~
8:15 AM	8:30 AM	~~46~~	~~33~~	~~7~~	~~0~~	~~45~~	~~46~~	~~39~~	~~0~~	~~4~~	~~297~~	~~34~~	~~1~~	~~22~~	~~98~~	~~16~~	~~0~~
8:30 AM	8:45 AM	~~48~~	~~28~~	~~5~~	~~0~~	~~34~~	~~14~~	~~44~~	~~0~~	~~5~~	~~299~~	~~38~~	~~0~~	~~16~~	~~101~~	~~20~~	~~0~~
8:45 AM	9:00 AM	~~22~~	~~24~~	~~1~~	~~0~~	~~11~~	~~19~~	~~24~~	~~0~~	~~4~~	~~145~~	~~22~~	~~0~~	~~10~~	~~54~~	~~9~~	~~0~~
AM Peak Hour Volumes		**406**	**232**	**18**	**0**	**112**	**118**	**195**	**0**	**14**	**1551**	**164**	**1**	**65**	**430**	**110**	**1**
% of Total Traffic		11.9%	6.8%	0.5%		3.3%	3.5%	5.7%		0.4%	45.4%	4.8%		1.9%	12.6%	3.2%	
% Directional			19.2%				12.4%	**Intersection**			50.6%				17.7%		
AM Peak Hour Factor			*0.83*				*0.81*	**0.94**			*0.95*				*0.91*		

Begin Time	End Time	Eastbound (Central Ave.)				Westbound (Central Ave.)				Northbound (98th St.)				Southbound (98th St.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
4:00 PM	4:15 PM	43	55	8	0	57	40	31	1	9	207	39	0	35	304	64	1
4:15 PM	4:30 PM	54	37	13	0	79	54	29	0	8	173	39	0	22	326	40	0
4:30 PM	4:45 PM	43	40	6	0	58	49	36	0	9	199	41	0	21	332	40	0
4:45 PM	5:00 PM	44	49	8	0	70	52	39	4	8	202	35	0	21	283	90	0
5:00 PM	5:15 PM	~~52~~	~~55~~	~~11~~	~~2~~	~~71~~	~~57~~	~~42~~	~~0~~	~~14~~	~~189~~	~~31~~	~~1~~	~~23~~	~~312~~	~~26~~	~~0~~
5:15 PM	5:30 PM	~~46~~	~~57~~	~~14~~	~~0~~	~~75~~	~~54~~	~~36~~	~~0~~	~~9~~	~~174~~	~~26~~	~~0~~	~~31~~	~~302~~	~~26~~	~~0~~
5:30 PM	5:45 PM	~~36~~	~~28~~	~~8~~	~~1~~	~~48~~	~~56~~	~~42~~	~~0~~	~~4~~	~~200~~	~~33~~	~~0~~	~~23~~	~~358~~	~~51~~	~~9~~
5:45 PM	6:00 PM	~~18~~	~~16~~	~~3~~	~~0~~	~~19~~	~~22~~	~~8~~	~~0~~	~~1~~	~~73~~	~~11~~	~~0~~	~~9~~	~~88~~	~~17~~	~~0~~
PM Peak Hour Volumes		**184**	**181**	**35**	**0**	**264**	**195**	**135**	**5**	**34**	**781**	**154**	**0**	**99**	**1245**	**234**	**1**
% of Total Traffic		5.2%	5.1%	1.0%		7.4%	5.5%	3.8%		1.0%	22.0%	4.3%		2.8%	35.1%	6.6%	
% Directional			11.3%				16.8%	**Intersection**			27.3%				44.5%		
PM Peak Hour Factor			*0.94*				*0.92*	**0.98**			*0.95*				*0.98*		

Traffic Count Data Sheet

Year Counts Taken: **2019**

E-W Street: **I-40 S. Ramp**
N-S Street: **98th St.**

Speed Limit (I-40 S. Ramp)= **30** MPH
Speed Limit (98th St.)= **45** MPH

Signalized

2/7/19

Begin Time	End Time	Eastbound (I-40 S. Ramp)				Westbound (I-40 S. Ramp)				Northbound (98th St.)				Southbound (98th St.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
7:00 AM	7:15 AM	5	0	0	0	0	0	0	0	0	73	0	0	0	174	0	0
7:15 AM	7:30 AM	7	0	0	0	0	0	0	0	0	127	0	0	0	193	0	0
7:30 AM	7:45 AM	5	0	0	0	0	0	0	0	0	150	0	0	0	159	0	0
7:45 AM	8:00 AM	3	0	0	0	0	0	0	0	0	183	0	0	0	179	0	0
8:00 AM	8:15 AM	~~5~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~106~~	~~0~~	~~0~~	~~0~~	~~136~~	~~0~~	~~0~~
8:15 AM	8:30 AM	~~7~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~91~~	~~0~~	~~0~~	~~0~~	~~159~~	~~0~~	~~0~~
8:30 AM	8:45 AM	~~18~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~138~~	~~0~~	~~0~~	~~0~~	~~177~~	~~0~~	~~0~~
8:45 AM	9:00 AM	~~4~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~67~~	~~0~~	~~0~~	~~0~~	~~186~~	~~0~~	~~0~~
AM Peak Hour Volumes		**20**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**533**	**0**	**0**	**0**	**705**	**0**	**0**
% of Total Traffic		1.6%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	42.4%	0.0%		0.0%	56.0%	0.0%	
% Directional			1.6%				0.0%	**Intersection**			42.4%				56.0%		
AM Peak Hour Factor			*0.71*					**0.86**			*0.73*				*0.91*		

Begin Time	End Time	Eastbound (I-40 S. Ramp)				Westbound (I-40 S. Ramp)				Northbound (98th St.)				Southbound (98th St.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
4:00 PM	4:15 PM	3	0	0	0	0	0	0	0	0	84	0	1	0	497	0	0
4:15 PM	4:30 PM	5	0	0	0	0	0	0	0	0	90	0	0	0	461	0	0
4:30 PM	4:45 PM	8	0	0	0	0	0	0	0	0	72	0	0	0	454	0	0
4:45 PM	5:00 PM	9	0	0	0	0	0	0	0	0	66	0	0	0	411	0	0
5:00 PM	5:15 PM	~~4~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~75~~	~~0~~	~~0~~	~~0~~	~~431~~	~~0~~	~~0~~
5:15 PM	5:30 PM	~~12~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~65~~	~~0~~	~~0~~	~~0~~	~~418~~	~~0~~	~~0~~
5:30 PM	5:45 PM	~~9~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~81~~	~~0~~	~~0~~	~~0~~	~~422~~	~~0~~	~~0~~
5:45 PM	6:00 PM	~~5~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~76~~	~~0~~	~~0~~	~~0~~	~~428~~	~~0~~	~~0~~
PM Peak Hour Volumes		**25**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**312**	**0**	**1**	**0**	**1823**	**0**	**0**
% of Total Traffic		1.2%	0.0%	0.0%		0.0%	0.0%	0.0%		0.0%	14.4%	0.0%		0.0%	84.4%	0.0%	
% Directional			1.2%				0.0%	**Intersection**			14.4%				84.4%		
PM Peak Hour Factor			*0.69*					**0.92**			*0.87*				*0.92*		

Traffic Count Data Sheet

Year Counts Taken: **2019**

E-W Street: **I-40 N. Ramp**
N-S Street: **98th St.**

Speed Limit (I-40 N. Ramp)= **45** MPH
Speed Limit (98th St.)= **45** MPH

Signalized

2/18/19

Begin Time	End Time	Eastbound (I-40 N. Ramp)				Westbound (I-40 N. Ramp)				Northbound (98th St.)				Southbound (98th St.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
7:00 AM	7:15 AM	0	0	0	0	123	0	0	0	13	69	0	0	0	161	0	0
7:15 AM	7:30 AM	0	0	0	0	138	1	1	0	14	118	0	0	0	118	0	0
7:30 AM	7:45 AM	0	0	0	0	97	0	0	0	21	140	0	0	0	106	0	0
7:45 AM	8:00 AM	0	0	0	0	109	0	0	0	21	166	7	0	0	82	0	0
8:00 AM	8:15 AM	~~0~~	~~0~~	~~0~~	~~0~~	~~93~~	~~0~~	~~0~~	~~0~~	~~6~~	~~111~~	~~0~~	~~0~~	~~0~~	~~76~~	~~0~~	~~0~~
8:15 AM	8:30 AM	~~0~~	~~0~~	~~0~~	~~0~~	~~98~~	~~0~~	~~0~~	~~0~~	~~11~~	~~88~~	~~0~~	~~0~~	~~0~~	~~94~~	~~0~~	~~0~~
8:30 AM	8:45 AM	~~0~~	~~0~~	~~0~~	~~0~~	~~107~~	~~0~~	~~0~~	~~0~~	~~17~~	~~141~~	~~0~~	~~0~~	~~0~~	~~126~~	~~0~~	~~0~~
8:45 AM	9:00 AM	~~0~~	~~0~~	~~0~~	~~0~~	~~118~~	~~0~~	~~0~~	~~0~~	~~10~~	~~60~~	~~0~~	~~0~~	~~0~~	~~104~~	~~0~~	~~0~~
AM Peak Hour Volumes		**0**	**0**	**0**	**0**	**467**	**1**	**1**	**0**	**69**	**493**	**7**	**0**	**0**	**467**	**0**	**0**
Percent Approach		#DIV/0!	#DIV/0!	#DIV/0!		99.6%	0.2%	0.2%		12.1%	86.6%	1.2%		0.0%	100.0%	0.0%	

			Intersection		
AM Peak Hour Factor	*#DIV/0!*	*0.84*	**0.96**	*0.73*	*0.73*

Begin Time	End Time	Eastbound (I-40 N. Ramp)				Westbound (I-40 N. Ramp)				Northbound (98th St.)				Southbound (98th St.)			
		L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians	L	T	R	Pedestrians
4:00 PM	4:15 PM	0	0	0	0	340	0	0	0	22	67	0	1	0	135	1	0
4:15 PM	4:30 PM	0	0	0	0	386	1	0	0	19	69	0	0	0	73	0	0
4:30 PM	4:45 PM	0	0	0	0	376	0	0	0	12	70	0	0	0	58	0	0
4:45 PM	5:00 PM	0	0	0	0	355	0	0	0	19	55	0	0	0	67	0	0
5:00 PM	5:15 PM	~~0~~	~~0~~	~~0~~	~~0~~	~~309~~	~~0~~	~~0~~	~~0~~	~~21~~	~~74~~	~~0~~	~~0~~	~~0~~	~~80~~	~~0~~	~~0~~
5:15 PM	5:30 PM	~~0~~	~~0~~	~~0~~	~~0~~	~~341~~	~~2~~	~~0~~	~~0~~	~~10~~	~~81~~	~~0~~	~~0~~	~~0~~	~~98~~	~~0~~	~~0~~
5:30 PM	5:45 PM	~~0~~	~~0~~	~~0~~	~~0~~	~~348~~	~~0~~	~~0~~	~~0~~	~~21~~	~~79~~	~~0~~	~~0~~	~~0~~	~~72~~	~~0~~	~~0~~
5:45 PM	6:00 PM	~~0~~	~~0~~	~~0~~	~~0~~	~~364~~	~~1~~	~~0~~	~~0~~	~~15~~	~~72~~	~~0~~	~~0~~	~~0~~	~~69~~	~~0~~	~~0~~
PM Peak Hour Volumes		**0**	**0**	**0**	**0**	**1457**	**1**	**0**	**0**	**72**	**261**	**0**	**1**	**0**	**333**	**1**	**0**
Percent Approach		#DIV/0!	#DIV/0!	#DIV/0!		99.9%	0.1%	0.0%		21.6%	78.4%	0.0%		0.0%	99.7%	0.3%	

			Intersection		
PM Peak Hour Factor	*#DIV/0!*	*0.94*	**0.94**	*0.94*	*0.61*

NMDOT - Data Management Bureau Traffic Monitoring Program
14599 Weekly Volume Report - Mon 09/16/2019 - Sun 09/22/2019

98th at I-40

Location ID:	14599
Located On:	FL-4005-P
Direction	2-WAY
Community:	
AADT:	36216

Type:	SPOT
Period:	Mon 09/16/2019 - Sun 09/22/2019

Start Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Avg
12:00 AM	344	330						337
1:00 AM	230	250						240
2:00 AM	202	239						221
3:00 AM	258	271						265
4:00 AM	485	444						465
5:00 AM	1087	1079						1083
6:00 AM	2223	2328						2276
7:00 AM	2880	2881						2881
8:00 AM	2480	2509						2495
9:00 AM	1912	1881						1897
10:00 AM	1703	1682						1693
11:00 AM	1717	1653						1685
12:00 PM	1921	1765						1843
1:00 PM	2002	1960						1981
2:00 PM	2365	2237						2301
3:00 PM	2723	2759						2741
4:00 PM	2992	3019						3006
5:00 PM	2773	3012						2893
6:00 PM	2332	2679						2506
7:00 PM	1939	2278						2109
8:00 PM	1642	1829						1736
9:00 PM	1094	1464						1279
10:00 PM	802	1050						926
11:00 PM	553	667						610
Total	**38659**	**40266**	**0**	**0**	**0**	**0**	**0**	
24HrTotal	38659	40266						39463
AM Pk Hr	7:00	7:00						
AM Peak	2880	2881						2881
PM Pk Hr	4:00	4:00						
PM Peak	2992	3019						3006
% Peak Hr	7.74%	7.50%						7.50%
% Peak Hr	7.74%	7.50%						7.62%

NMDOT - Data Management Bureau Traffic Monitoring Program
14599_POS Weekly Volume Report - Mon 09/16/2019 - Sun 09/22/2019

Location ID:	14599_POS	**Type:**	SPOT
Located On:	FL-4005-P		
Direction	POS		
Community:		**Period:**	Mon 09/16/2019 - Sun 09/22/2019
AADT:	18895		

Start Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Avg
12:00 AM	137	113						125
1:00 AM	102	97						100
2:00 AM	103	106						105
3:00 AM	157	176						167
4:00 AM	365	343						354
5:00 AM	856	866						861
6:00 AM	1722	1773						1748
7:00 AM	1973	1981						1977
8:00 AM	1560	1607						1584
9:00 AM	1162	1159						1161
10:00 AM	989	988						989
11:00 AM	950	915						933
12:00 PM	984	901						943
1:00 PM	1026	1014						1020
2:00 PM	1209	1149						1179
3:00 PM	1262	1186						1224
4:00 PM	1238	1155						1197
5:00 PM	1075	1244						1160
6:00 PM	1019	1140						1080
7:00 PM	847	980						914
8:00 PM	588	785						687
9:00 PM	414	608						511
10:00 PM	281	392						337
11:00 PM	219	255						237
Total	**20238**	**20933**	**0**	**0**	**0**	**0**	**0**	
24HrTotal	20238	20933						20586
AM Pk Hr	7:00	7:00						
AM Peak	1973	1981						1977
PM Pk Hr	3:00	5:00						
PM Peak	1262	1244						1253
% Peak Hr	9.75%	9.46%						9.50%
% Peak Hr	9.75%	9.46%						9.61%

NMDOT - Data Management Bureau Traffic Monitoring Program
14599_NEG Weekly Volume Report - Mon 09/16/2019 - Sun 09/22/2019

Location ID:	14599_NEG	**Type:**	SPOT
Located On:	FL-4005-P		
Direction	NEG		
Community:		**Period:**	Mon 09/16/2019 - Sun 09/22/2019
AADT:	17322		

Start Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Avg
12:00 AM	207	217						212
1:00 AM	128	153						141
2:00 AM	99	133						116
3:00 AM	101	95						98
4:00 AM	120	101						111
5:00 AM	231	213						222
6:00 AM	501	555						528
7:00 AM	907	900						904
8:00 AM	920	902						911
9:00 AM	750	722						736
10:00 AM	714	694						704
11:00 AM	767	738						753
12:00 PM	937	864						901
1:00 PM	976	946						961
2:00 PM	1156	1088						1122
3:00 PM	1461	1573						1517
4:00 PM	1754	1864						1809
5:00 PM	1698	1768						1733
6:00 PM	1313	1539						1426
7:00 PM	1092	1298						1195
8:00 PM	1054	1044						1049
9:00 PM	680	856						768
10:00 PM	521	658						590
11:00 PM	334	412						373
Total	**18421**	**19333**	**0**	**0**	**0**	**0**	**0**	
24HrTotal	18421	19333						18877
AM Pk Hr	8:00	8:00						
AM Peak	920	902						911
PM Pk Hr	4:00	4:00						
PM Peak	1754	1864						1809
% Peak Hr	9.52%	9.64%						10.00%
% Peak Hr	9.52%	9.64%						9.58%

NMDOT - Data Management Bureau Traffic Monitoring Program
10151 Weekly Volume Report - Mon 09/16/2019 - Sun 09/22/2019

Location ID:	10151 ***I-40 EB OFF RAMP***	**Type:**	SPOT
Located On:	IX-40-P-153.0-A		
Direction	1-WAY		
Community:		**Period:**	Mon 09/16/2019 - Sun 09/22/2019
AADT:	1743		

Start Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Avg
12:00 AM	33	34						34
1:00 AM	28	38						33
2:00 AM	22	11						17
3:00 AM	29	23						26
4:00 AM	31	30						31
5:00 AM	29	41						35
6:00 AM	40	51						46
7:00 AM	69	62						66
8:00 AM	129	88						109
9:00 AM	97	94						96
10:00 AM	98	89						94
11:00 AM	74	73						74
12:00 PM	89	111						100
1:00 PM	96	109						103
2:00 PM	98	98						98
3:00 PM	133	131						132
4:00 PM	93	117						105
5:00 PM	109	137						123
6:00 PM	77	112						95
7:00 PM	51	101						76
8:00 PM	73	95						84
9:00 PM	51	65						58
10:00 PM	55	87						71
11:00 PM	26	73						50
Total	**1630**	**1870**	**0**	**0**	**0**	**0**	**0**	
24HrTotal	1630	1870						1750
AM Pk Hr	8:00	9:00						
AM Peak	129	94						112
PM Pk Hr	3:00	5:00						
PM Peak	133	137						135
% Peak Hr	8.16%	7.33%						7.50%
% Peak Hr	8.16%	7.33%						7.74%

NMDOT - Data Management Bureau Traffic Monitoring Program
10368 Weekly Volume Report - Mon 05/13/2019 - Sun 05/19/2019

Location ID:	10368 ***I-40 EB ON1 (S-E Loop)***	**Type:**	SPOT
Located On:	IX-40-P-153.0-G		
Direction	1-WAY		
Community:		**Period:**	Mon 05/13/2019 - Sun 05/19/2019
AADT:	1887		

Start Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Avg
12:00 AM	7	6						7
1:00 AM	1	1						1
2:00 AM	2	3						3
3:00 AM	10	10						10
4:00 AM	21	19						20
5:00 AM	89	82						86
6:00 AM	242	252						247
7:00 AM	299	313						306
8:00 AM	192	202						197
9:00 AM	101	111						106
10:00 AM	76	95						86
11:00 AM	82	64						73
12:00 PM	93	76						85
1:00 PM	80	89						85
2:00 PM	82	106						94
3:00 PM	86	85						86
4:00 PM	84	109						97
5:00 PM	83	96						90
6:00 PM	60	79						70
7:00 PM	105	90						98
8:00 PM	36	42						39
9:00 PM	94	70						82
10:00 PM	14	33						24
11:00 PM	6	9						8
Total	**1945**	**2042**	**0**	**0**	**0**	**0**	**0**	
24HrTotal	1945	2042						1994
AM Pk Hr	7:00	7:00						
AM Peak	299	313						306
PM Pk Hr	7:00	4:00						
PM Peak	105	109						107
% Peak Hr	15.37%	15.33%						15.00%
% Peak Hr	15.37%	15.33%						15.35%

NMDOT - Data Management Bureau Traffic Monitoring Program
10434 Weekly Volume Report - Mon 05/13/2019 - Sun 05/19/2019

Location ID:	10434 ***I-40 EB ON2 (N-E Ramp)***	**Type:**	SPOT
Located On:	IX-40-P-153.0-H		
Direction	1-WAY		
Community:		**Period:**	Mon 05/13/2019 - Sun 05/19/2019
AADT:	14816		

Start Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Avg
12:00 AM	122	72						97
1:00 AM	69	64						67
2:00 AM	59	60						60
3:00 AM	170	162						166
4:00 AM	275	283						279
5:00 AM	744	812						778
6:00 AM	1500	1537						1519
7:00 AM	1623	1610						1617
8:00 AM	1214	1251						1233
9:00 AM	910	921						916
10:00 AM	751	748						750
11:00 AM	817	713						765
12:00 PM	869	756						813
1:00 PM	934	768						851
2:00 PM	834	948						891
3:00 PM	767	861						814
4:00 PM	740	740						740
5:00 PM	754	819						787
6:00 PM	673	690						682
7:00 PM	531	580						556
8:00 PM	449	416						433
9:00 PM	364	404						384
10:00 PM	241	292						267
11:00 PM	189	177						183
Total	**15599**	**15684**	**0**	**0**	**0**	**0**	**0**	
24HrTotal	15599	15684						15642
AM Pk Hr	7:00	7:00						
AM Peak	1623	1610						1617
PM Pk Hr	1:00	2:00						
PM Peak	934	948						941
% Peak Hr	10.40%	10.27%						10.00%
% Peak Hr	10.40%	10.27%						10.33%

NMDOT - Data Management Bureau Traffic Monitoring Program
10817 Weekly Volume Report - Mon 05/13/2019 - Sun 05/19/2019

Location ID:	10817 ***I-40 WB ON (S-E + N-W)***	**Type:**	SPOT
Located On:	IX-40-P-153.0-T		
Direction	1-WAY		
Community:		**Period:**	Mon 05/13/2019 - Sun 05/19/2019
AADT:	1969		

Start Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Avg
12:00 AM	34	29						32
1:00 AM	40	20						30
2:00 AM	10	21						16
3:00 AM	45	25						35
4:00 AM	49	21						35
5:00 AM	64	47						56
6:00 AM	92	75						84
7:00 AM	111	126						119
8:00 AM	94	126						110
9:00 AM	118	110						114
10:00 AM	122	97						110
11:00 AM	123	126						125
12:00 PM	138	116						127
1:00 PM	113	126						120
2:00 PM	101	112						107
3:00 PM	132	133						133
4:00 PM	130	154						142
5:00 PM	115	142						129
6:00 PM	95	123						109
7:00 PM	94	78						86
8:00 PM	63	99						81
9:00 PM	46	66						56
10:00 PM	60	101						81
11:00 PM	40	58						49
Total	**2029**	**2131**	**0**	**0**	**0**	**0**	**0**	
24HrTotal	2029	2131						2080
AM Pk Hr	11:00	7:00						
AM Peak	123	126						125
PM Pk Hr	12:00	4:00						
PM Peak	138	154						146
% Peak Hr	6.80%	7.23%						7.00%
% Peak Hr	6.80%	7.23%						7.01%

NMDOT - Data Management Bureau Traffic Monitoring Program
10592 Weekly Volume Report - Mon 05/13/2019 - Sun 05/19/2019

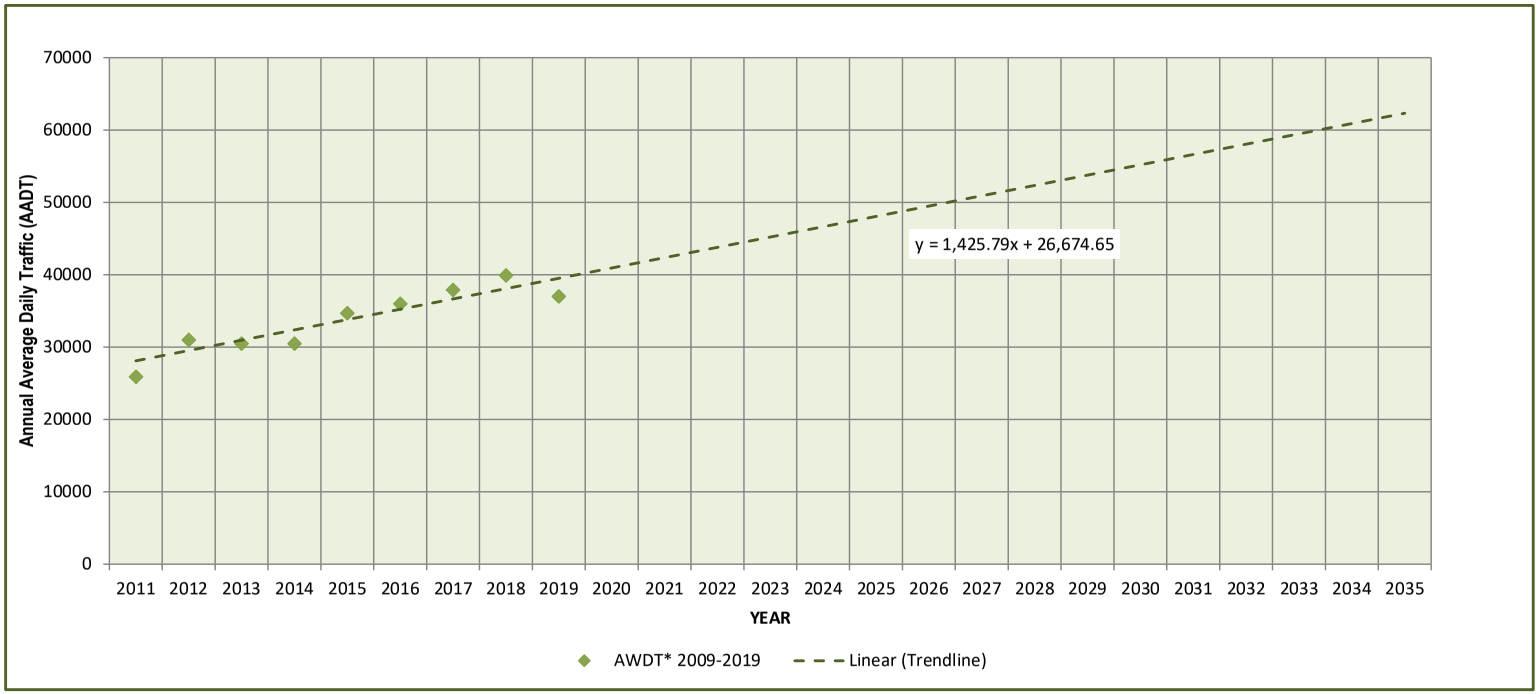
Location ID:	10592 ***I-40 WB OFF (W-S + W-N)***	**Type:**	SPOT
Located On:	IX-40-P-153.0-N		
Direction	1-WAY		
Community:		**Period:**	Mon 05/13/2019 - Sun 05/19/2019
AADT:	18015		

Start Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Avg
12:00 AM	233	213						223
1:00 AM	154	100						127
2:00 AM	74	96						85
3:00 AM	79	43						61
4:00 AM	80	77						79
5:00 AM	160	164						162
6:00 AM	389	384						387
7:00 AM	582	595						589
8:00 AM	616	632						624
9:00 AM	632	652						642
10:00 AM	722	612						667
11:00 AM	753	811						782
12:00 PM	955	919						937
1:00 PM	915	1036						976
2:00 PM	1210	1305						1258
3:00 PM	1765	1746						1756
4:00 PM	2165	2342						2254
5:00 PM	2208	2275						2242
6:00 PM	1695	1568						1632
7:00 PM	1406	1269						1338
8:00 PM	890	938						914
9:00 PM	493	550						522
10:00 PM	464	429						447
11:00 PM	313	329						321
Total	**18953**	**19085**	**0**	**0**	**0**	**0**	**0**	
24HrTotal	18953	19085						19019
AM Pk Hr	11:00	11:00						
AM Peak	753	811						782
PM Pk Hr	5:00	4:00						
PM Peak	2208	2342						2275
% Peak Hr	11.65%	12.27%						12.00%
% Peak Hr	11.65%	12.27%						11.96%

PROJECT: 98th & Bluewater TIS

Background Traffic Projection - 98th St. from Central to Avalon

YEAR	AWDT* 2009-2019	TRENDLINE	
2009	26621	*25249*	
2010	26222	*26675*	
2011	25881	*28100*	
2012	30989	*29526*	
2013	30493	*30952*	
2014	30493	*32378*	
2015	34670	*33804*	
2016	35987	*35229*	
2017	37900	*36655*	
2018	39900	*38081*	
2019	37000	*39507*	
2020		*40933*	
2021		*42358*	
2022		*43784*	
2023		*45210*	
2024		*46636*	
2025		*48062*	
2026		*49487*	
2027		*50913*	
2028		*52339*	
2029		*53765*	
2030		*55190*	
2031		*56616*	
2032		*58042*	
2033		*59468*	
2034		*60894*	
2035		*62319*	
	10379	37071	growth
	1037.90	1425.79	rate



G_1 = 3.35% 2009-2019 AADT compounded annual rate

G_2 = *4.58% 2009-2019 Trendline compounded annual rate*

G_3 = 1.02% 2010-2035 UNM/BBER population projection for Bernalillo County

Use 3% / year traffic growth rate for 98th St.

GF_4= 1.13 Growth Factor to Year 2025

GF_{14}= 1.51 Growth Factor to Year 2035

Comments:

High growth rate may not be sustainable over forecast period; limited developable land S. of Central Ave., but more developable land is available W. of 98th St.

Source(s):

2009-2016 = MRCOG Transportation Analysis and Querying Application (TAQA) via www.taqa.mrcog-nm.gov/taqa/

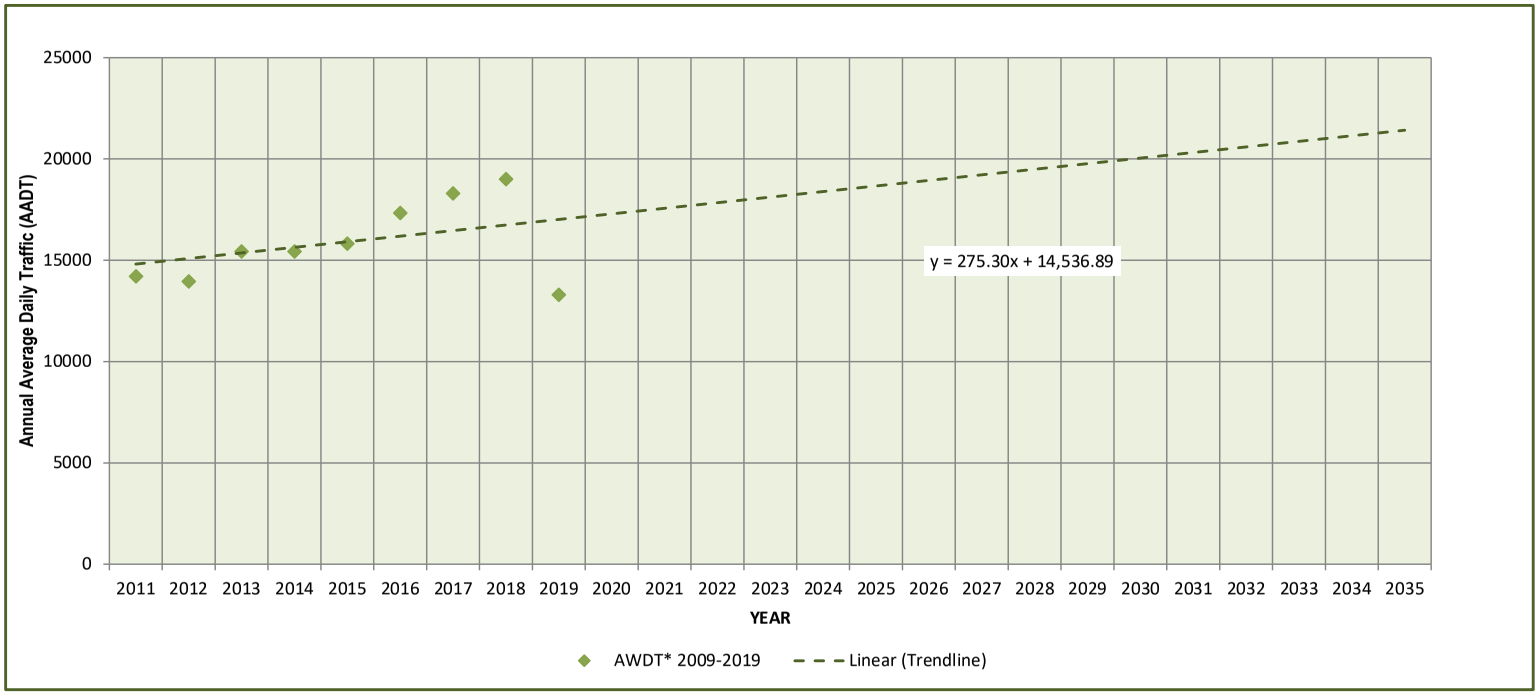
2007-2019 = "MRCOG Traffic Flows for the Greater Albuquerque Area"

(98th St., COGID #25764)

PROJECT: 98th & Bluewater TIS

Background Traffic Projection - Central Ave. East of 98th St.

YEAR	AWDT* 2009-2019	TRENDLINE	
2009	14725	*14262*	
2010	14504	*14537*	
2011	14200	*14812*	
2012	13959	*15087*	
2013	15439	*15363*	
2014	15439	*15638*	
2015	15825	*15913*	
2016	17328	*16189*	
2017	18300	*16464*	
2018	19000	*16739*	
2019	13300	*17015*	
2020		*17290*	
2021		*17565*	
2022		*17840*	
2023		*18116*	
2024		*18391*	
2025		*18666*	
2026		*18942*	
2027		*19217*	
2028		*19492*	
2029		*19768*	
2030		*20043*	
2031		*20318*	
2032		*20593*	
2033		*20869*	
2034		*21144*	
2035		*21419*	
	-1425	7158	growth
	-142.50	823.82	rate



G_1 = -1.01% 2009-2019 AADT compounded annual rate

G_2 = *1.78% 2009-2019 Trendline compounded annual rate*

G_3 = 1.02% 2010-2035 UNM/BBER population projection for Bernalillo County

Use 1% / year traffic growth rate for Central Ave.

GF_4= 1.04 Growth Factor to Year 2025

GF_{14}= 1.15 Growth Factor to Year 2035

Comments:

Low-moderate growth; developable land available along Central Ave. and Bridge Blvd.

Source(s):

2009-2016 = MRCOG Transportation Analysis and Querying Application (TAQA) via www.taqa.mrcog-nm.gov/taqa/

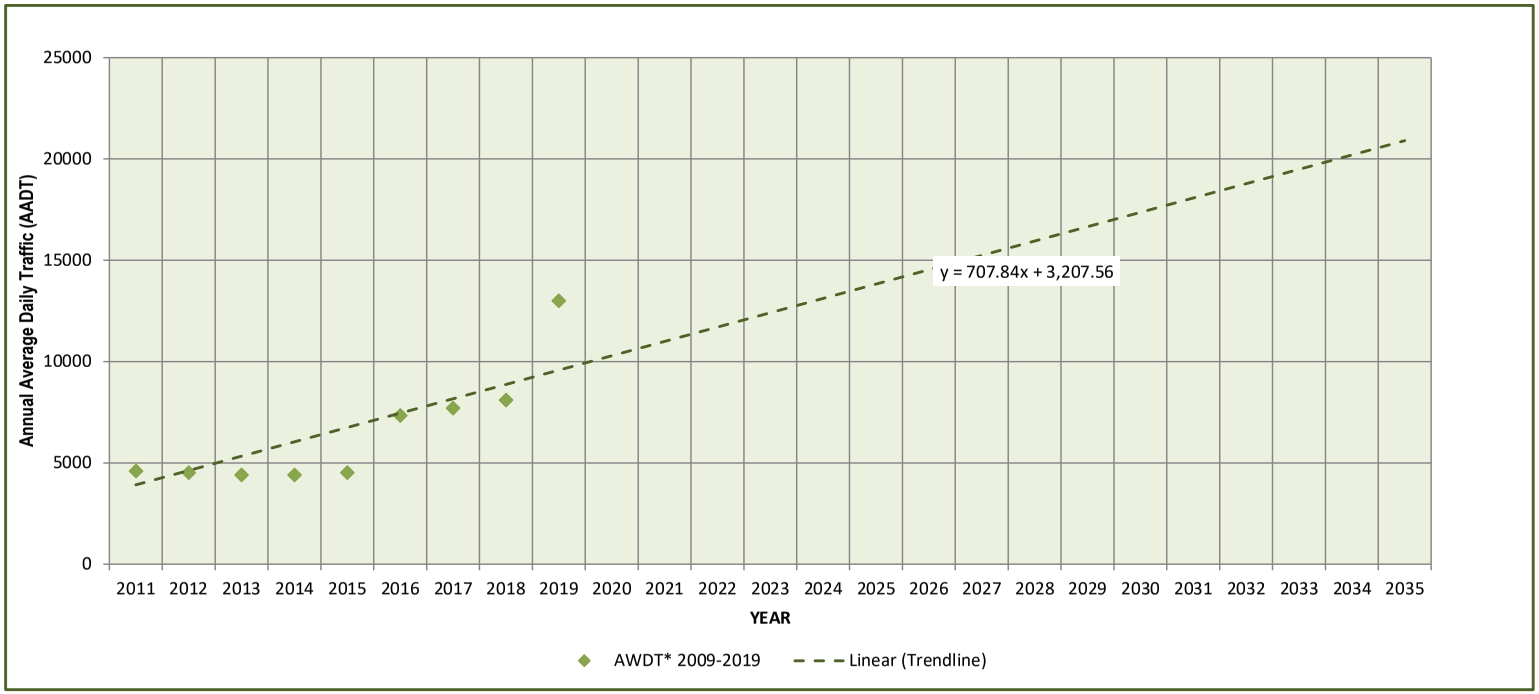
2007-2019 = "MRCOG Traffic Flows for the Greater Albuquerque Area"

(98th St., COGID #25764)

PROJECT: 98th & Bluewater TIS

Background Traffic Projection - Bluewater West of Unser

YEAR	AWDT* 2009-2019	TRENDLINE	
2009	3187	*2500*	
2010	4660	*3208*	
2011	4599	*3915*	
2012	4521	*4623*	
2013	4406	*5331*	
2014	4406	*6039*	
2015	4516	*6747*	
2016	7333	*7455*	
2017	7700	*8162*	
2018	8100	*8870*	
2019	13000	*9578*	
2020		*10286*	
2021		*10994*	
2022		*11702*	
2023		*12409*	
2024		*13117*	
2025		*13825*	
2026		*14533*	
2027		*15241*	
2028		*15949*	
2029		*16656*	
2030		*17364*	
2031		*18072*	
2032		*18780*	
2033		*19488*	
2034		*20196*	
2035		*20903*	
	9813	18404	growth
	981.30	803.98	rate



G_1 = 15.09% 2009-2019 AADT compounded annual rate

G_2 = *14.38% 2009-2019 Trendline compounded annual rate*

G_3 = 1.02% 2010-2035 UNM/BBER population projection for Bernalillo County

Use 0.5% / year traffic growth rate for Bluewater S

GF_4= 1.02 Growth Factor to Year 2025

GF_{14}= 1.07 Growth Factor to Year 2035

Comments:

Mostly built-out; add estimated trips from Westpointe TIS to account for growth.

Source(s):

2009-2016 = MRCOG Transportation Analysis and Querying Application (TAQA) via www.taqa.mrcog-nm.gov/taqa/

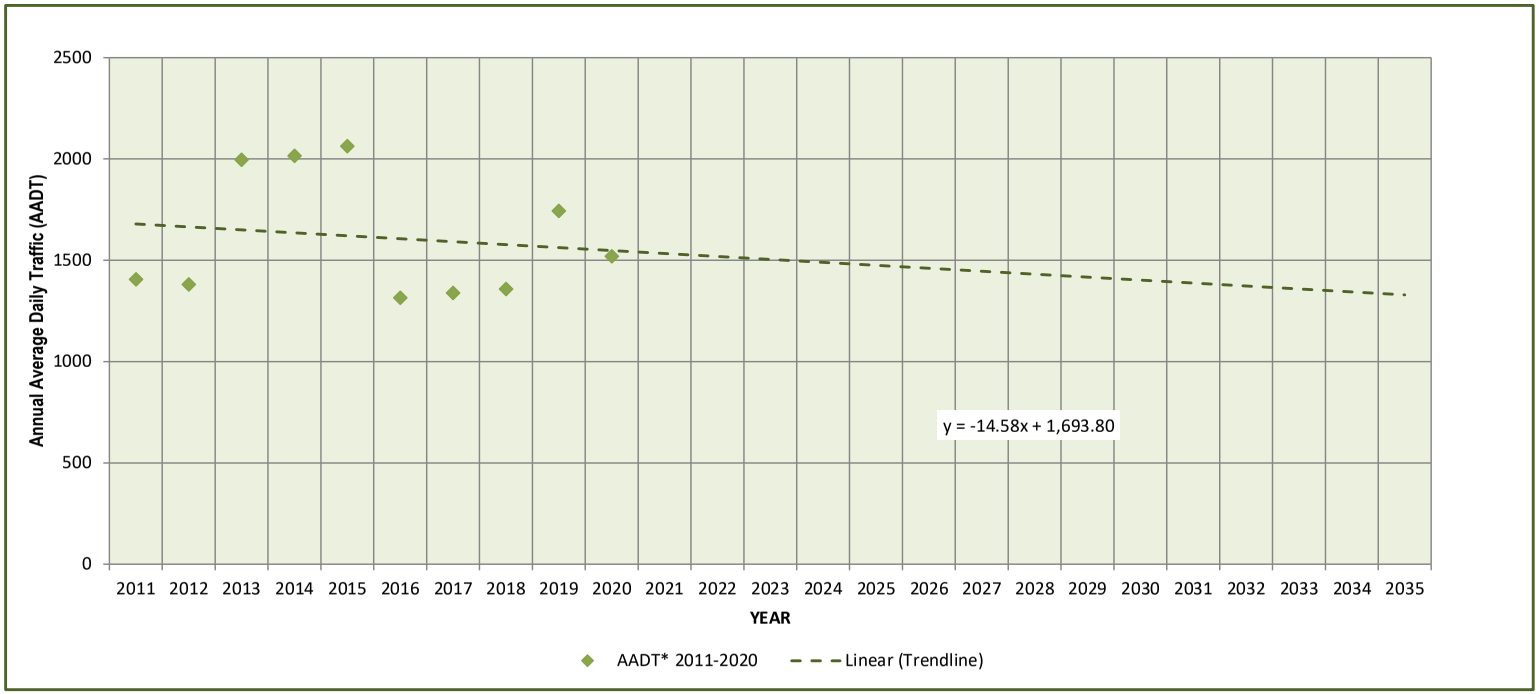
2007-2019 = "MRCOG Traffic Flows for the Greater Albuquerque Area"

(Bluewater St., COGID #24714)

PROJECT: 98th & Bluewater TIS

Background Traffic Projection - I40 EB Off Ramp

YEAR	AADT* 2011-2020	TRENDLINE	
2009			
2010			
2011	1406	*1679*	
2012	1381	*1665*	
2013	1996	*1650*	
2014	2015	*1635*	
2015	2063	*1621*	
2016	1315	*1606*	
2017	1339	*1592*	
2018	1358	*1577*	
2019	1743	*1563*	
2020	1520	*1548*	
2021		*1533*	
2022		*1519*	
2023		*1504*	
2024		*1490*	
2025		*1475*	
2026		*1460*	
2027		*1446*	
2028		*1431*	
2029		*1417*	
2030		*1402*	
2031		*1388*	
2032		*1373*	
2033		*1358*	
2034		*1344*	
2035		*1329*	
	114	-350	growth
	12.67	-14.58	rate



G_1 = 0.87% 2009-2019 AADT compounded annual rate

G_2 = *-0.90% 2009-2019 Trendline compounded annual rate*

G_3 = 1.02% 2010-2035 UNM/BBER population projection for Bernalillo County

Use 1% / year traffic growth rate for I40 EB Off

GF_4= 1.04 Growth Factor to Year 2025

GF_{14}= 1.15 Growth Factor to Year 2035

Comments:

Growth potential N. of I40, W. of 98th.

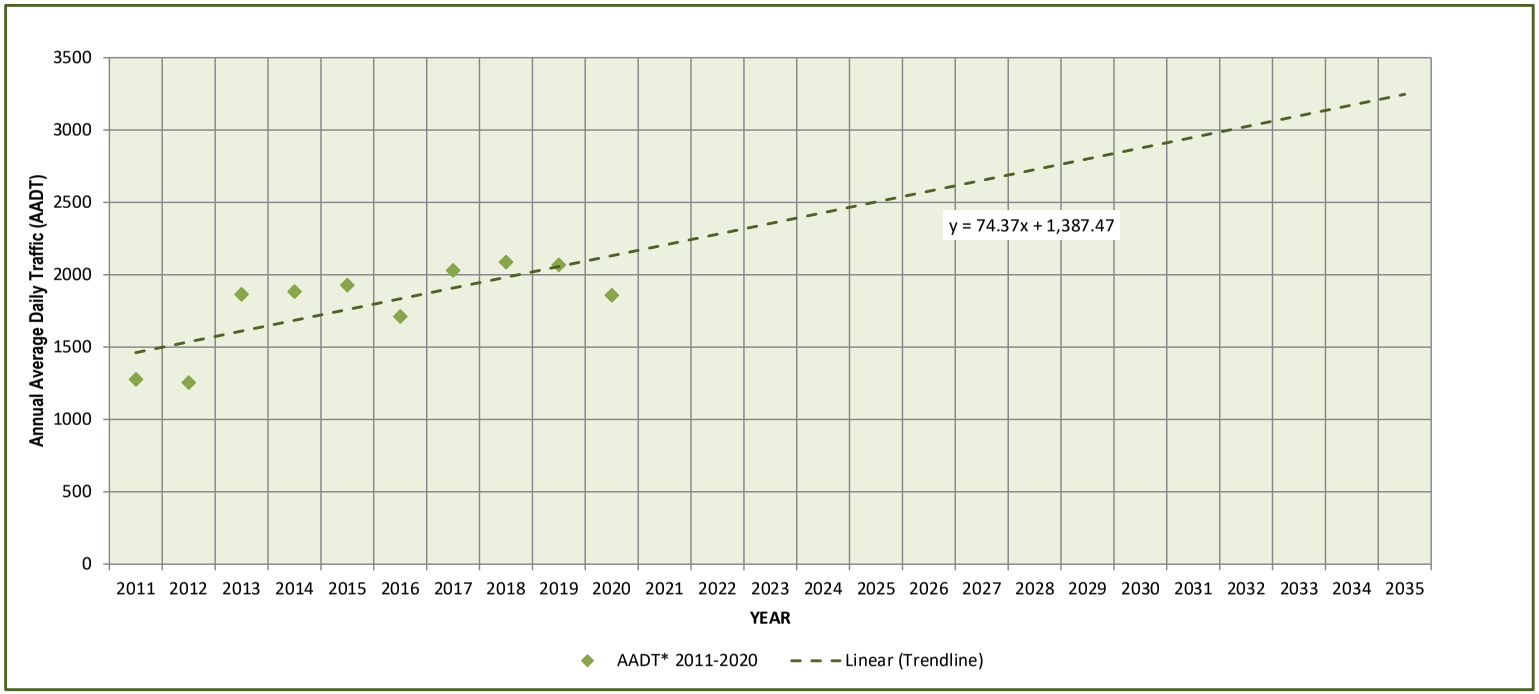
Source:

2011-2020 = NMDOT Traffic Monitoring Program: "AADT and AADT Trucks by Year"
accessed via *https://nmdot.public.ms2soft.com/tcds/tsearch.asp?loc=nmdot*
(LRS ID IX40P153.0A, Location ID #10151)

PROJECT: 98th & Bluewater TIS

Background Traffic Projection - I40 EB1 ON Ramp (S-E Loop)

YEAR	AADT* 2011-2020	TRENDLINE	
2009			
2010			
2011	1277	*1462*	
2012	1255	*1536*	
2013	1865	*1611*	
2014	1883	*1685*	
2015	1928	*1759*	
2016	1712	*1834*	
2017	2030	*1908*	
2018	2087	*1982*	
2019	2069	*2057*	
2020	1859	*2131*	
2021		*2206*	
2022		*2280*	
2023		*2354*	
2024		*2429*	
2025		*2503*	
2026		*2577*	
2027		*2652*	
2028		*2726*	
2029		*2800*	
2030		*2875*	
2031		*2949*	
2032		*3024*	
2033		*3098*	
2034		*3172*	
2035		*3247*	
	582	1785	growth
	64.67	74.37	rate



G_1 = 4.26% 2009-2019 AADT compounded annual rate

G_2 = *4.28% 2009-2019 Trendline compounded annual rate*

G_3 = 1.02% 2010-2035 UNM/BBER population projection for Bernalillo County

Use 4% / year traffic growth rate for I40 EB1 ON

GF_4= 1.17 Growth Factor to Year 2025

GF_{14}= 1.73 Growth Factor to Year 2035

Comments:

High growth + developable land north of I40.

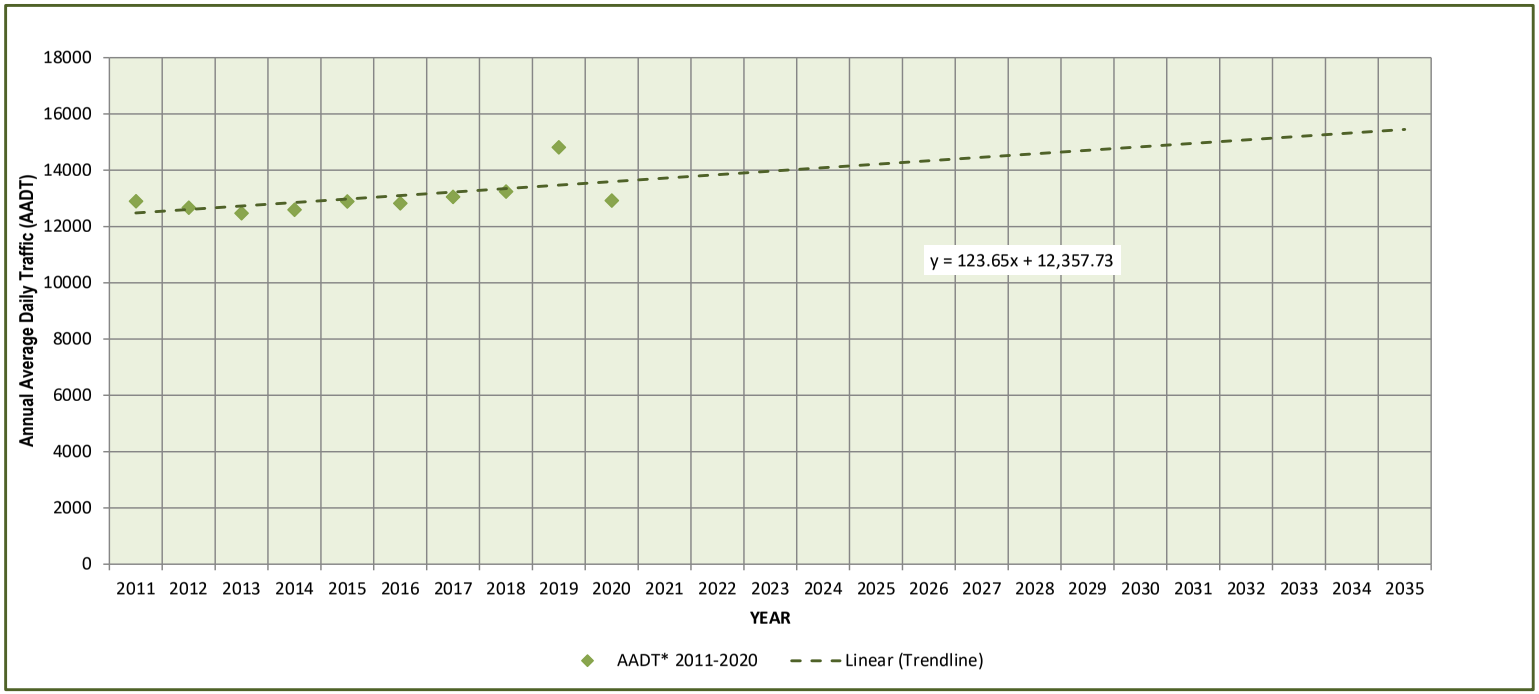
**Source:*

2011-2020 = NMDOT Traffic Monitoring Program: "AADT and AADT Trucks by Year"
accessed via *https://nmdot.public.ms2soft.com/tcds/tsearch.asp?loc=nmdot*
(LRS ID IX40P153.0G, Location ID #10368)

PROJECT: 98th & Bluewater TIS

Background Traffic Projection - I40 EB2 ON Ramp (N-E)

YEAR	AADT* 2011-2020	TRENDLINE	
2009			
2010			
2011	12896	*12481*	
2012	12669	*12605*	
2013	12472	*12729*	
2014	12593	*12852*	
2015	12892	*12976*	
2016	12825	*13100*	
2017	13056	*13223*	
2018	13239	*13347*	
2019	14816	*13471*	
2020	12920	*13594*	
2021		*13718*	
2022		*13842*	
2023		*13965*	
2024		*14089*	
2025		*14212*	
2026		*14336*	
2027		*14460*	
2028		*14583*	
2029		*14707*	
2030		*14831*	
2031		*14954*	
2032		*15078*	
2033		*15202*	
2034		*15325*	
2035		*15449*	
	24	2968	growth
	2.67	123.65	rate



G_1 = 0.02% 2009-2019 AADT compounded annual rate

G_2 = *0.95% 2009-2019 Trendline compounded annual rate*

G_3 = 1.02% 2010-2035 UNM/BBER population projection for Bernalillo County

Use 1% / year traffic growth rate for I40 EB2 ON **GF_4= 1.04 Growth Factor to Year 2025**

Comments: **GF_{14}= 1.15 Growth Factor to Year 2035**

Limited developable land S. of Central Ave., but more developable land available W. of 98th St.

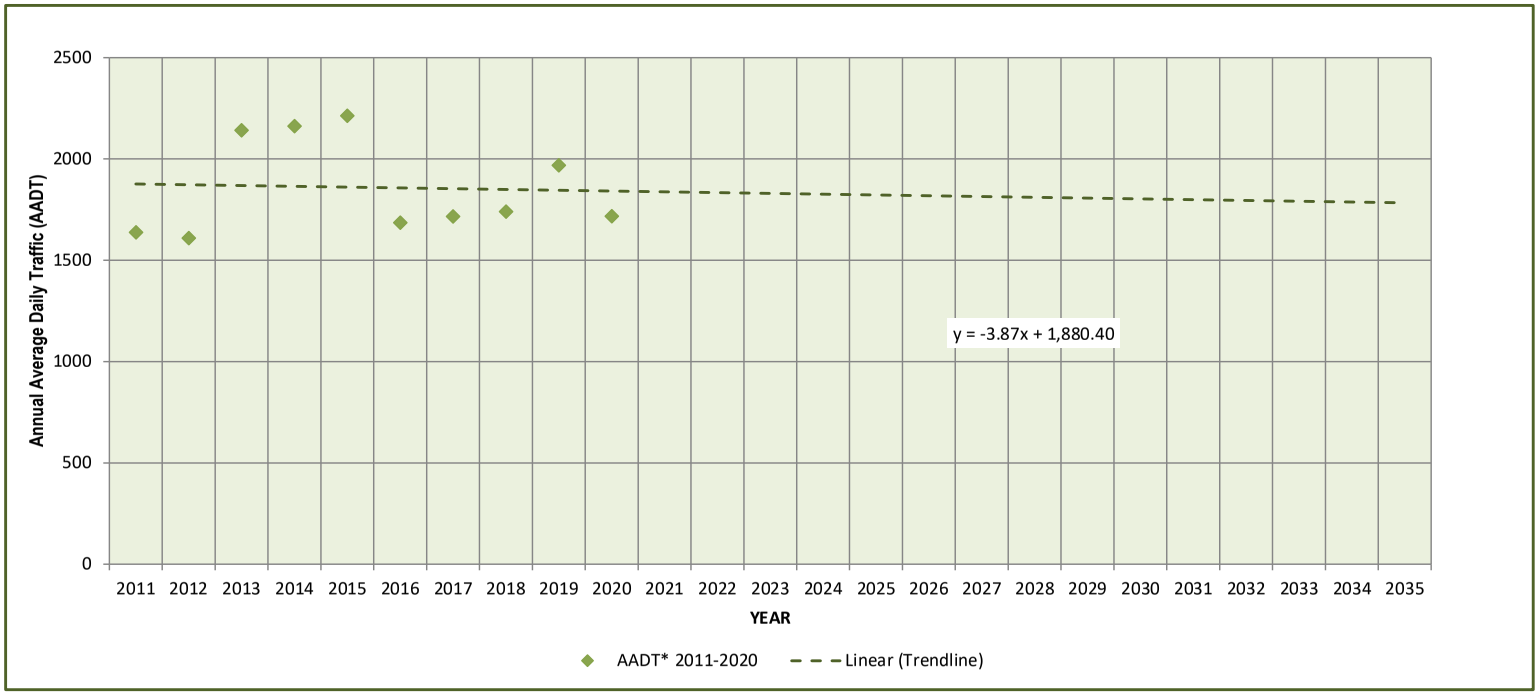
Source:

2011-2020 = NMDOT Traffic Monitoring Program: "AADT and AADT Trucks by Year"
accessed via *https://nmdot.public.ms2soft.com/tcds/tsearch.asp?loc=nmdot*
(LRS ID IX40P153.0H, Location ID #10434)

PROJECT: 98th & Bluewater TIS

Background Traffic Projection - I40 WB2 ON Ramp (N-W + S-W)

YEAR	AADT* 2011-2020	TRENDLINE	
2009			
2010			
2011	1638	*1877*	
2012	1609	*1873*	
2013	2141	*1869*	
2014	2162	*1865*	
2015	2213	*1861*	
2016	1686	*1857*	
2017	1716	*1853*	
2018	1740	*1849*	
2019	1969	*1846*	
2020	1717	*1842*	
2021		*1838*	
2022		*1834*	
2023		*1830*	
2024		*1826*	
2025		*1822*	
2026		*1818*	
2027		*1815*	
2028		*1811*	
2029		*1807*	
2030		*1803*	
2031		*1799*	
2032		*1795*	
2033		*1791*	
2034		*1787*	
2035		*1784*	
	79	-93	growth
	8.78	-3.87	rate



G_1 = 0.52% 2009-2019 AADT compounded annual rate

G_2 = *-0.21% 2009-2019 Trendline compounded annual rate*

G_3 = 1.02% 2010-2035 UNM/BBER population projection for Bernalillo County

Use 1% / year traffic growth rate for I40 WB ON **GF_4= 1.04 Growth Factor to Year 2025**

Comments: **GF_{14}= 1.15 Growth Factor to Year 2035**

Developable land available north of I40, new employers at Atrisco Vista.

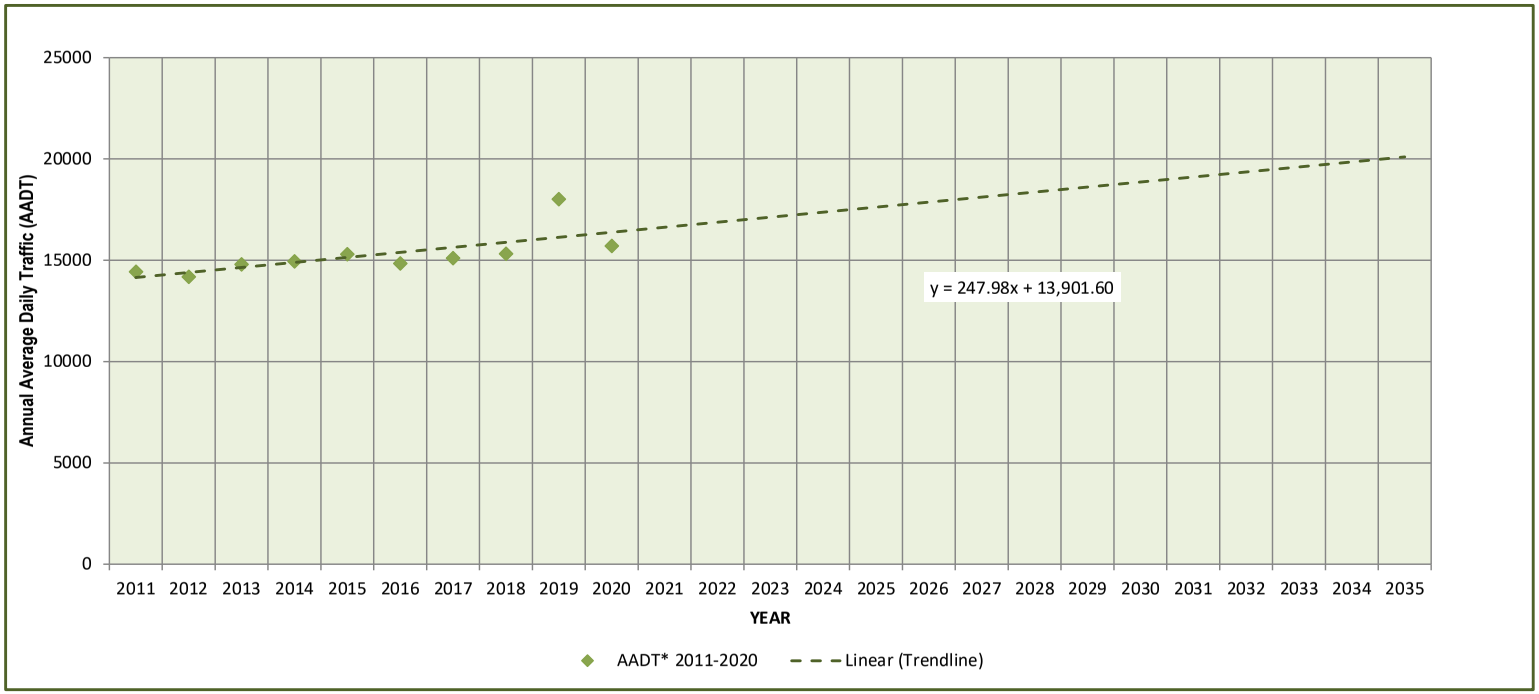
Source:

2011-2020 = NMDOT Traffic Monitoring Program: "AADT and AADT Trucks by Year"
accessed via *https://nmdot.public.ms2soft.com/tcds/tsearch.asp?loc=nmdot*
(LRS ID IX40P153.0T, Location ID #10817)

PROJECT: 98th & Bluewater TIS

Background Traffic Projection - I40 WB Off Ramp

YEAR	AADT* 2011-2020	TRENDLINE	
2009			
2010			
2011	14438	*14150*	
2012	14184	*14398*	
2013	14798	*14646*	
2014	14942	*14894*	
2015	15297	*15142*	
2016	14842	*15389*	
2017	15109	*15637*	
2018	15321	*15885*	
2019	18015	*16133*	
2020	15709	*16381*	
2021		*16629*	
2022		*16877*	
2023		*17125*	
2024		*17373*	
2025		*17621*	
2026		*17869*	
2027		*18117*	
2028		*18365*	
2029		*18613*	
2030		*18861*	
2031		*19109*	
2032		*19357*	
2033		*19605*	
2034		*19853*	
2035		*20101*	
	1271	5952	growth
	141.22	247.98	rate



G_1 = 0.94% 2009-2019 AADT compounded annual rate

G_2 = *1.64% 2009-2019 Trendline compounded annual rate*

G_3 = 1.02% 2010-2035 UNM/BBER population projection for Bernalillo County

Use 1.5% / year traffic growth rate for I40 WB Off

GF_4= 1.06 Growth Factor to Year 2025

GF_{14}= 1.23 Growth Factor to Year 2035

Comments:

Growth potential N. of I40, W. of 98th.

Source:

2011-2020 = NMDOT Traffic Monitoring Program: "AADT and AADT Trucks by Year"
accessed via *https://nmdot.public.ms2soft.com/tcds/tsearch.asp?loc=nmdot*
(LRS ID IX40P153.0N, Location ID #10592)

Intersection No.:	369
Intersection Name:	CENTRAL - 98TH
Revision Date	3/21/2018

Centrac
1

Timing Data

Phase I.D.:	1	2	3	4	5	6	7	8
Phase Dir.:	W-S	EB	S-E	NB	E-N	WB	N-W	SB
Min Grn	3	16	3	16	3	16	3	16
Walk:	0	7	0	7	0	7	0	7
Ped Clr:	0	20	0	23	0	20	0	22
Veh Ext:	1.5	3.0	1.5	2.0	1.5	3.0	1.5	2.0
Veh Ext2:	1.5	3.0	1.5	2.0	1.5	3.0	1.5	2.0
Max 1:	18	28	16	42	16	28	16	42
Max 2:	28	24	16	48	25	24	16	48
Max 3:								
Yellow:	3.5	6.0	3.5	4.5	3.5	6.0	3.5	4.5
Red Clr	1.0	1.0	1.0	1.5	1.0	1.0	1.0	1.5

Recall Data

Locking Memory:								
Vehicle Recall:								
Ped Recall:								
Recall To Max:		X		X		X		X

Flash Mode:	ALL RED
Start Up Mode:	ALL RED
Time:	8 SEC.
First Phases:	4 & 8
Start In:	GREEN
Overlap Phases:	

Overlap	Par Ph	Grn	Yel	Red
A				
B				
C				
D				

NOTES:

1. Timings copied from controller, 12/27/89.
2. At this time ther is no detection.
3. Controller to P cab and Eagle EPAC 300 Controller, 3/14/89.
4. Wiring problem with Ped Buttons repaired, 12/28/89.
5. Added 1 sec. all red for both phases, 12/28/89, lowered phase 4 max green to 24 sec ., 12/28/89.
6. Revised clearance intervals, 12/28/90.
7. Changed from a 2 phase to 4 phase intersection. Changed flash mode start up to

ALL RED, and start in green, 4/3/98.
8. Phases 3 and 7 were added due to upgrades on 98th from Central to Sage, 9/6/02.
9. Phases 1 and 5 were added in order to make intersection 8 phase, 11/5/02.
10. Timing sheet updated, MAX II time start at 6:30 - 8:30 am Phase 2 & 6 changed to to 24 sec.Phases 4 & 8 changed to 42 sec., 11/12/03.
11. TOD Step 1 start at 6:30 am MAX II 2,4,6,8. Step 2 start 8:45 am off Step 3 start at 3:00 pm MAX II 1,2,4,6,8 Step 4 start at 6:30 pm MAX II off 12/9/08.
12. Clearance intervals updated to NMDOT standard by BB, 10/3/13.
13. No longer need step 11. No TOD needed.
14. Timing sheet revised to new version of timing sheet, 8/29/16.
15. New Coordination Patterns implemented 10-2016, Lee Engineering.
16. New Day Plan and MAX2 implemented 12-27-2016, Lee Engineering.
17. Changed start up phases to North and South. 3/21/18 A.F.
18. Found typo. A.F. 9/14/20

ASC3 COORDINATION PLAN DATA

369 - Central Ave & 98th St

COORDINATOR OPTIONS (MM 3-1)

MANUAL PATTERN	AUTO	ECPI COORD	YES
SYSTEM SOURCE	SYS	SYSTEM FORMAT	PTN
SPLITS IN	PERCENT	OFFSET IN	PERCENT
TRANSITION	SMOOTH	MAX SELECT	MAXINH
DWELL/ADD TIME	0	ENABLE MAN SYNC	NO
DLY COORD WK-LZ	NO	FORCE OFF	FLOAT
OFFSET REF	LEAD	CAL USE PED TM	NO
PED RECALL	NO	PED RESERVE	YES
LOCAL ZERO OVRD	NO	FO ADD INI GRN	NO
RE-SYNC COUNT	0	MULTISYNC	NO

COORDINATION PATTERN 21 (MM 3-2)

USE SPLIT PATTERN	21	SPLIT SUM	100%	AM
TS2 (PAT-OFF)	0-1			
CYCLE	130	STD (COS)	111	
OFFSET VAL	30%	39.00		
ACTUATED COORD	YES	TIMING PLAN	0	
ACT WALK REST	NO	SEQUENCE	0	
PHASE RESRVCE	NO	ACTION PLAN	0	
MAX SELECT	MAX2	FORCE OFF	FLOAT	

PHASE	1	2	3	4	5	6	7	8
DIRECTION	W-S	EB	S-E	NB	E-N	WB	N-W	SB
SPLITS	12	31	9	48	17	26	9	48
	15.6	40.3	11.7	62.4	22.1	33.8	11.7	62.4

PHASE	1	2	3	4	5	6	7	8
COORD PHASE				X				X
VEH RECALL								
MAX RECALL		X		X		X		X

COORDINATION PATTERN 23

USE SPLIT PATTERN	23	SPLIT SUM	100%
TS2 (PAT-OFF)	0-3		
CYCLE	110s	STD (COS)	131
OFFSET VAL	22%		
ACTUATED COORD	YES	TIMING PLAN	0
ACT WALK REST	NO	SEQUENCE	0
PHASE RESRVCE	NO	ACTION PLAN	0

PHASE	1	2	3	4	5	6	7	8
DIRECTION	W-S	EB	S-E	NB	E-N	WB	N-W	SB
SPLITS	21	31	12	36	15	37	12	36

PHASE	1	2	3	4	5	6	7	8
COORD PHASE				X				X
VEH RECALL								
MAX RECALL		X		X		X		X

ASC3 COORDINATION PLAN DATA

COORDINATION PATTERN 25

USE SPLIT PATTERN	25	SPLIT SUM	100%	PM
TS2 (PAT-OFF)	0-5			
CYCLE	110	STD (COS)	151	
OFFSET VAL	18%	19.80		
ACTUATED COORD	YES	TIMING PLAN	0	
ACT WALK REST	NO	SEQUENCE	0	
PHASE RESRVCE	NO	ACTION PLAN	0	

PHASE	1	2	3	4	5	6	7	8
DIRECTION	W-S	EB	S-E	NB	E-N	WB	N-W	SB
SPLITS	16	31	12	41	16	31	12	41
	17.6	34.1	13.2	45.1	17.6	34.1	13.2	45.1
PHASE	1	2	3	4	5	6	7	8
COORD PHASE				X				X
VEH RECALL								
MAX RECALL		X		X		X		X

CLOCK / CALENDAR DATA (MM 5-1)

CURRENT DATE	CURRENT DOW	CURRENT TOD	
ENA ACTION PLAN	0		
SYNC REF TIME	03:30	SYNC REF	REF TIME
TIME FROM GMT	+00	DAY LIGHT SAVE	NO
TIME RESET INPUT SET TIME		3:30:00	

ACTION PLAN 21 (MM 5-2)

PATTERN	21	SYS OVERRIDE	NO
TIMING PLAN	0	SEQUENCE	0
VEHICLE DETECTOR PLAN	0.00	DET LOG	NONE
FLASH	--	RED REST	NO
VEH DET DIAG PLN	0	PED DET DIAG PLN	0
DIMMING ENABLE	NO		

ACTION PLAN 23

PATTERN	23	SYS OVERRIDE	NO
TIMING PLAN	0	SEQUENCE	0
VEHICLE DETECTOR PLAN	0.00	DET LOG	NONE
FLASH	--	RED REST	NO
VEH DET DIAG PLN	0	PED DET DIAG PLN	0
DIMMING ENABLE	NO		

ACTION PLAN 25

PATTERN	25	SYS OVERRIDE	NO
TIMING PLAN	0	SEQUENCE	0
VEHICLE DETECTOR PLAN	0.00	DET LOG	NONE
FLASH	--	RED REST	NO
VEH DET DIAG PLN	0	PED DET DIAG PLN	0
DIMMING ENABLE	NO		

ASC3 COORDINATION PLAN DATA

ACTION PLAN 100

PATTERN	254	SYS OVERRIDE	NO
TIMING PLAN	0	SEQUENCE	0
VEHICLE DETECTOR PLAN	0.00	DET LOG	NONE
FLASH	--	RED REST	NO
VEH DET DIAG PLN	0	PED DET DIAG PLN	0
DIMMING ENABLE	NO		

DAY PLAN/EVENT 1 (MM 5-3)

EVENT	ACTION PLAN	START TIME
1	23	10:00
2	100	19:00
3	0	00:00

DAY PLAN/EVENT 2

EVENT	ACTION PLAN	START TIME	
1	21	6:00	AM
2	23	9:00	
3	25	14:30	PM
4	23	19:00	
5	100	22:00	
6	0	00:00	
7	0	00:00	

DAY PLAN/EVENT 3

EVENT	ACTION PLAN	START TIME
1	23	8:00
2	100	21:00
3	0	00:00

SCHEDULE NUMBER 1 (MM 5-4)

SCHEDULE NUMBER	1	
DAY PLAN NO	1	CLEAR ALL FIELDS

SELECT ALL MONTHS DOW DOM

MONTH	J	F	M	A	M	J	J	A	S	O	N	D
	X	X	X	X	X	X	X	X	X	X	X	X

DAY(DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X	.	.	.	.	.	.

DAY(DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

ASC3 COORDINATION PLAN DATA

SCHEDULE NUMBER 2

SCHEDULE NUMBER			2									
DAY PLAN NO			2	CLEAR ALL FIELDS								
SELECT ALL MONTHS					DOW		DOM					
MONTH	J	F	M	A	M	J	J	A	S	O	N	D
	X	X	X	X	X	X	X	X	X	X	X	X
DAY(DOW)	SUN	MON	TUE	WED	THU	FRI	SAT					
	.	X	X	X	X	X	.					
DAY(DOM)	1	2	3	4	5	6	7	8	9	10	11	
	X	X	X	X	X	X	X	X	X	X	X	
	12	13	14	15	16	17	18	19	20	21	22	
	X	X	X	X	X	X	X	X	X	X	X	
	23	24	25	26	27	28	29	30	31			
	X	X	X	X	X	X	X	X	X			

SCHEDULE NUMBER 3

SCHEDULE NUMBER			3									
DAY PLAN NO			3	CLEAR ALL FIELDS								
SELECT ALL MONTHS					DOW		DOM					
MONTH	J	F	M	A	M	J	J	A	S	O	N	D
	X	X	X	X	X	X	X	X	X	X	X	X
DAY(DOW)	SUN	MON	TUE	WED	THU	FRI	SAT					
	.	.	.	.	.	.	X					
DAY(DOM)	1	2	3	4	5	6	7	8	9	10	11	
	X	X	X	X	X	X	X	X	X	X	X	
	12	13	14	15	16	17	18	19	20	21	22	
	X	X	X	X	X	X	X	X	X	X	X	
	23	24	25	26	27	28	29	30	31			
	X	X	X	X	X	X	X	X	X			

NOTES:

1. Coord sheet created for ASC3 by BB, 11/1/13.
2. Coordination sheet updated to ASC3 form 11/4/2013.
3. New Coordination Patterns implemented 10-2016, Lee Engineering.
4. New Day Plan and Pattern 21 (Max Select - Max2 & Float) implemented 12-27-2016, Lee Engineering.

Intersection No.: 305

CENTRAC
1

Intersection Name: AVALON - 98TH

Revision Date 11/20/2020

Timing Data

Phase I.D.:	1	2	3	4	5	6	7	8
Phase Dir.:	W-S	EB	S-E	NB	E-N	WB	N-W	SB
Min Grn	3	10	3	20	3	10	3	20
Walk:		7		7		7		7
Ped Clr:		32		25		35		28
Veh Ext:	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Veh Ext2:								
Max 1:	20	30	20	40	20	30	20	40
Max 2:								
Max 3:								
Yellow:	3.0	3.0	3.0	4.5	3.0	3.0	3.0	4.5
Red Clr	0.5	2.0	0.5	1.5	0.5	2.0	0.5	1.5

Recall Data

Locking Memory:								
Vehicle Recall:								
Ped Recall:								
Recall To Max:				X				X

Flash Mode: ALL RED

Start Up Mode: ALL RED
Time: 8 SEC.
First Phases: 4 & 8
Start In: GREEN

Overlap Phases:

NOTES: 1. Timings provided by Lee Engineering following intersection modifications 11/20/2020

ASC3 COORDINATION PLAN DATA

305 - 98th St & Avalon Rd

COORDINATOR OPTIONS (MM 3-1)

MANUAL PATTERN	AUTO	ECPI COORD	YES
SYSTEM SOURCE	SYS	SYSTEM FORMAT	PTN
SPLITS IN	PERCENT	OFFSET IN	PERCENT
TRANSITION	SMOOTH	MAX SELECT	MAXINH
DWELL/ADD TIME	0	ENABLE MAN SYNC	NO
DLY COORD WK-LZ	NO	FORCE OFF	FIXED
OFFSET REF	LEAD	CAL USE PED TM	NO
PED RECALL	NO	PED RESERVE	YES
LOCAL ZERO OVRD	NO	FO ADD INI GRN	NO
RE-SYNC COUNT	0	MULTISYNC	NO

COORDINATION PATTERN 21 (MM 3-2)

USE SPLIT PATTERN	21	SPLIT SUM	100%	AM
TS2 (PAT-OFF)	0-1			
CYCLE	130.00	STD (COS)	111	
OFFSET VAL	75%	98		
ACTUATED COORD	YES	TIMING PLAN	0	
ACT WALK REST	NO	SEQUENCE	5	
PHASE RESRVCE	NO	ACTION PLAN	0	

PHASE	1	2	3	4	5	6	7	8
DIRECTION	W-S	EB	S-E	NB	E-N	WB	N-W	SB
SPLITS	12	34	12	42	12	34	12	42
	15.6	44.2	15.6	54.6	15.6	44.2	15.6	54.6

PHASE	1	2	3	4	5	6	7	8
COORD PHASE				X				X
VEH RECALL								
MAX RECALL				X				X

COORDINATION PATTERN 23

USE SPLIT PATTERN	23	SPLIT SUM	100%
TS2 (PAT-OFF)	0-3		
CYCLE	110s	STD (COS)	131
OFFSET VAL	7%		
ACTUATED COORD	YES	TIMING PLAN	0
ACT WALK REST	NO	SEQUENCE	0
PHASE RESRVCE	NO	ACTION PLAN	0

PHASE	1	2	3	4	5	6	7	8
DIRECTION	W-S	EB	S-E	NB	E-N	WB	N-W	SB
SPLITS	12	40	14	34	12	40	12	36

PHASE	1	2	3	4	5	6	7	8
COORD PHASE				X				X
VEH RECALL								
MAX RECALL				X				X

ASC3 COORDINATION PLAN DATA

COORDINATION PATTERN 25

USE SPLIT PATTERN	25	SPLIT SUM	100%	PM
TS2 (PAT-OFF)	0-5			
CYCLE	110.00	STD (COS)	151	
OFFSET VAL	0%	0		
ACTUATED COORD	YES	TIMING PLAN	0	
ACT WALK REST	NO	SEQUENCE	0	
PHASE RESRVCE	NO	ACTION PLAN	0	

PHASE	1	2	3	4	5	6	7	8
DIRECTION	W-S	EB	S-E	NB	E-N	WB	N-W	SB
SPLITS	11	39	14	36	10	40	10	40
	12.1	42.9	15.4	39.6	11	44	11	44

PHASE	1	2	3	4	5	6	7	8
COORD PHASE				X				X
VEH RECALL								
MAX RECALL				X				X

CLOCK / CALENDAR DATA (MM 5-1)

CURRENT DATE	CURRENT DOW		CURRENT TOD
ENA ACTION PLAN	0		
SYNC REF TIME	03:30	SYNC REF	REF TIME
TIME FROM GMT	+00	DAY LIGHT SAVE	NO
TIME RESET INPUT SET TIME		3:30:00	

ACTION PLAN 21 (MM 5-2)

PATTERN	21	SYS OVERRIDE	NO
TIMING PLAN	0	SEQUENCE	0
VEHICLE DETECTOR PLAN	0.00	DET LOG	NONE
FLASH	--	RED REST	NO
VEH DET DIAG PLN	0	PED DET DIAG PLN	0
DIMMING ENABLE	NO		

ACTION PLAN 23

PATTERN	23	SYS OVERRIDE	NO
TIMING PLAN	0	SEQUENCE	0
VEHICLE DETECTOR PLAN	0.00	DET LOG	NONE
FLASH	--	RED REST	NO
VEH DET DIAG PLN	0	PED DET DIAG PLN	0
DIMMING ENABLE	NO		

ACTION PLAN 25

PATTERN	25	SYS OVERRIDE	NO
TIMING PLAN	0	SEQUENCE	0
VEHICLE DETECTOR PLAN	0.00	DET LOG	NONE
FLASH	--	RED REST	NO
VEH DET DIAG PLN	0	PED DET DIAG PLN	0
DIMMING ENABLE	NO		

ASC3 COORDINATION PLAN DATA

ACTION PLAN 100

PATTERN	254	SYS OVERRIDE	NO
TIMING PLAN	0	SEQUENCE	0
VEHICLE DETECTOR PLAN	0.00	DET LOG	NONE
FLASH	--	RED REST	NO
VEH DET DIAG PLN	0	PED DET DIAG PLN	0
DIMMING ENABLE	NO		

DAY PLAN/EVENT 1 (MM 5-3)

EVENT	ACTION PLAN	START TIME
1	23	10:00
2	100	19:00
3	0	00:00

DAY PLAN/EVENT 2

EVENT	ACTION PLAN	START TIME	
1	21	6:00	AM
2	23	9:00	
3	25	14:30	PM
4	23	19:00	
5	100	22:00	
6	0	00:00	
7	0	00:00	

DAY PLAN/EVENT 3

EVENT	ACTION PLAN	START TIME
1	23	8:00
2	100	21:00
3	0	00:00

SCHEDULE NUMBER 1 (MM 5-4)

SCHEDULE NUMBER	1	
DAY PLAN NO	1	CLEAR ALL FIELDS

SELECT ALL MONTHS DOW DOM

MONTH	J	F	M	A	M	J	J	A	S	O	N	D
	X	X	X	X	X	X	X	X	X	X	X	X
DAY(DOW)	SUN	MON	TUE	WED	THU	FRI	SAT					
	X	.	.	.	.	.	.					
DAY(DOM)	1	2	3	4	5	6	7	8	9	10	11	
	X	X	X	X	X	X	X	X	X	X	X	
	12	13	14	15	16	17	18	19	20	21	22	
	X	X	X	X	X	X	X	X	X	X	X	
	23	24	25	26	27	28	29	30	31			
	X	X	X	X	X	X	X	X	X			

ASC3 COORDINATION PLAN DATA

SCHEDULE NUMBER 2

SCHEDULE NUMBER	2	
DAY PLAN NO	2	CLEAR ALL FIELDS

SELECT ALL MONTHS DOW DOM

MONTH	J	F	M	A	M	J	J	A	S	O	N	D
	X	X	X	X	X	X	X	X	X	X	X	X

DAY(DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	.	X	X	X	X	X	.

DAY(DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

SCHEDULE NUMBER 3

SCHEDULE NUMBER	3	
DAY PLAN NO	3	CLEAR ALL FIELDS

SELECT ALL MONTHS DOW DOM

MONTH	J	F	M	A	M	J	J	A	S	O	N	D
	X	X	X	X	X	X	X	X	X	X	X	X

DAY(DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	.	.	.	.	.	.	X

DAY(DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

NOTES:

1. Coord sheet created for ASC3 by BB, 11/1/13.
2. Coordination sheet updated to ASC3 form 11/4/2013.
3. New Coordination Patterns implemented 10-2016, Lee Engineering.
4. New Day Plan implemented 12-27-2016, Lee Engineering.
5. Signal re-phased & East leg constructed July 2020
6. New coordination timings implemented 7/31/2020 by Lee Engineering

Intersection No.:	367	System:	Centracs
		Address:	1
Intersection Name:	I-40 & 98TH		
Revision Date	12/23/2013		

Timing Data

Phase I.D.:	1	2	3	4	5	6	7	8
Phase Dir.:	N-W	SB		WB		NB		
Min Grn	3	16		8		16		
Walk:	0	7		7		7		
Ped Clr:	0	6		26		8		
Veh Ext:	3.0	3.0		3.0		3.0		
Veh Ext2:								
Max 1:	16	22		32		22		
Max 2:	16	22		48		22		
Max 3:								
Yellow:	4.5	4.5		4.5		4.5		
Red Clr	2.0	1.0		1.5		1.0		

Recall Data

Locking Memory:				X				
Vehicle Recall:								
Ped Recall:								
Recall To Max:		X				X		

Flash Mode:	ALL RED
Start Up Mode:	ALL RED
Time:	8 SEC.
First Phases:	2 & 6
Start In:	GREEN
Overlap Phases:	NONE

Overlap	Par Ph	Grn	Yel	Red
A				
B				
C				
D				

NOTES:

1. Intersection to be turned on, 10/31/05. Max 2 - 15:00 to 18:30 M-F.
2. Clearance intervals updated to NMDOT standard by BB, 12/23/13.
3. Max 2 enable Phase 4 @ 1500 to 1830, 2/10/14.
4. Added phase 6 for NB, removed overlap A.
5. New Coordination Patterns implemented 10-2016, Lee Engineering.

ASC3 COORDINATION PLAN DATA

367 - 98th St & I40 WB Ramp

COORDINATOR OPTIONS (MM 3-1)

MANUAL PATTERN	AUTO	ECPI COORD	YES
SYSTEM SOURCE	SYS	SYSTEM FORMAT	PTN
SPLITS IN	PERCENT	OFFSET IN	PERCENT
TRANSITION	SMOOTH	MAX SELECT	MAXINH
DWELL/ADD TIME	0	ENABLE MAN SYNC	NO
DLY COORD WK-LZ	NO	FORCE OFF	FIXED
OFFSET REF	LEAD	CAL USE PED TM	NO
PED RECALL	NO	PED RESERVE	YES
LOCAL ZERO OVRD	NO	FO ADD INI GRN	NO
RE-SYNC COUNT	0	MULTISYNC	NO

COORDINATION PATTERN 21 (MM 3-2)

USE SPLIT PATTERN	21	SPLIT SUM	100%	AM
TS2 (PAT-OFF)	0-1			
CYCLE	130.00	STD (COS)	111	
OFFSET VAL	99%	128.7		
ACTUATED COORD	YES	TIMING PLAN	0	
ACT WALK REST	NO	SEQUENCE	0	
PHASE RESRVCE	NO	ACTION PLAN	0	

PHASE	1	2	3	4	5	6	7	8
DIRECTION	N-W	SB	E-N	WB	S-E	NB	W-S	EB
SPLITS	11	48	0	41	0	59	0	0
	14.3	62.4	0	53.3	0	76.7	0	0

PHASE	1	2	3	4	5	6	7	8
COORD PHASE				X				
VEH RECALL								
MAX RECALL		X		X		X		

COORDINATION PATTERN 23

USE SPLIT PATTERN	23	SPLIT SUM	100%
TS2 (PAT-OFF)	0-3		
CYCLE	110s	STD (COS)	131
OFFSET VAL	50%		
ACTUATED COORD	YES	TIMING PLAN	0
ACT WALK REST	NO	SEQUENCE	0
PHASE RESRVCE	NO	ACTION PLAN	0

PHASE	1	2	3	4	5	6	7	8
DIRECTION	N-W	SB	E-N	WB	S-E	NB	W-S	EB
SPLITS	17	28	0	55	0	45	0	0

PHASE	1	2	3	4	5	6	7	8
COORD PHASE				X				
VEH RECALL								
MAX RECALL		X		X		X		

ASC3 COORDINATION PLAN DATA

COORDINATION PATTERN 25

USE SPLIT PATTERN	25	SPLIT SUM	100%	PM
TS2 (PAT-OFF)	0-5			
CYCLE	110.00	STD (COS)	151	
OFFSET VAL	26%	28.6		
ACTUATED COORD	YES	TIMING PLAN	0	
ACT WALK REST	NO	SEQUENCE	0	
PHASE RESRVCE	NO	ACTION PLAN	0	

PHASE	1	2	3	4	5	6	7	8
DIRECTION	N-W	SB	E-N	WB	S-E	NB	W-S	EB
SPLITS	13	18	0	69	0	31	0	0
	14.3	19.8	0	75.9	0	34.1	0	0

PHASE	1	2	3	4	5	6	7	8
COORD PHASE				X				
VEH RECALL								
MAX RECALL		X		X		X		

CLOCK / CALENDAR DATA (MM 5-1)

CURRENT DATE	CURRENT DOW	CURRENT TOD	
ENA ACTION PLAN	0		
SYNC REF TIME	03:30	SYNC REF	REF TIME
TIME FROM GMT	+00	DAY LIGHT SAVE	NO
TIME RESET INPUT SET TIME		3:30:00	

ACTION PLAN 21 (MM 5-2)

PATTERN	21	SYS OVERRIDE	NO
TIMING PLAN	0	SEQUENCE	0
VEHICLE DETECTOR PLAN	0.00	DET LOG	NONE
FLASH	--	RED REST	NO
VEH DET DIAG PLN	0	PED DET DIAG PLN	0
DIMMING ENABLE	NO		

ACTION PLAN 23

PATTERN	23	SYS OVERRIDE	NO
TIMING PLAN	0	SEQUENCE	0
VEHICLE DETECTOR PLAN	0.00	DET LOG	NONE
FLASH	--	RED REST	NO
VEH DET DIAG PLN	0	PED DET DIAG PLN	0
DIMMING ENABLE	NO		

ACTION PLAN 25

PATTERN	25	SYS OVERRIDE	NO
TIMING PLAN	0	SEQUENCE	0
VEHICLE DETECTOR PLAN	0.00	DET LOG	NONE
FLASH	--	RED REST	NO
VEH DET DIAG PLN	0	PED DET DIAG PLN	0
DIMMING ENABLE	NO		

ASC3 COORDINATION PLAN DATA

ACTION PLAN 100

PATTERN	254	SYS OVERRIDE	NO
TIMING PLAN	0	SEQUENCE	0
VEHICLE DETECTOR PLAN	0.00	DET LOG	NONE
FLASH	--	RED REST	NO
VEH DET DIAG PLN	0	PED DET DIAG PLN	0
DIMMING ENABLE	NO		

DAY PLAN/EVENT 1 (MM 5-3)

EVENT	ACTION PLAN	START TIME
1	23	10:00
2	100	19:00
3	0	00:00

DAY PLAN/EVENT 2

EVENT	ACTION PLAN	START TIME	
1	21	6:00	AM
2	23	9:00	
3	25	14:30	PM
4	23	19:00	
5	100	22:00	
6	0	00:00	
7	0	00:00	

DAY PLAN/EVENT 3

EVENT	ACTION PLAN	START TIME
1	23	8:00
2	100	21:00
3	0	00:00

SCHEDULE NUMBER 1 (MM 5-4)

SCHEDULE NUMBER	1	
DAY PLAN NO	1	CLEAR ALL FIELDS

SELECT ALL MONTHS DOW DOM

MONTH	J	F	M	A	M	J	J	A	S	O	N	D
	X	X	X	X	X	X	X	X	X	X	X	X
DAY(DOW)	SUN	MON	TUE	WED	THU	FRI	SAT					
	X	.	.	.	.	.	.					
DAY(DOM)	1	2	3	4	5	6	7	8	9	10	11	
	X	X	X	X	X	X	X	X	X	X	X	
	12	13	14	15	16	17	18	19	20	21	22	
	X	X	X	X	X	X	X	X	X	X	X	
	23	24	25	26	27	28	29	30	31			
	X	X	X	X	X	X	X	X	X			

ASC3 COORDINATION PLAN DATA

SCHEDULE NUMBER 2

SCHEDULE NUMBER	2	
DAY PLAN NO	2	CLEAR ALL FIELDS

SELECT ALL MONTHS DOW DOM

MONTH	J	F	M	A	M	J	J	A	S	O	N	D
	X	X	X	X	X	X	X	X	X	X	X	X

DAY(DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	.	X	X	X	X	X	.

DAY(DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

SCHEDULE NUMBER 3

SCHEDULE NUMBER	3	
DAY PLAN NO	3	CLEAR ALL FIELDS

SELECT ALL MONTHS DOW DOM

MONTH	J	F	M	A	M	J	J	A	S	O	N	D
	X	X	X	X	X	X	X	X	X	X	X	X

DAY(DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	.	.	.	.	.	.	X

DAY(DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

NOTES:

1. Coord sheet created for ASC3 by BB, 11/1/13.
2. Coordination sheet updated to ASC3 form 11/4/2013.
3. New Coordination Patterns implemented 10-2016, Lee Engineering. Phase 4 coordinated.
4. New Day Plan implemented 12-27-2016, Lee Engineering.

APPENDIX C
Trip Generation Data

Trip Generation Summary

Alternative: Alternative 1
Phase:
Project: 98th-Bluewater Commercial

Open Date: 7/1/2025
Analysis Date: 4/8/2021

ITE	Land Use	Weekday Average Daily Trips *	Enter	Exit	Total	Weekday AM Peak Hour of Adjacent Street Traffic *	Enter	Exit	Total	Weekday PM Peak Hour of Adjacent Street Traffic *	Enter	Exit	Total
934	FASTFOOD-DRIVE 1 - Parcel E		424	424	848		37	35	72		31	28	59
	1.8 1000 Sq. Ft. GFA												
934	FASTFOOD-DRIVE 1 - Parcel C		1531	1530	3061		133	128	261		110	102	212
	6.5 1000 Sq. Ft. GFA												
934	FASTFOOD-DRIVE 1 - Parcel B		660	659	1319		58	55	113		47	44	91
	2.8 1000 Sq. Ft. GFA												
934	FASTFOOD-DRIVE 1 - Parcel A		636	636	1272		56	53	109		46	42	88
	2.7 1000 Sq. Ft. GFA												
938	DONUT-DRIVE-NO-IN - Parcel D				0	✓	64	60	124	✓	27	29	56
	37 1000 Sq. Ft. GFA												
942	AUTOCARE 1 - Parcel F				0		54	28	82		48	52	100
	36.6 1000 Sq. Ft. GFA												
Unadjusted Volume			3251	3249	6500		402	359	761		309	297	606
Internal Capture Trips			0	0	0		0	0	0		0	0	0
Pass-By Trips			0	0	0		137	137	274		113	113	226
Volume Added to Adjacent Streets			3251	3249	6500		265	222	487		196	184	380

Total Weekday Average Daily Trips Internal Capture = 0 Percent
Total Weekday AM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent
Total Weekday PM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent

C-1

* - Custom rate used for selected time period.

Source: Institute of Transportation Engineers, Trip Generation Manual 10th Edition

TRIP GENERATION 10, TRAFFICWARE, LLC

Detailed Land Use Data

For 2.7 1000 Sq. Ft. GFA of FASTFOOD-DRIVE 1 - Parcel A

(934) Fast-Food Restaurant with Drive-Through Window

Open Date: 7/1/2025

Project: 98th-Bluewater Commercial

Analysis Date: 4/8/2021

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday Average Daily Trips	1272	0	470.95	98.89	1137.66	244.44	3	50	50	False		
Source : Trip Generation Manual 10th Edition												
Weekday AM Peak Hour of Adjacent Street Traffic	109	53	40.19	0.38	164.25	28.78	4	51	49	False		
Source : Trip Generation Manual 10th Edition												
Weekday PM Peak Hour of Adjacent Street Traffic	88	44	32.67	8.17	117.22	17.87	3	52	48	False		
Source : Trip Generation Manual 10th Edition												

Source: Institute of Transportation Engineers, Trip Generation Manual 10th Edition

TRIP GENERATION 10, TRAFFICWARE, LLC

Detailed Land Use Data

For 2.8 1000 Sq. Ft. GFA of FASTFOOD-DRIVE 1 - Parcel B

(934) Fast-Food Restaurant with Drive-Through Window

Open Date: 7/1/2025

Project: 98th-Bluewater Commercial

Analysis Date: 4/8/2021

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday Average Daily Trips	1319	0	470.95	98.89	1137.66	244.44	3	50	50	False		
Source : Trip Generation Manual 10th Edition												
Weekday AM Peak Hour of Adjacent Street Traffic	113	55	40.19	0.38	164.25	28.78	4	51	49	False		
Source : Trip Generation Manual 10th Edition												
Weekday PM Peak Hour of Adjacent Street Traffic	91	46	32.67	8.17	117.22	17.87	3	52	48	False		
Source : Trip Generation Manual 10th Edition												

Source: Institute of Transportation Engineers, Trip Generation Manual 10th Edition

TRIP GENERATION 10, TRAFFICWARE, LLC

Detailed Land Use Data

For 6.5 1000 Sq. Ft. GFA of FASTFOOD-DRIVE 1 - Parcel C

(934) Fast-Food Restaurant with Drive-Through Window

Open Date: 7/1/2025

Project: 98th-Bluewater Commercial

Analysis Date: 4/8/2021

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday Average Daily Trips	3061	0	470.95	98.89	1137.66	244.44	3	50	50	False		
Source : Trip Generation Manual 10th Edition												
Weekday AM Peak Hour of Adjacent Street Traffic	261	128	40.19	0.38	164.25	28.78	4	51	49	False		
Source : Trip Generation Manual 10th Edition												
Weekday PM Peak Hour of Adjacent Street Traffic	212	106	32.67	8.17	117.22	17.87	3	52	48	False		
Source : Trip Generation Manual 10th Edition												

Detailed Land Use Data

For 37 1000 Sq. Ft. GFA of DONUT-DRIVE-NO-IN - Parcel D

(938) Coffee/Donut Shop with Drive-Through Window and No Indoor Seating

Open Date: 7/1/2025

Project: 98th-Bluewater Commercial

Analysis Date: 4/8/2021

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday AM Peak Hour of Adjacent Street Traffic	124	0	3.35	3.35	3.35	0	0	52	48	False		0
Source : CTI - Custom												
Weekday PM Peak Hour of Adjacent Street Traffic	56	0	1.5	1.5	1.5	0	0	49	51	False		0
Source : CTI - Custom												

Source: Institute of Transportation Engineers, Trip Generation Manual 10th Edition

TRIP GENERATION 10, TRAFFICWARE, LLC

Detailed Land Use Data

For 1.8 1000 Sq. Ft. GFA of FASTFOOD-DRIVE 1 - Parcel E

(934) Fast-Food Restaurant with Drive-Through Window

Open Date: 7/1/2025

Project: 98th-Bluewater Commercial

Analysis Date: 4/8/2021

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday Average Daily Trips	848	0	470.95	98.89	1137.66	244.44	3	50	50	False		
Source : Trip Generation Manual 10th Edition												
Weekday AM Peak Hour of Adjacent Street Traffic	72	35	40.19	0.38	164.25	28.78	4	51	49	False		
Source : Trip Generation Manual 10th Edition												
Weekday PM Peak Hour of Adjacent Street Traffic	59	30	32.67	8.17	117.22	17.87	3	52	48	False		
Source : Trip Generation Manual 10th Edition												

Detailed Land Use Data

For 36.6 1000 Sq. Ft. GFA of AUTOCARE 1 - Parcel F

(942) Automobile Care Center

Open Date: 7/1/2025

Project: 98th-Bluewater Commercial

Analysis Date: 4/8/2021

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday AM Peak Hour of Adjacent Street Traffic	82	0	2.25	1.2	5.3	1.49	17	66	34	False		
Source : Trip Generation Manual 10th Edition												
Weekday PM Peak Hour of Adjacent Street Traffic	100	0	3.11	1.87	5.65	1.09	17	48	52	True	T = 2.41(X) + 11.83	0.83
Source : Trip Generation Manual 10th Edition												

Internal Capture Report - Alternative 1

AM & PM Peak Hour

Open Date: 7/1/2025

Project: 98th-Bluewater Commercial

Analysis Date: 4/8/2021

AM	Entering Trips				Exiting Trips			
Category	Internal	External	Total	Percent	Internal	External	Total	Percent
Cinema	0	0	0	0%	0	0	0	0%
Hotel	0	0	0	0%	0	0	0	0%
Office	0	0	0	0%	0	0	0	0%
Residential	0	0	0	0%	0	0	0	0%
Restaurant	0	348	348	0%	0	331	331	0%
Retail	0	0	0	0%	0	0	0	0%
All Other Land Uses	0	54	54	0%	0	28	28	0%
Totals	0	402	402	0%	0	359	359	0%

PM	Entering Trips				Exiting Trips			
Category	Internal	External	Total	Percent	Internal	External	Total	Percent
Cinema	0	0	0	0%	0	0	0	0%
Hotel	0	0	0	0%	0	0	0	0%
Office	0	0	0	0%	0	0	0	0%
Residential	0	0	0	0%	0	0	0	0%
Restaurant	0	261	261	0%	0	245	245	0%
Retail	0	0	0	0%	0	0	0	0%
All Other Land Uses	0	48	48	0%	0	52	52	0%
Totals	0	309	309	0%	0	297	297	0%

Source: Institute of Transportation Engineers, Trip Generation Manual 10th Edition

TRIP GENERATION 10, TRAFFICWARE, LLC

Open Date : 7/1/2025
Project : 98th-Bluewater Commercial Analysis Date : 4/8/2021

Note Type : Land Use
Alternative : Alternative 1
Phase : Phase 1
Land Use : DONUT-DRIVE-NO-IN - Parcel D

Utilized rate derived by KD Anderson study: trips per 1,000 vehicles ADT, not GFA of building (daily rate not measured).

KD Anderson & Associates, Inc.
Transportation Engineers

February 16, 2016

Mr. Kyle Garrett
DUTCH BROTHERS COFFEE
8757 Tom Thumb Court
Elk Grove, CA 95624

RE: SITE EVALUATION – SHELDON ROAD CROSSING RETAIL CENTER, ELK GROVE, CALIFORNIA

Dear Mr. Garrett:

KD Anderson & Associates, Inc. has completed our analysis for the proposed Dutch Brothers Coffee Kiosk to be located in the Sheldon Crossing retail center in Elk Grove. The site is located in the northwest quadrant of the Sheldon Road / Elk Grove-Florin Road intersection. The purpose of this analysis was to determine expected queuing for the kiosk and whether the anticipated traffic can be accommodated without interfering with on-site traffic flow. Additionally, inbound left turn queues from eastbound Sheldon Road was evaluated to determine whether the left turn lane capacity could be exhausted by the project. Based on our discussion with City of Elk Grove staff the a.m. and p.m. peak hours were evaluated.

INTRODUCTION

Proposed Project. The proposed project is an 800 square foot Dutch Brothers coffee kiosk that will be constructed in the existing Sheldon Crossing retail center. While the center is located along the periphery of the north and west sides of the site, the kiosk will stand alone in the southeast quadrant, adjacent to the Sheldon Road / Elk Grove-Florin Road intersection. Its location is shown in Figure 1 while the site plan is illustrated in Figure 2.

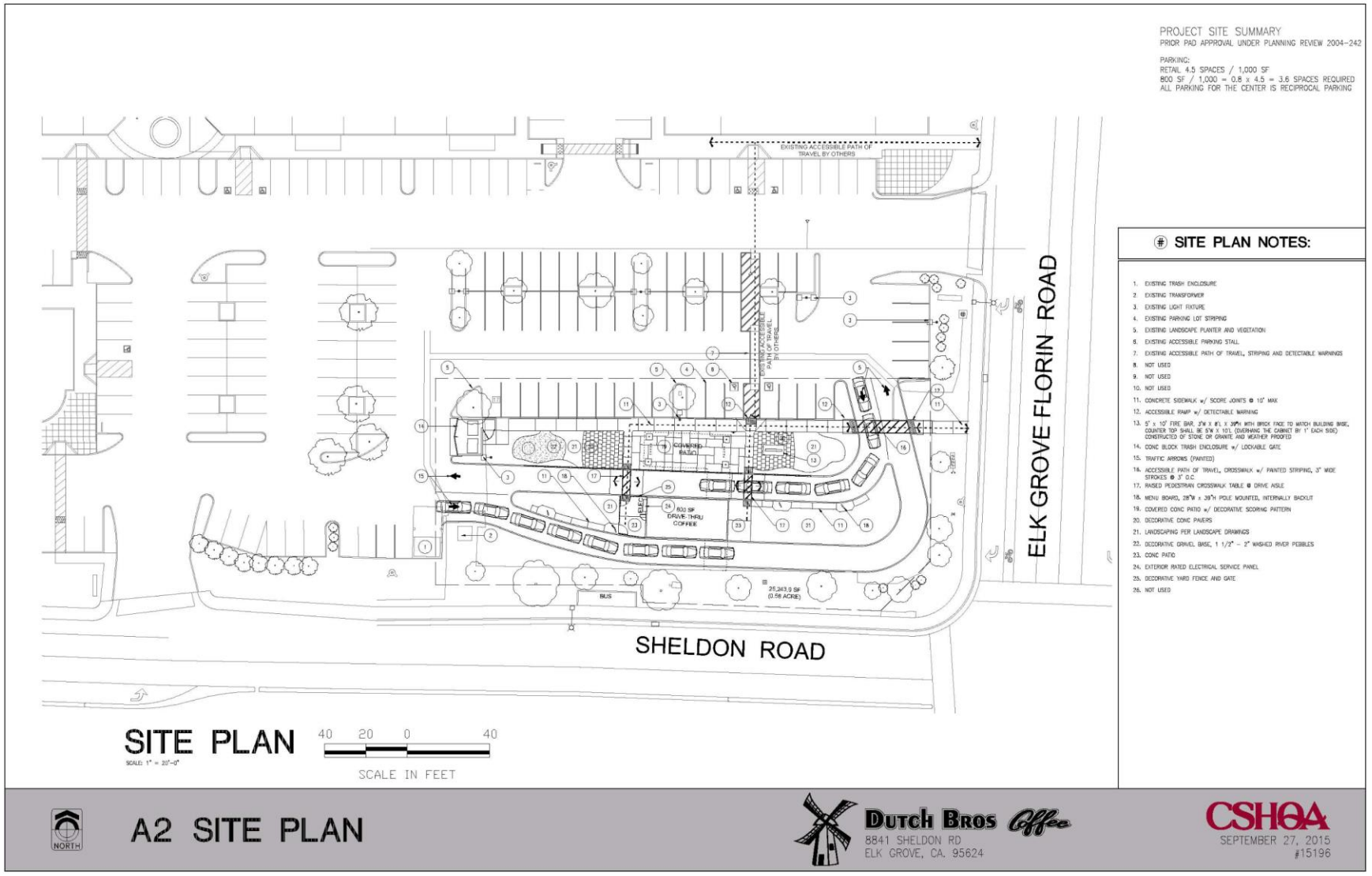
3853 Taylor Road, Suite G • Loomis, CA 95650 • (916) 660-1555 • FAX (916) 660-1535

VICINITY MAP

KD Anderson & Associates, Inc.
Transportation Engineers

2526-01 LT 2/16/2016

figure 1



KD Anderson & Associates, Inc.
Transportation Engineers

SITE PLAN

2526-01 LT 1/29/2016

figure 2

EXISTING SETTING & CONDITIONS

The proposed project will construct a Dutch Brothers coffee kiosk in the northwest corner of the Elk Grove- Florin Road / Sheldon Road intersection. The proposed kiosk will include windows on both sides of the kiosk to allow sales for two-way traffic.

Elk Grove-Florin Road is a major 4 to 6 lane north-south divided arterial providing access between Elk Grove and Sacramento. An existing driveway is located about 150 feet north of the Sheldon Road intersection and provides right-in, right-out access. Traffic data from the City of Elk Grove website indicates that Elk Grove-Florin Road services about 30,400 vehicles per day (vpd). Sheldon Road is a major east-west 4 lane divided road through Elk Grove. The road extends west from Grant Line Road in the east to west of Bruceville Road where it turns north as Center Parkway. An existing driveway is located about 350 feet west north of the Elk Grove-Florin Road intersection. Access at this driveway includes right-in, right-out and left-in access. Sheldon Road carries about 23,100 vpd. The lane configurations at the project driveways are shown in Figure 3.

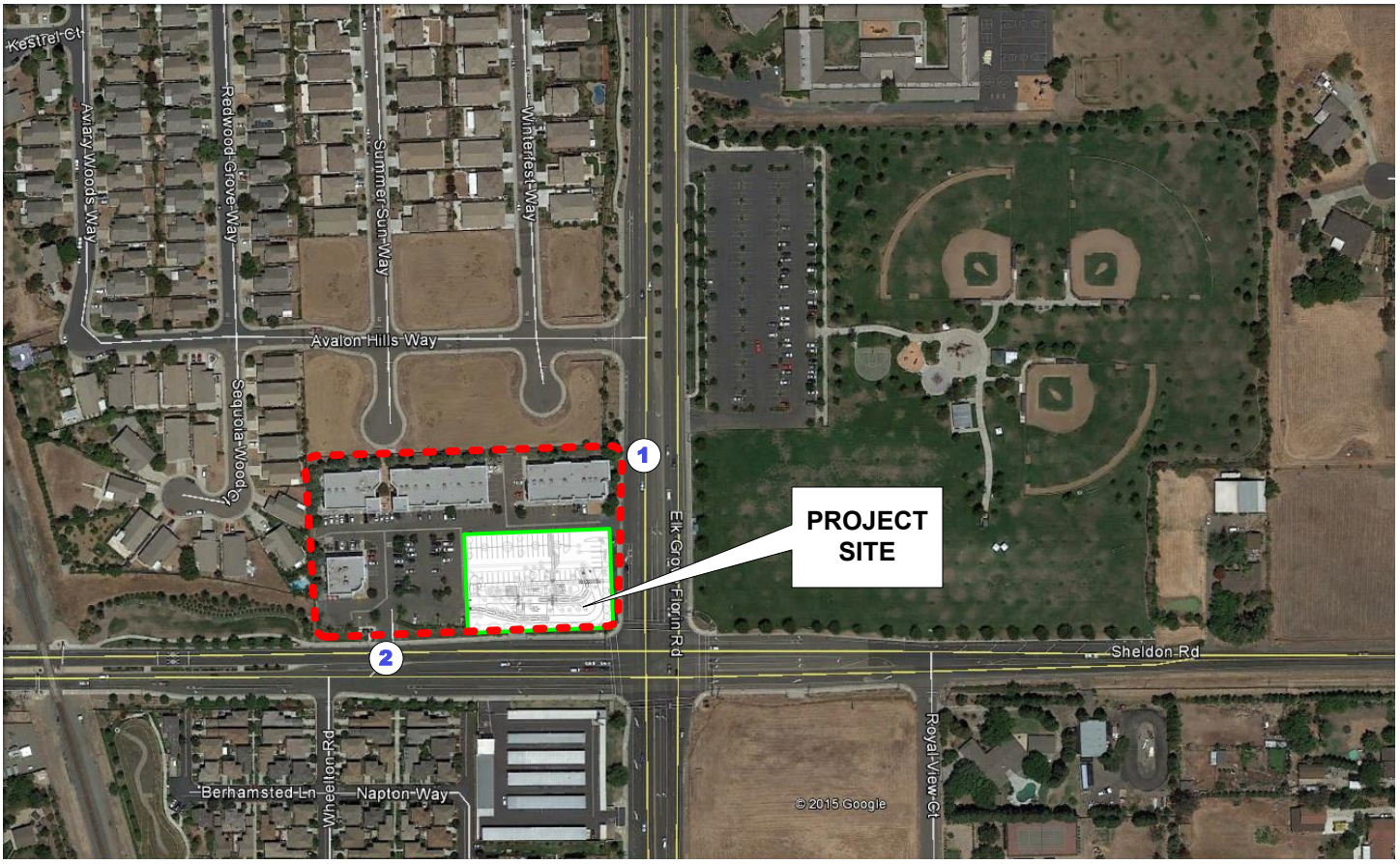
Traffic counts were conducted during the first week of December 2015 at the two driveway accesses to the shopping center to determine existing conditions at the access points. Figure 3 presents the peak hour a.m. and p.m. volumes at both intersections. This data was used to develop baseline queues at the driveway accesses. As part of the data collection, vehicle queues were also recorded at one minute intervals for outbound vehicles at the east driveway along Elk Grove-Florin Road and for inbound eastbound left turns and outbound southbound right turns at the Sheldon Road driveway. Table 1 presents the 95th percentile queues for each movement in the a.m. and p.m. peak hours. The 95th percentile was based on 60 data points collected during the a.m. and p.m. peak hours.

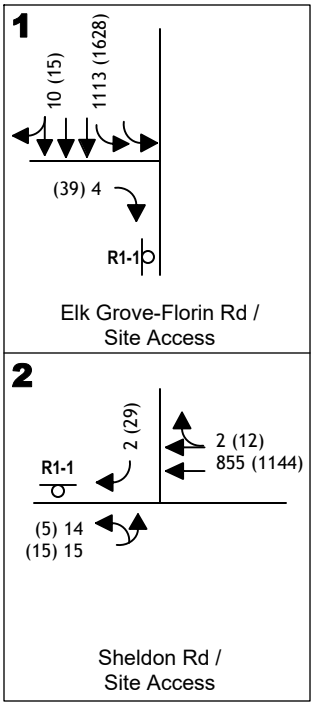
During the a.m. peak hour the 95th percentile queues consist of a single vehicle making an eastbound to southbound right turn onto Elk Grove-Florin Road, zero vehicles queued for the right turn onto westbound Sheldon Road and a two vehicle queue for the eastbound left turn movement into the retail center along Sheldon Road. The 95th percentile queue in the p.m. peak hour consists of two vehicles for all of the driveway movements. The two vehicle queue in the eastbound left turn lane is partly due to traffic heading west from Wheelton Road; this road is directly opposite the eastbound left turn lane and motorists cross eastbound Sheldon Road rather than making a u-turn at the Elk Grove-Florin Road intersection 500' east.

TABLE 1
EXISTING 95th% QUEUES AT DRIVEWAYS

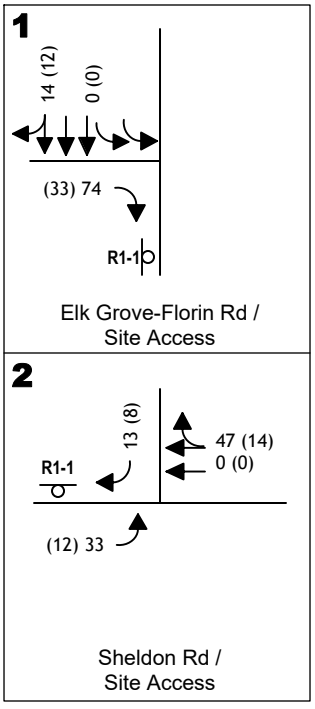
Location	AM	PM
Elk Grove-Florin Road		
Eastbound Right	1	2
Sheldon Road		
Southbound Right	0	2
Eastbound Left*	2	2

*includes u-turns in existing 120' turn lane

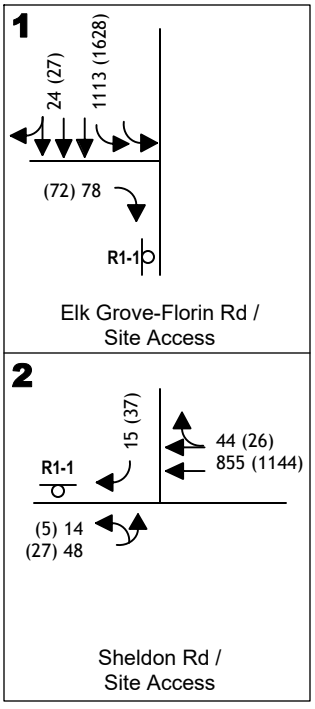




EXISTING



PROJECT TRAFFIC



EXISTING + PROJECT

N.T.S.

Legend

- XX — AM Peak Hour Volume
- (XX) — PM Peak Hour Volume
- R1-1 — Stop Sign
- Sheldon Crossing Retail Center

EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
Transportation Engineers

2526-01 LT 2/16/2016

figure 3

PROJECT CONDITIONS

Trip Generation and Queue Estimates. Trip generation is determined by identifying the type and size of development. The Institute of Transportation Engineers (ITE) publication *Trip Generation* publishes trip generation rates for a variety of land uses. Land-Use 938 "Coffee/Donut Shop with Drive-Through Window and No Indoor Seating" is similar to the Dutch Brothers model of a drive-through coffee kiosk; however, limited data is available for this land use. The Dutch Brothers coffee kiosk model is a drive-through operation with some outdoor tables generally for walk-up customers.

Because of the limited data available for coffee kiosks peak hour trips were observed for three existing Dutch Brothers sites that had similar operational characteristics to the proposed project. This included dual drive-through windows and comparable lane configurations and traffic volumes on adjacent streets. Other Dutch Brothers kiosks including one in Elk Grove were considered but did not share the same characteristics. The three sites surveyed are described below:

7445 Madison Avenue, Citrus Heights – This kiosk is located within a neighborhood commercial shopping center in the city of Citrus Heights. This site is located along Madison Avenue about 400 feet east of San Juan Avenue. Madison Avenue is a six-lane roadway while San Juan Avenue is a four-lane roadway. Sacramento County data indicates that the daily traffic volume along Madison Avenue is about 48,700 (vpd) while traffic along San Juan Avenue is about 27,000 vpd.

405 Grass Valley Highway (SR 49), Auburn – This kiosk is located within a neighborhood commercial shopping center in the city of Auburn. The location is in the northwest quadrant of the State Route (SR) 49 / Fulweiler Avenue / Elm Avenue intersection. Caltrans traffic data indicates that the daily traffic volumes along SR 49 north of Elm Avenue is about 31,500 vpd while traffic along Fulweiler Avenue is about 7,100 vpd. Elm Avenue carries about 33,000 vpd at the Interstate 80 interchange area, about ¼ mile from the SR 49 / Fulweiler Avenue – Elm Avenue intersection.

8663 Auburn Folsom Road, Granite Bay – This kiosk is located within a neighborhood commercial shopping center in the town of Granite Bay. The kiosk provides outside seating for walk-up customers. This kiosk is similar in size to the proposed Elk Grove location. This site is located along Auburn Folsom Road about 600 feet south of Douglas Blvd. Auburn Folsom Road and Douglas Blvd are four-lane roadways. Placer County data indicates that the daily traffic volume along Auburn Folsom Road is about 30,300 vpd while traffic along Douglas Blvd is about 32,200 vpd.

An average peak hour trip generation rate was developed based on data collected from the three locations. Table 2 presents the observed data. Square footage is a commonly used variable for trip generation. Two of the kiosks studied are about 400 square feet while the third is about 800 square feet. An analysis of the data indicated that trip generation rates for this type of development do not appear to be dependent on square footage of the kiosk. For example, while the Madison Avenue and SR 49 sites are approximately the same size at about 400 square feet the SR 49 site has about a 20% higher a.m. rate and a 38% lower p.m. rate than the Madison Avenue site. Trip generation for specific sites may be affected by the number of additional coffee shops and kiosks in the project vicinity as the Madison Avenue site has almost twice the adjacent street traffic volume, but generates a trip rate less than half of the SR 49 site.

Instead of square footage, trip generation rates were developed based on the total adjacent street traffic due to the type of use, a drive-through coffee shop with limited outdoor seating. The rates were based on the daily traffic volumes from both the major and minor adjacent streets as each of the locations has an

intersecting street that provides a second access. This is similar to a limited 2003 Oregon Department of Transportation study of portable coffee stands with drive-through service which considered adjacent street traffic as the independent variable.

Consistent with coffee shop land uses described in ITE Trip Generation, the a.m. peak has the highest trip generation. Since only three comparative sites were observed an average trip rate was used to estimate the number of trips at the Elk Grove site. The average trip rates were calculated to be 3.35 trips per thousand vehicles in the a.m. peak hour and 1.50 trips per thousand vehicles in the p.m. peak hour. Table 2 presents the projected trips for the proposed project. 179 trips are projected in the a.m. peak hour while 80 are projected in the p.m. peak hour.

TABLE 2
TRIP GENERATION

Location	Variable (kvast)	AM			PM			Trip Generation Rate (trips/kvast)	
		Trips In	Trips Out	Total Trips	Trips In	Trips Out	Total Trips	AM	PM
Madison Ave	75.7 kvast	87 (50%)	85 (50%)	172	55 (50%)	56 (50%)	111	2.27	1.47
SR 49	38.6 kvast	105 (51%)	100 (49%)	205	34 (49%)	35 (51%)	69	5.31	1.79
Auburn Folsom Rd	62.5 kvast	81 (53%)	72 (47%)	153	38 (49%)	39 (51%)	77	2.45	1.23
Calculated Average Rate		273	257	530	127	130	257	3.35	1.50
Project Trip Generation		52%	48%		49%	51%			
Elk Grove	53.5 kvast	93	86	**179**	39	41	**80**		

kvast – per thousand vehicles of adjacent street traffic

Trip Distribution & Trip Assignment. The distribution of project traffic was determined based on our understanding of the project's market area, the type of use (i.e. an intermediate stop between origin and destination) and the directionality of adjacent street traffic; City of Elk Grove staff provided intersection turning movements at the adjacent Elk Grove-Florin Road / Sheldon Road intersection and are provided in the appendix. Most traffic is oriented north along Elk Grove-Florin Road in the a.m. peak commute period. During the p.m. peak hour the number of customers drops considerably, and the trip distribution will be oriented more evenly in all directions. Traffic along Elk Grove – Florin Road approaching from the south will make a left turn onto westbound Sheldon Road to enter the shopping center site while traffic departing to the north will exit onto Elk Grove-Florin Road and have to make a U-turn at the Sheldon Road intersection. The projected trip distribution is presented in Table 3 and the Project and Existing plus Project driveway volumes are presented in Figure 3.

TABLE 3 PROJECT TRIP DISTRIBUTION				
Route	**% of Total Trips AM**		**% of Total Trips PM**	
	Approach	**Departure**	**Approach**	**Departure**
Northbound Elk Grove-Florin Road	35%	45%	25%	30%
Southbound Elk Grove-Florin Road	15%	20%	30%	30%
Eastbound Sheldon Road	35%	20%	30%	20%
Westbound Sheldon Road	15%	15%	15%	20%
Total	100%	100%	100%	100%

Queue Estimates. Based on the existing peak hour counts a queuing analysis was conducted to determine the projected driveway queues. A 95% confidence level was used, meaning that the forecast queue length should be exceeded only 5% of the time.

Table 4 displays the projected driveway volumes with the project. The analysis indicates that the eastbound to southbound right turn will lengthen from zero to five vehicles in the a.m. peak and from two to three vehicles in the p.m. peak. The eastbound left turn into the retail center will increase from two to three vehicles in the a.m. peak hour and remain at two in the p.m. peak hour. The southbound to westbound right turn from the site onto Sheldon Road is projected to have one vehicle in the a.m. peak hour and two vehicles in the p.m. peak hour. The projected five vehicle a.m. queue along the Elk Grove-Florin Road driveway is based on project traffic heading north, south or east having to use the east driveway to access these directions. The five vehicle queue will not affect traffic within the retail center as this queue occurs in the a.m. peak hour when minimal traffic is present. The site's parking lot layout provides a 50' queuing area behind the sidewalks along Elk Grove-Florin Road and Sheldon Road. This allows a two-vehicle queue prior to an intersecting drive aisle; both adjacent drive aisles provide ingress and egress to the Dutch Brothers site. If either internal intersection is blocked by vehicles exiting the retail center site, customers will be able to drive around to the other drive-through lane as illustrated on the site plan in the Appendix.

TABLE 4 PROJECTED QUEUES AT DRIVEWAYS				
	AM		**PM**	
Location	**Existing**	**Existing + Project**	**Existing**	**Existing + Project**
Elk Grove-Florin Road				
Eastbound Right	0	5	2	3
Sheldon Road				
Southbound Right	0	1	2	2
Eastbound Left*	2	3	2	2

*includes u-turns in existing 120' turn lane

A *SimTraffic* simulation was also performed to examine whether eastbound right turning vehicles leaving the shopping center can enter the southbound traffic flow and enter the left turn lane to make a U-turn at the Elk Grove-Florin Road-Sheldon Road intersection. The intersection is about 150' from the driveway. The simulation was run during the peak hours in both a.m. and p.m. periods. The simulations indicated that vehicles can cross the three southbound through lanes and enter the left turn lanes. The queue report is provided in the Appendix which also includes reports for both driveways. The queue lengths at the driveways reflect the delays incurred in entering southbound Elk Grove-Florin Road and westbound Sheldon Road. These queuing results confirm the Poisson Distribution queuing analysis indicating a maximum of five vehicles exiting the east driveway, two vehicles exiting the south driveway and three vehicles entering the south driveway.

Queuing at Drive-Through Lanes. Queuing at each of the Dutch Brothers sites was observed to identify queues associated with the coffee kiosks. Queueing data was recorded on a per minute basis for each of the locations during three hour a.m. and p.m. peak periods, from 6:30 a.m. to 9:30 a.m. and from 3:30 p.m. to 6:30 p.m.

Table 5 presents queueing information at 15 minute intervals showing the longest queues observed in both directions approaching the kiosk; these figures represent the highest volumes observed in each interval. The table also presents the combined queues every 15 minutes. The longest combined queues do not necessarily correspond with the longest queues in each direction. The data shows that the 95th percentile queues at the Madison Avenue kiosk were seven vehicles in either direction and 12 vehicles total in the a.m. peak period and five total vehicles and four directional vehicles in the p.m. peak period. The 95th percentile queues at the SR 49 site was five vehicles in a single service line and eight total vehicles while at the Auburn Folsom Road site the 95th percentile queue was seven vehicles in a single service line and ten total vehicles.

TABLE 5 QUEUING DATA IN DRIVE-THROUGH LANES			
Time A.M. / P.M.	**Madison Ave**	**SR 49**	**Auburn Folsom Rd**
6:30 3:30	5 / **7 (12)** 3 / 6 (8)	2 / 3 (5) **3** / **3** (6)	3 / 2 (5) 6 / 4 (7)
6:45 3:45	6 / 9 (14) **4** / 5 (8)	2 / 3 (5) 4 / 2 (6)	2 / 3 (4) 5 / **3** (7)
7:00 4:00	6 / 8 (13) 5 / 3 (8)	2 / 4 (6) **3** / **3** (6)	4 / 3 (6) 2 / 5 (7)
7:15 4:15	5 / **7 (12)** 2 / 3 (4)	4 / 4 **(8)** 2 / 2 (4)	6 / **7** (13) **3 / 3 (6)**
7:30 4:30	6 / **7** (13) 3 / 3 **(5)**	5 / 7 (12) 2 / 2 (4)	5 / **7** (11) **3 / 3 (6)**
7:45 4:45	6 / 6 (11) **4** / 2 **(5)**	6 / 6 (11) 2 / 2 (4)	5 / **7** (12) 1 / **3** (4)
8:00 5:00	5 / 5 (10) 2 / **4** (4)	6 / **5** (10) **3** / 2 **(5)**	**7 / 7** (13) 2 / 2 (3)
8:15 5:15	7 / **7** (14) 3 / 3 (4)	5 / **5** (9) 1 / 1 (1)	**7** / 5 (12) 2 / 1 (2)
8:30 5:30	5 / 6 (11) 3 / 5 (8)	4 / **5 (8)** **3** / 2 **(5)**	6 / 5 **(10)** **3** / 2 (5)
8:45 5:45	8 / **7** (14) 1 / 3 (3)	3 / 3 (6) **3** / 2 **(5)**	5 / 4 (8) **3** / 2 (3)
9:00 6:00	3 / 4 (7) 3 / **4** (6)	6 / 6 (11) **3** / 2 **(5)**	3 / 4 (7) **3 / 3 (6)**
9:15 6:15	4 / **7** (11) 3 / 2 **(5)**	4 / 4 (7) **3** / 2 **(5)**	4 / 4 (8) **3** / 2 (5)

longest east side or north side queue / longest west side or south side queue (maximum vehicles queued in 15 minute period – both directions)

bold indicates a.m. 95th percentile queue on one approach and /or 95th percentile queue at site

bold indicates p.m. 95th percentile queue on one approach and /or 95th percentile queue at site

Based on the information collected at the three Dutch Brothers locations the worst case scenario would require a seven vehicle service aisle for each direction. The longest queues occur in the a.m. with seven vehicles queued in a single direction and twelve vehicles queue in two directions; the 95th percentile p.m. queues were four vehicles in one direction and six vehicles total. The proposed site plan indicates that the eastbound service aisle on the south side of the site can accommodate eight vehicles while the westbound service aisle on the north side can queue seven vehicles; therefore, at a 95th percentile arrival rate the proposed available queuing is adequate.

25' spacing?

KDA

Dutch Brothers maintains statistics on customers served. They indicate that it takes about 50 seconds on average to serve a customer, and they can serve as many as 60 customers an hour at a two lane kiosk. Table 6 presents the statistical results assuming a scenario of a maximum 60 customers being served in an hour. Excluding adjacent traffic volumes and any other variables such as kiosk size and focusing on the service rate of a kiosk and the number of customers served, the 95% arrival rate is 15 to 16 vehicles. This is consistent with the proposed on-site lane storage. It is possible that the queue in either approach might exceed the proposal storage in the a.m. peak hour; however, there is adequate space between the service lane and the adjacent driveways to provide an additional two to three car queue. This would not affect outbound traffic from the site.

TABLE 6
POISSON DISTRIBUTION
DUTCH BROTHERS DRIVE-THROUGH QUEUE

Probability	Queue Exceeded (rounded)	Average Number of Vehicles Appearing in Interval
16.67%	16.67%	0
13.89%	30.56%	1
11.57%	42.13%	2
9.65%	51.77%	3
8.04%	59.81%	4
6.70%	66.51%	5
5.58%	72.09%	6
4.65%	76.74%	7
3.88%	80.62%	8
3.23%	83.85%	9
2.69%	86.54%	10
2.24%	88.78%	11
1.87%	90.65%	12
1.56%	92.21%	13
1.30%	93.51%	14
1.08%	94.59%	15
0.90%	95.49%	16

CONCLUSIONS

The proposed Dutch Brothers coffee kiosk will be constructed in the southeast quadrant of the Sheldon Crossing Retail Center, located in the northwest quadrant of the Elk Grove –Florin Road / Sheldon Road intersection. The existing driveway access intersections will be used with right-in, right-out movements only along Elk Grove-Florin Road and right-in, right-out and left-in access along Sheldon Road.

The driveways currently have queues of up to two vehicles in the a.m. peak hour, with the maximum queue in the eastbound left turn lane entering the site, and two vehicles in the p.m. peak hour, at all three study locations. The driveway queues are projected to lengthen to five vehicles exiting the eastbound driveway onto Elk Grove-Florin Road, increase to three vehicles entering eastbound from Sheldon Drive and remain at two vehicles exiting to the west along Sheldon Road. The existing eastbound left turn lane storage length will be adequate to accommodate the project traffic. Based on a SimTraffic simulation, vehicles entering the southbound left turn lane at the Elk Grove-Florin Road / Sheldon Road intersection can cross the three southbound through lanes along Elk Grove-Florin Road with minimal delays.

Queueing at the coffee kiosk was developed based on the observed queues at the three existing sites. The queues were observed to be a maximum of 14 vehicles total and up to a maximum of nine vehicles in one direction. Assuming that a maximum of 60 customers are served per hour, the Poisson Distribution analysis suggests that 15 to 16 vehicles could be queued. Based on the data collected this would occur in the a.m. peak hour when little traffic is generated by the other site uses. The proposed layout provides space on site for 15 vehicles to queue in two service lanes with up to an additional five vehicles able to queue without interfering with driveway access. The location of the project, within a shopping center, provides multiple approaches to the drive-through service lanes. The driveway access along Elk Grove-Florin Road requires a left turn to access the service lane. Although there is only about 50' between the roadway and the drive aisle, a customer can proceed to the next drive aisle to access either service lane were an exiting motorist block the internal intersection.

No mitigations are required for this project.

Should you have any questions please free to contact me at (916) 660-1555 or you may reach me via e-mail at jflecker@kdanderson.com.

Sincerely,

KD Anderson & Associates, Inc.

Jonathan D. Flecker, P.E.
Transportation Engineer

Attachments

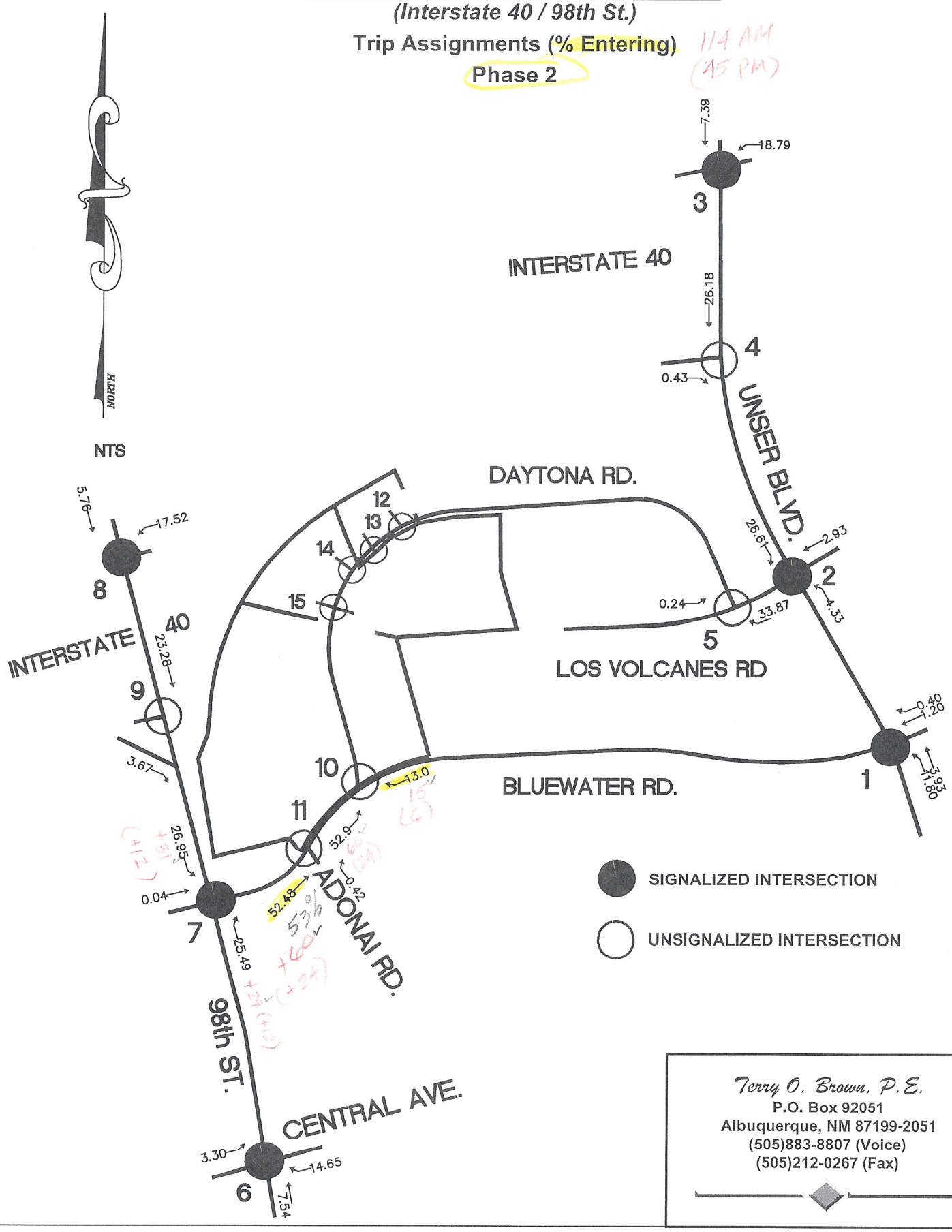
Westpointe 40 Development

(Interstate 40 / 98th St.)

Trip Assignments (% Entering)

Phase 2

114 AM
(45 PM)



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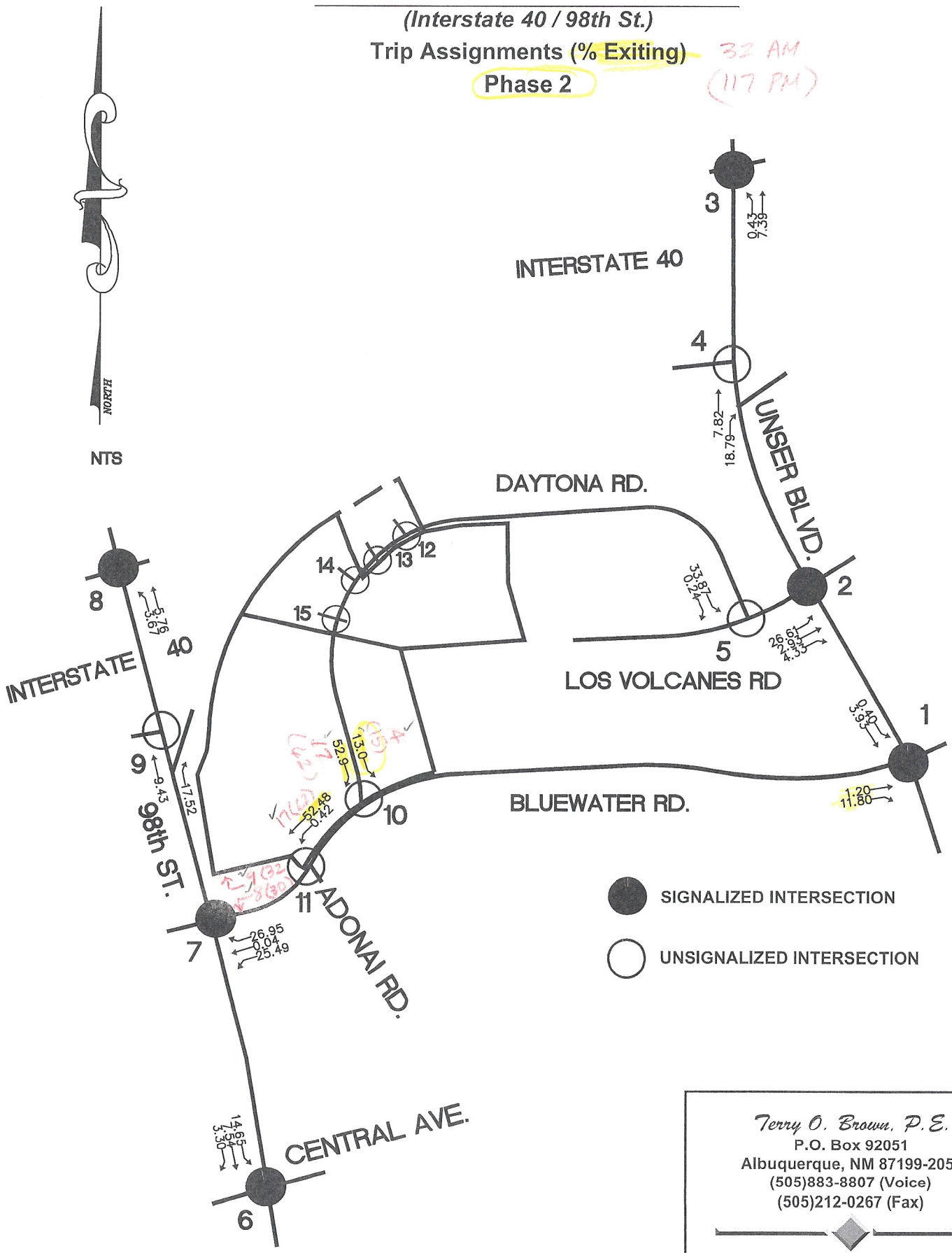
(505)883-8807 (Voice)
(505)212-0267 (Fax)

Westpointe 40 Development

(Interstate 40 / 98th St.)

Trip Assignments (% Exiting) 32 AM (117 PM)

Phase 2



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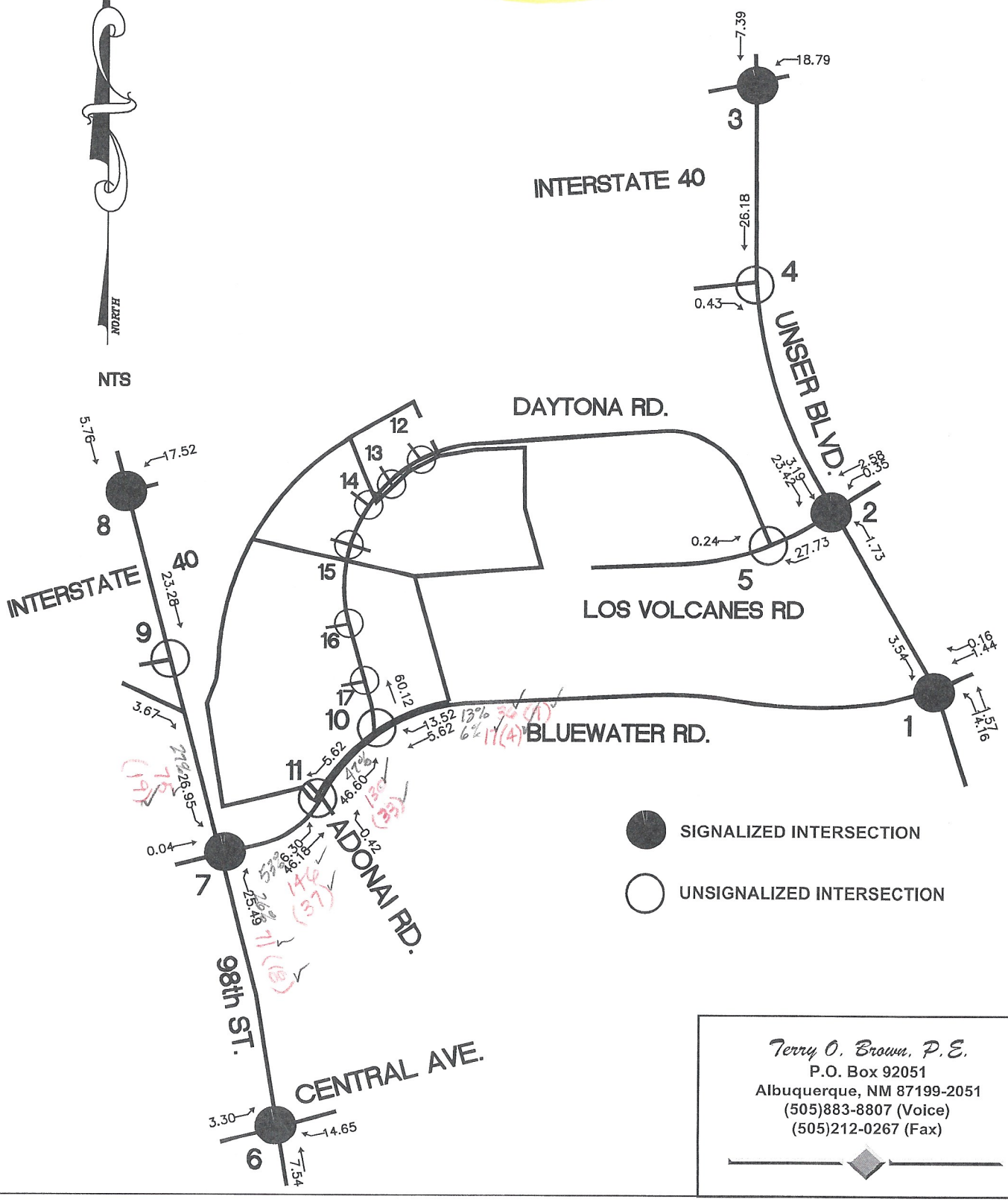
Westpointe 40 Development

(Interstate 40 / 98th St.)

Trip Assignments (% Entering)

Phase 3

276 AM
(70 PM)



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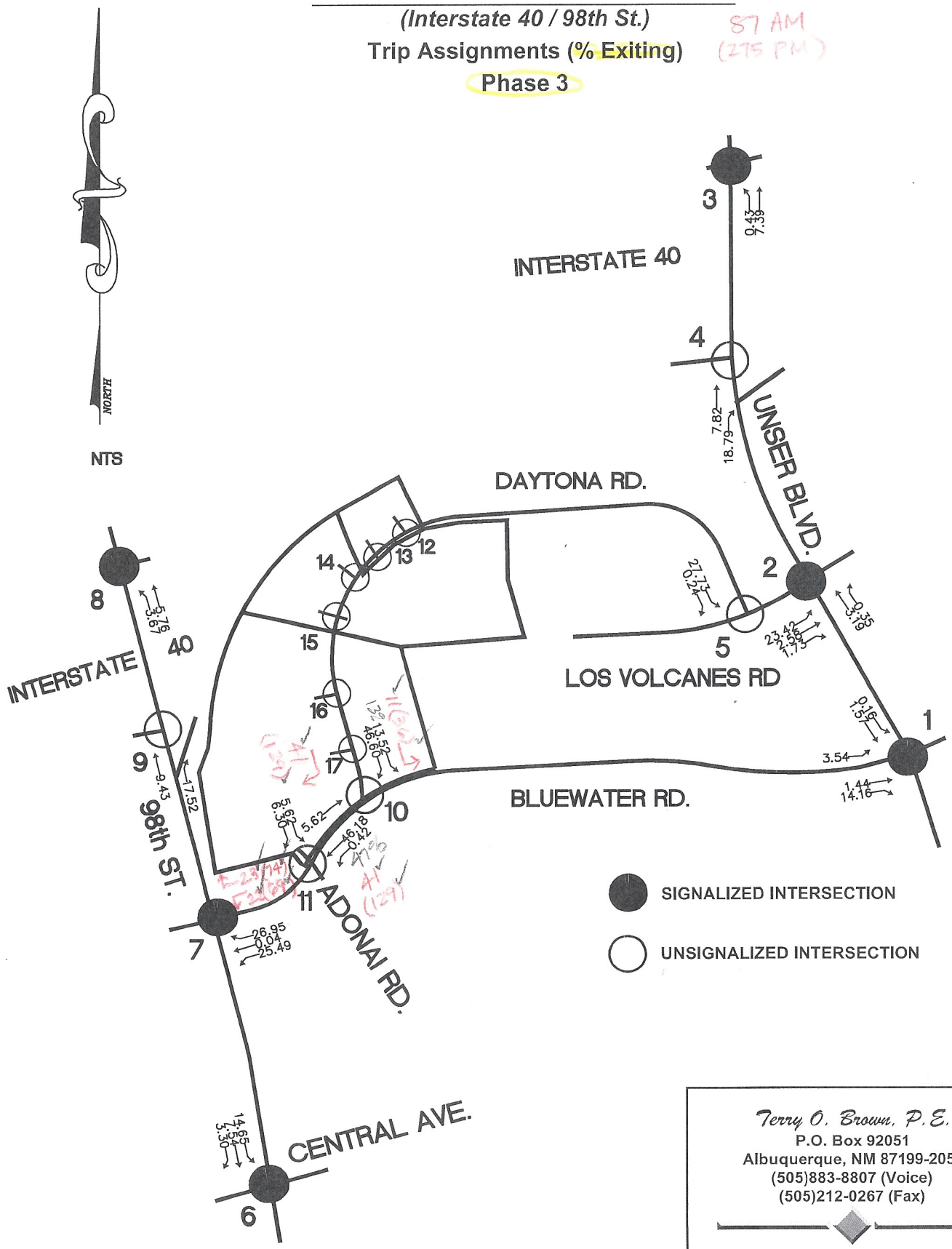
Westpointe 40 Development

(Interstate 40 / 98th St.)

Trip Assignments (% Exiting)

Phase 3

87 AM
(275 PM)



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Traffic Distribution - 98th & Bluewater Commercial Site								
Intersection and Traffic Movement	Inbound[1]				Outbound[1]			
	AM	%	PM	%	AM	%	PM	%
Central Ave.								
EBL	262	5.8%	219	4.4%	-		-	
NBT	1797	40.0%	849	16.9%	-		-	
WBR	140	3.1%	153	3.0%	-		-	
SBL	-		-		127	3.3%	112	3.7%
SBT	-		-		1145	29.6%	1013	33.2%
SBR	-		-		190	4.9%	168	5.5%
Volcano								
WBT	58	1.3%	71	1.4%	-		-	
EBT	-		-		47	1.2%	116	3.8%
Avalon/Bluewater								
SBL	55	1.2%	44	0.9%	-		-	
SBT	790	17.6%	1605	31.9%	-		-	
WBL	-		-		35	0.9%	62	2.0%
WBT	-		-		7	0.2%	10	0.3%
WBR	-		-		103	2.7%	64	2.1%
Bluewater/90th								
SBR	41	0.9%	35	0.7%	-		-	
WBT	26	0.6%	54	1.1%	-		-	
NBL	10	0.2%	10	0.2%	-		-	
EBL	-		-		100	2.6%	43	1.4%
EBT	-		-		44	1.1%	51	1.7%
EBR	-		-		7	0.2%	22	0.7%
I40 South Ramp								
EBR	77	1.7%	98	1.9%	-		-	
NBR					1696	43.9%	999	32.7%
I40 North								
SBT	539	12.0%	389	7.7%	-		-	
WBL	701	15.6%	1506	29.9%	-		-	
NBL					67	1.7%	104	3.4%
NBT					299	7.7%	290	9.5%
Total Volumes	**4496**	100%	**5033**	100%	**3867**	100%	**3054**	100%

[1] *From 2025AMX & 2025PMX traffic volumes.*

Development: 98th & Bluewater

Driveway: 1 Driveway 1 (Node 14)

Origin #	Route	To		From	
		Distribution %	Trips	Distribution %	Trips
1	Driveway 1 (Node 14) to Origin 1 (Node 21)	10.00	27	4.00	9
2	Driveway 1 (Node 14) to Origin 2 (Node 22)	3.00	8	0.50	1
10	Origin 10 (Node 32) to Driveway 1 (Node 14)	0.00	0	0.00	---
12	Driveway 1 (Node 14) to Origin 12 (Node 34)	2.00	5	1.50	3
13	Origin 13 (Node 35) to Driveway 1 (Node 14)	0.50	1	0.00	---

Development: 98th & Bluewater

Driveway: 2 Driveway 2 (Node 12)

Origin #	Route	To		From	
		Distribution %	Trips	Distribution %	Trips
1	Origin 1 (Node 21) to Driveway 2 (Node 12)	25.00	66	0.00	---
2	Origin 2 (Node 22) to Driveway 2 (Node 12)	5.00	13	0.00	---
3	Driveway 2 (Node 12) to Origin 3 (Node 24)	0.00	---	0.00	0
5	Driveway 2 (Node 12) to Origin 5 (Node 27)	0.00	---	0.50	1
6	Driveway 2 (Node 12) to Origin 6 (Node 28)	0.00	---	2.00	4
8	Driveway 2 (Node 12) to Origin 8 (Node 30)	0.00	---	11.00	24
13	Origin 13 (Node 35) to Driveway 2 (Node 12)	2.00	5	0.00	---

Development: 98th & Bluewater

Driveway: 3 Driveway 3 (Node 13)

Origin #	Route	To		From	
		Distribution %	Trips	Distribution %	Trips
1	Driveway 3 (Node 13) to Origin 1 (Node 21)	20.00	53	3.00	7
2	Driveway 3 (Node 13) to Origin 2 (Node 22)	3.00	8	0.50	1
3	Driveway 3 (Node 13) to Origin 3 (Node 24)	0.00	---	0.00	0
5	Driveway 3 (Node 13) to Origin 5 (Node 27)	0.00	---	0.50	1
6	Driveway 3 (Node 13) to Origin 6 (Node 28)	2.00	5	2.00	4
7	Origin 7 (Node 29) to Driveway 3 (Node 13)	2.00	5	0.00	---
8	Driveway 3 (Node 13) to Origin 8 (Node 30)	0.00	---	12.00	27
13	Driveway 3 (Node 13) to Origin 13 (Node 35)	1.80	5	1.00	2

Development: 98th & Bluewater

Driveway: 4 Driveway 4 (Node 15)

Origin #	Route	To		From	
		Distribution %	Trips	Distribution %	Trips
1	Driveway 4 (Node 15) to Origin 1 (Node 21)	0.00	---	23.00	51
2	Driveway 4 (Node 15) to Origin 2 (Node 22)	0.00	---	3.00	7
3	Driveway 4 (Node 15) to Origin 3 (Node 24)	0.50	1	0.50	1
4	Origin 4 (Node 25) to Driveway 4 (Node 15)	0.50	1	0.00	---
5	Driveway 4 (Node 15) to Origin 5 (Node 27)	0.00	---	1.00	2
6	Driveway 4 (Node 15) to Origin 6 (Node 28)	10.00	27	5.00	11
7	Origin 7 (Node 29) to Driveway 4 (Node 15)	12.00	32	0.00	---
8	Driveway 4 (Node 15) to Origin 8 (Node 30)	0.00	---	23.00	51
9	Driveway 4 (Node 15) to Origin 9 (Node 31)	0.50	1	3.00	7
10	Driveway 4 (Node 15) to Origin 10 (Node 32)	0.20	1	1.00	2
11	Driveway 4 (Node 15) to Origin 11 (Node 33)	0.00	0	0.00	0
13	Driveway 4 (Node 15) to Origin 13 (Node 35)	0.00	---	2.00	4

Development: 98th & Bluewater

Driveway: 1 Driveway 1 (Node 14)

Origin #	Route	To		From	
		Distribution %	Trips	Distribution %	Trips
1	Driveway 1 (Node 14) to Origin 1 (Node 21)	4.00	8	4.00	7
2	Driveway 1 (Node 14) to Origin 2 (Node 22)	1.00	2	0.50	1
10	Origin 10 (Node 32) to Driveway 1 (Node 14)	0.00	0	0.00	---
12	Driveway 1 (Node 14) to Origin 12 (Node 34)	1.50	3	4.00	7
13	Origin 13 (Node 35) to Driveway 1 (Node 14)	0.50	1	0.00	---

Development: 98th & Bluewater

Driveway: 2 Driveway 2 (Node 12)

Origin #	Route	To		From	
		Distribution %	Trips	Distribution %	Trips
1	Origin 1 (Node 21) to Driveway 2 (Node 12)	7.00	14	0.00	---
2	Origin 2 (Node 22) to Driveway 2 (Node 12)	2.00	4	0.00	---
3	Driveway 2 (Node 12) to Origin 3 (Node 24)	0.00	---	0.00	0
5	Driveway 2 (Node 12) to Origin 5 (Node 27)	0.00	---	1.00	2
6	Driveway 2 (Node 12) to Origin 6 (Node 28)	0.00	---	2.00	4
8	Driveway 2 (Node 12) to Origin 8 (Node 30)	0.00	---	10.00	18
13	Origin 13 (Node 35) to Driveway 2 (Node 12)	1.50	3	0.00	---

Development: 98th & Bluewater

Driveway: 3 Driveway 3 (Node 13)

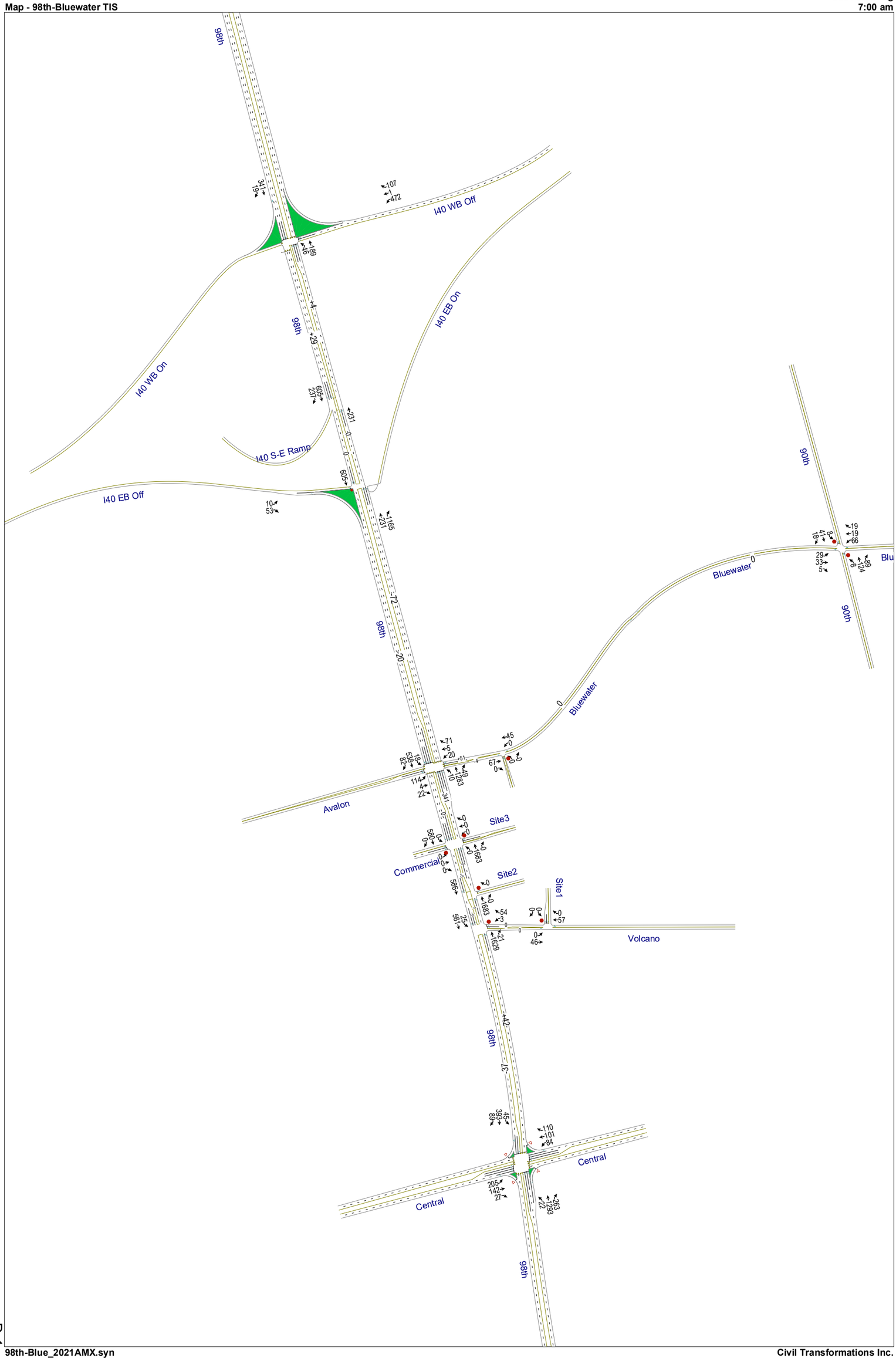
Origin #	Route	To		From	
		Distribution %	Trips	Distribution %	Trips
1	Driveway 3 (Node 13) to Origin 1 (Node 21)	6.00	12	3.00	6
2	Driveway 3 (Node 13) to Origin 2 (Node 22)	1.00	2	0.00	0
3	Driveway 3 (Node 13) to Origin 3 (Node 24)	0.00	---	0.00	0
5	Driveway 3 (Node 13) to Origin 5 (Node 27)	0.00	---	1.00	2
6	Driveway 3 (Node 13) to Origin 6 (Node 28)	2.00	4	3.00	6
7	Origin 7 (Node 29) to Driveway 3 (Node 13)	8.00	16	0.00	---
8	Driveway 3 (Node 13) to Origin 8 (Node 30)	0.00	---	10.00	18
13	Driveway 3 (Node 13) to Origin 13 (Node 35)	1.00	2	1.00	2

Development: 98th & Bluewater

Driveway: 4 Driveway 4 (Node 15)

Origin #	Route	To		From	
		Distribution %	Trips	Distribution %	Trips
1	Driveway 4 (Node 15) to Origin 1 (Node 21)	0.00	---	26.00	48
2	Driveway 4 (Node 15) to Origin 2 (Node 22)	0.00	---	5.00	9
3	Driveway 4 (Node 15) to Origin 3 (Node 24)	1.00	2	0.50	1
4	Origin 4 (Node 25) to Driveway 4 (Node 15)	2.00	4	0.00	---
5	Driveway 4 (Node 15) to Origin 5 (Node 27)	0.00	---	2.00	4
6	Driveway 4 (Node 15) to Origin 6 (Node 28)	6.00	12	5.00	9
7	Origin 7 (Node 29) to Driveway 4 (Node 15)	30.00	59	0.00	---
8	Driveway 4 (Node 15) to Origin 8 (Node 30)	0.00	---	13.00	24
9	Driveway 4 (Node 15) to Origin 9 (Node 31)	0.80	2	3.00	6
10	Driveway 4 (Node 15) to Origin 10 (Node 32)	1.00	2	1.00	2
11	Driveway 4 (Node 15) to Origin 11 (Node 33)	0.20	0	0.00	0
13	Driveway 4 (Node 15) to Origin 13 (Node 35)	0.00	---	5.00	9

APPENDIX D
LOS Worksheets


98th
I40 WB Off
I40 EB On
I40 WB On
I40 S-E Ramp
I40 EB Off
90th
Bluewater
Avalon
Site3
Commercial
Site2
Site1
Volcano
Central

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	142	27	84	101	110	22	1293	263	45	393	89
Future Volume (veh/h)	205	142	27	84	101	110	22	1293	263	45	393	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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1707	1796	1737	1796	1841	1870	1856	1633	1885	1767
Adj Flow Rate, veh/h	223	154	0	91	110	0	24	1405	0	49	427	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	8	13	7	11	7	4	2	3	18	1	9
Cap, veh/h	276	555		136	411		428	1531		118	1593	
Arrive On Green	0.08	0.16	0.00	0.04	0.12	0.00	0.01	0.43	0.00	0.03	0.44	0.00
Sat Flow, veh/h	3428	3474	0	3319	3387	0	1753	3554	1572	1555	3676	0
Grp Volume(v), veh/h	223	154	0	91	110	0	24	1405	0	49	427	0
Grp Sat Flow(s),veh/h/ln	1714	1692	0	1659	1650	0	1753	1777	1572	1555	1791	0
Q Serve(g_s), s	8.3	5.2	0.0	3.5	3.9	0.0	1.0	48.4	0.0	2.3	9.8	0.0
Cycle Q Clear(g_c), s	8.3	5.2	0.0	3.5	3.9	0.0	1.0	48.4	0.0	2.3	9.8	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	276	555		136	411		428	1531		118	1593	
V/C Ratio(X)	0.81	0.28		0.67	0.27		0.06	0.92		0.42	0.27	
Avail Cap(c_a), veh/h	462	859		294	685		506	1531		165	1593	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.8	47.6	0.0	61.5	51.5	0.0	20.6	34.8	0.0	30.2	22.7	0.0
Incr Delay (d2), s/veh	2.2	0.3	0.0	2.1	0.3	0.0	0.0	10.3	0.0	0.9	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.4	3.8	0.0	2.6	2.9	0.0	0.7	29.6	0.0	1.5	7.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.9	47.9	0.0	63.5	51.9	0.0	20.6	45.1	0.0	31.1	23.2	0.0
LnGrp LOS	E	D		E	D		C	D		C	C	
Approach Vol, veh/h		377	A		201	A		1429	A		476	A
Approach Delay, s/veh		55.6			57.2			44.7			24.0	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	28.3	6.2	63.8	15.0	23.2	8.1	62.0
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	4.5	7.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	33.0	7.5	56.0	17.5	27.0	7.5	56.0
Max Q Clear Time (g_c+I1), s	5.5	7.2	3.0	11.8	10.3	5.9	4.3	50.4
Green Ext Time (p_c), s	0.0	0.8	0.0	1.7	0.1	0.5	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	43.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	54	1629	21	25	561
Future Vol, veh/h	3	54	1629	21	25	561
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	4	2	0	4	6
Mvmt Flow	3	58	1752	23	27	603

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2121	889	0	0	1776	0
Stage 1	1765	-	-	-	-	-
Stage 2	356	-	-	-	-	-
Critical Hdwy	6.8	6.98	-	-	4.18	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.34	-	-	2.24	-
Pot Cap-1 Maneuver	44	282	-	-	338	-
Stage 1	125	-	-	-	-	-
Stage 2	686	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	40	282	-	-	338	-
Mov Cap-2 Maneuver	40	-	-	-	-	-
Stage 1	125	-	-	-	-	-
Stage 2	631	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.3	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	40	282	338	-
HCM Lane V/C Ratio	-	-	0.081	0.206	0.08	-
HCM Control Delay (s)	-	-	102.8	21	16.6	-
HCM Lane LOS	-	-	F	C	C	-
HCM 95th %tile Q(veh)	-	-	0.2	0.8	0.3	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	4	22	20	5	71	10	1283	49	18	538	82
Future Volume (veh/h)	114	4	22	20	5	71	10	1283	49	18	538	82
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		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	1144	1870	1633	1826	1604	1752	1900	1870	1841	1737	1856	1100
Adj Flow Rate, veh/h	123	4	24	22	5	76	11	1380	53	19	578	88
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	51	2	18	5	20	10	0	2	4	11	3	54
Cap, veh/h	361	88	525	485	26	388	291	1886	72	151	1679	252
Arrive On Green	0.09	0.38	0.38	0.01	0.30	0.30	0.02	0.75	0.75	0.01	0.38	0.38
Sat Flow, veh/h	1090	231	1389	1739	85	1286	1810	5046	194	1654	4446	667
Grp Volume(v), veh/h	123	0	28	22	0	81	11	931	502	19	437	229
Grp Sat Flow(s),veh/h/ln	1090	0	1620	1739	0	1371	1810	1702	1835	1654	1689	1735
Q Serve(g_s), s	9.8	0.0	1.4	1.1	0.0	5.7	0.5	19.8	19.8	0.9	12.0	12.3
Cycle Q Clear(g_c), s	9.8	0.0	1.4	1.1	0.0	5.7	0.5	19.8	19.8	0.9	12.0	12.3
Prop In Lane	1.00		0.86	1.00		0.94	1.00		0.11	1.00		0.38
Lane Grp Cap(c), veh/h	361	0	613	485	0	413	291	1273	686	151	1276	656
V/C Ratio(X)	0.34	0.00	0.05	0.05	0.00	0.20	0.04	0.73	0.73	0.13	0.34	0.35
Avail Cap(c_a), veh/h	364	0	613	624	0	413	445	1273	686	286	1276	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.0	0.0	25.6	30.9	0.0	33.7	25.4	12.8	12.8	26.4	28.9	29.0
Incr Delay (d2), s/veh	1.2	0.0	0.1	0.1	0.0	1.1	0.1	3.7	6.8	0.8	0.3	0.7
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(95%),veh/ln	4.9	0.0	1.1	0.9	0.0	3.7	0.4	8.2	9.5	0.7	8.4	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	0.0	25.7	31.0	0.0	34.8	25.5	16.5	19.5	27.2	29.2	29.7
LnGrp LOS	C	A	C	C	A	C	C	B	B	C	C	C
Approach Vol, veh/h		151			103			1444			685	
Approach Delay, s/veh		27.0			34.0			17.6			29.3	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	54.2	4.5	55.1	15.2	44.2	5.0	54.6
Change Period (Y+Rc), s	3.5	5.0	3.5	6.0	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	12.1	39.2	12.1	48.6	12.1	39.2	12.1	48.6
Max Q Clear Time (g_c+I1), s	3.1	3.4	2.5	14.3	11.8	7.7	2.9	21.8
Green Ext Time (p_c), s	0.0	0.2	0.0	8.6	0.0	0.8	0.0	17.9

Intersection Summary	
HCM 6th Ctrl Delay	22.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	10	53	0	231	1165	0	605	0	0	0
Future Vol, veh/h	10	53	0	231	1165	0	605	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	45	2	9	6	2	8	2	2	2
Mvmt Flow	11	56	0	243	1226	0	637	0	0	0

Major/Minor	Minor2	Major1			Major2			
Conflicting Flow All	759	-	-	0	-	-	-	0
Stage 1	637	-	-	-	-	-	-	-
Stage 2	122	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	343	0	0	-	0	0	-	0
Stage 1	489	0	0	-	0	0	-	0
Stage 2	890	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	343	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	343	-	-	-	-	-	-	-
Stage 1	489	-	-	-	-	-	-	-
Stage 2	890	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	343	-	-
HCM Lane V/C Ratio	-	0.031	-	-
HCM Control Delay (s)	-	15.8	0	-
HCM Lane LOS	-	C	A	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	472	1	107	46	189	0	0	341	19
Future Volume (veh/h)	0	0	0	472	1	107	46	189	0	0	341	19
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1870	1870	1322	1870	0	0	1870	1870
Adj Flow Rate, veh/h				514	0	0	50	205	0	0	371	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				8	2	2	39	2	0	0	2	2
Cap, veh/h				599	0		396	1941	0	0	2381	
Arrive On Green				0.18	0.00	0.00	0.03	0.55	0.00	0.00	0.47	0.00
Sat Flow, veh/h				3393	0	1585	1259	3647	0	0	5443	0
Grp Volume(v), veh/h				514	0	0	50	205	0	0	371	0
Grp Sat Flow(s),veh/h/ln				1697	0	1585	1259	1777	0	0	1702	0
Q Serve(g_s), s				19.1	0.0	0.0	2.6	3.6	0.0	0.0	5.4	0.0
Cycle Q Clear(g_c), s				19.1	0.0	0.0	2.6	3.6	0.0	0.0	5.4	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				599	0		396	1941	0	0	2381	
V/C Ratio(X)				0.86	0.00		0.13	0.11	0.00	0.00	0.16	
Avail Cap(c_a), veh/h				1240	0		431	1941	0	0	2381	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				52.0	0.0	0.0	16.4	14.2	0.0	0.0	20.0	0.0
Incr Delay (d2), s/veh				3.7	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				12.9	0.0	0.0	1.3	2.6	0.0	0.0	3.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				55.7	0.0	0.0	16.5	14.3	0.0	0.0	20.1	0.0
LnGrp LOS				E	A		B	B	A	A	C	
Approach Vol, veh/h					514	A		255			371	A
Approach Delay, s/veh					55.7			14.7			20.1	
Approach LOS					E			B			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.4	66.6		28.4		77.0
Change Period (Y+Rc), s	6.5	* 6		5.5		6.0
Max Green Setting (Gmax), s	7.5	* 58		47.5		71.0
Max Q Clear Time (g_c+I1), s	4.6	7.4		21.1		5.6
Green Ext Time (p_c), s	0.0	2.5		1.8		1.3

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

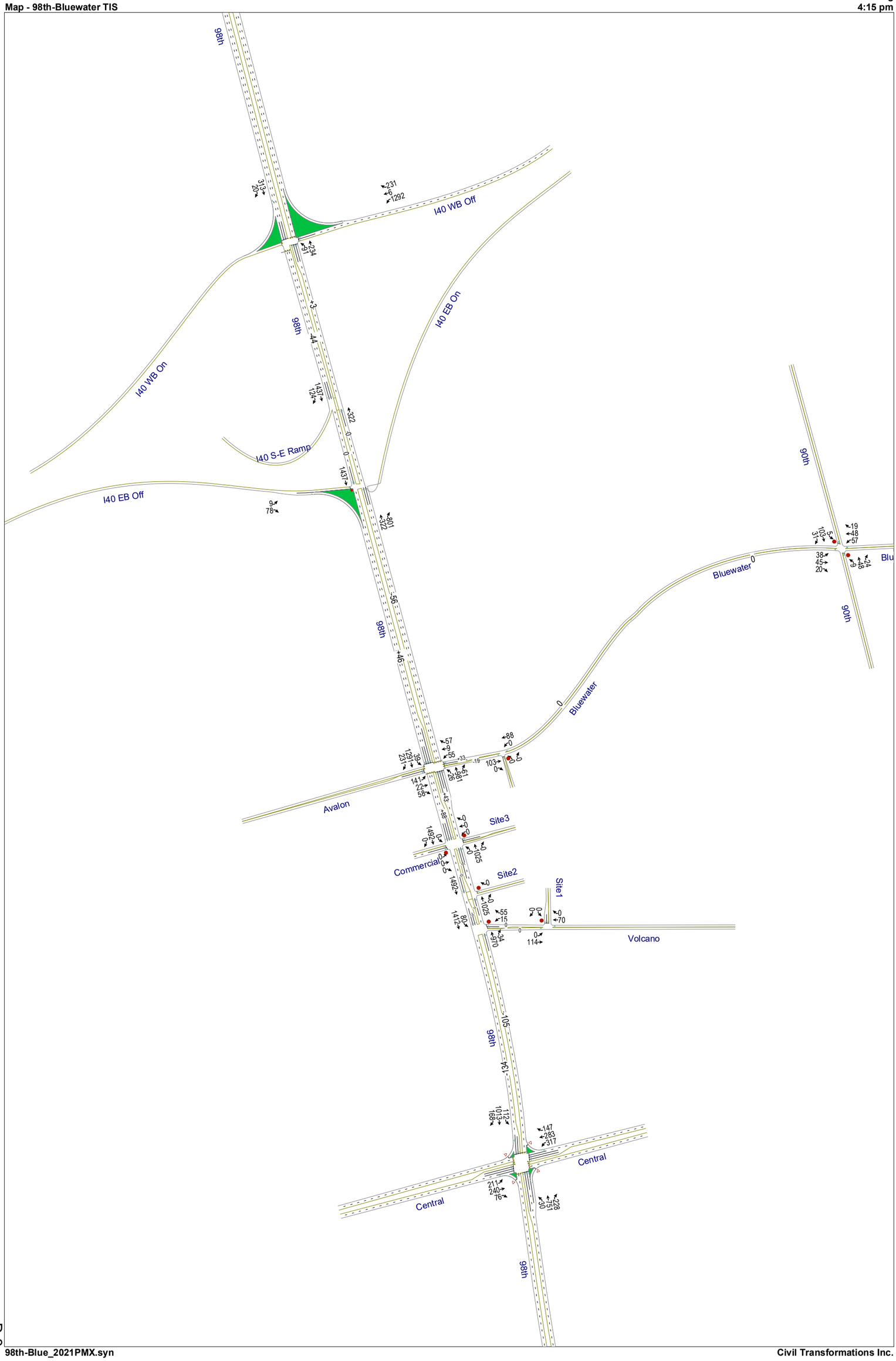
Intersection	
Int Delay, s/veh	9.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	33	5	66	19	19	8	124	89	8	41	18
Future Vol, veh/h	29	33	5	66	19	19	8	124	89	8	41	18
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	7	2	2	2	5	5	2	2	3	13	5	22
Mvmt Flow	34	39	6	78	22	22	9	146	105	9	48	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	49	0	0	45	0	0	334	315	42	430	307	38
Stage 1	-	-	-	-	-	-	110	110	-	194	194	-
Stage 2	-	-	-	-	-	-	224	205	-	236	113	-
Critical Hdwy	4.17	-	-	4.12	-	-	7.12	6.52	6.23	7.23	6.55	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Follow-up Hdwy	2.263	-	-	2.218	-	-	3.518	4.018	3.327	3.617	4.045	3.498
Pot Cap-1 Maneuver	1526	-	-	1563	-	-	620	601	1026	517	602	980
Stage 1	-	-	-	-	-	-	895	804	-	783	734	-
Stage 2	-	-	-	-	-	-	779	732	-	743	796	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1519	-	-	1563	-	-	536	555	1026	349	556	975
Mov Cap-2 Maneuver	-	-	-	-	-	-	536	555	-	349	556	-
Stage 1	-	-	-	-	-	-	875	786	-	762	693	-
Stage 2	-	-	-	-	-	-	673	691	-	531	778	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	4.7	13.1	11.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	536	687	1519	-	-	1563	-	-	349	640
HCM Lane V/C Ratio	0.018	0.365	0.022	-	-	0.05	-	-	0.027	0.108
HCM Control Delay (s)	11.8	13.2	7.4	-	-	7.4	0	-	15.6	11.3
HCM Lane LOS	B	B	A	-	-	A	A	-	C	B
HCM 95th %tile Q(veh)	0.1	1.7	0.1	-	-	0.2	-	-	0.1	0.4


98th
I40 WB Off
I40 EB On
I40 WB On
I40 S-E Ramp
I40 EB Off
90th
Bluewater
Avalon
Site3
Commercial
Site2
Site1
Volcano
Central

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	240	76	317	283	147	30	751	228	112	1013	168
Future Volume (veh/h)	211	240	76	317	283	147	30	751	228	112	1013	168
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		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	1841	1870	1707	1870	1870	1856	1870	1826
Adj Flow Rate, veh/h	222	253	0	334	298	0	32	791	0	118	1066	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	4	2	13	2	2	3	2	5
Cap, veh/h	284	905		391	999		233	1335		300	1469	
Arrive On Green	0.08	0.25	0.00	0.11	0.29	0.00	0.02	0.38	0.00	0.11	0.83	0.00
Sat Flow, veh/h	3456	3647	0	3456	3589	0	1626	3554	1585	1767	3647	0
Grp Volume(v), veh/h	222	253	0	334	298	0	32	791	0	118	1066	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1728	1749	0	1626	1777	1585	1767	1777	0
Q Serve(g_s), s	6.9	6.3	0.0	10.4	7.3	0.0	1.3	19.7	0.0	4.4	14.3	0.0
Cycle Q Clear(g_c), s	6.9	6.3	0.0	10.4	7.3	0.0	1.3	19.7	0.0	4.4	14.3	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	284	905		391	999		233	1335		300	1469	
V/C Ratio(X)	0.78	0.28		0.85	0.30		0.14	0.59		0.39	0.73	
Avail Cap(c_a), veh/h	424	905		393	999		328	1335		336	1469	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.5	32.9	0.0	47.9	30.7	0.0	21.1	27.6	0.0	19.2	6.8	0.0
Incr Delay (d2), s/veh	2.7	0.8	0.0	15.8	0.8	0.0	0.1	1.9	0.0	0.3	3.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.3	4.8	0.0	8.8	5.4	0.0	0.9	13.0	0.0	2.9	5.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.3	33.7	0.0	63.7	31.5	0.0	21.2	29.5	0.0	19.6	10.0	0.0
LnGrp LOS	D	C		E	C		C	C		B	A	
Approach Vol, veh/h		475	A		632	A		823	A		1184	A
Approach Delay, s/veh		42.4			48.5			29.2			10.9	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	35.0	6.6	51.5	13.5	38.4	10.7	47.3
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	4.5	7.0	4.5	6.0
Max Green Setting (Gmax), s	12.5	28.0	8.5	39.0	13.5	27.0	8.5	39.0
Max Q Clear Time (g_c+I1), s	12.4	8.3	3.3	16.3	8.9	9.3	6.4	21.7
Green Ext Time (p_c), s	0.0	1.2	0.0	4.8	0.1	1.4	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	55	970	34	80	1412
Future Vol, veh/h	15	55	970	34	80	1412
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	5	2
Mvmt Flow	16	58	1021	36	84	1486

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1951	530	0	0	1058	0
Stage 1	1040	-	-	-	-	-
Stage 2	911	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.2	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.25	-
Pot Cap-1 Maneuver	56	493	-	-	636	-
Stage 1	302	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	49	493	-	-	635	-
Mov Cap-2 Maneuver	49	-	-	-	-	-
Stage 1	302	-	-	-	-	-
Stage 2	306	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	34	0	0.6
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	49	493	635	-
HCM Lane V/C Ratio	-	-	0.322	0.117	0.133	-
HCM Control Delay (s)	-	-	110.1	13.3	11.5	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	1.1	0.4	0.5	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	22	58	55	9	57	26	981	61	39	1291	231
Future Volume (veh/h)	141	22	58	55	9	57	26	981	61	39	1291	231
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		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	1129	1411	1841	1841	1470	1811	1500	1870	1856	1781	1870	1337
Adj Flow Rate, veh/h	144	22	59	56	9	58	27	1001	62	40	1317	236
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	33	4	4	29	6	27	2	3	8	2	38
Cap, veh/h	174	42	113	216	16	104	223	3216	199	342	2865	513
Arrive On Green	0.07	0.12	0.12	0.04	0.09	0.09	0.01	0.22	0.22	0.02	0.66	0.66
Sat Flow, veh/h	1076	339	909	1753	170	1098	1428	4916	304	1697	4354	780
Grp Volume(v), veh/h	144	0	81	56	0	67	27	693	370	40	1030	523
Grp Sat Flow(s),veh/h/ln	1076	0	1247	1753	0	1268	1428	1702	1816	1697	1702	1730
Q Serve(g_s), s	7.5	0.0	6.7	3.1	0.0	5.6	0.7	18.8	18.9	0.9	16.3	16.3
Cycle Q Clear(g_c), s	7.5	0.0	6.7	3.1	0.0	5.6	0.7	18.8	18.9	0.9	16.3	16.3
Prop In Lane	1.00		0.73	1.00		0.87	1.00		0.17	1.00		0.45
Lane Grp Cap(c), veh/h	174	0	155	216	0	120	223	2227	1188	342	2240	1138
V/C Ratio(X)	0.83	0.00	0.52	0.26	0.00	0.56	0.12	0.31	0.31	0.12	0.46	0.46
Avail Cap(c_a), veh/h	174	0	431	283	0	450	351	2227	1188	425	2240	1138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	0.0	45.1	42.7	0.0	47.6	7.5	22.3	22.3	7.8	9.2	9.2
Incr Delay (d2), s/veh	29.0	0.0	5.7	1.3	0.0	8.4	0.5	0.4	0.7	0.3	0.7	1.3
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(95%),veh/ln	5.7	0.0	4.2	2.6	0.0	3.7	0.4	13.4	14.3	0.5	9.1	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.3	0.0	50.8	44.1	0.0	55.9	8.0	22.7	23.0	8.1	9.9	10.6
LnGrp LOS	E	A	D	D	A	E	A	C	C	A	A	B
Approach Vol, veh/h		225			123			1090			1593	
Approach Delay, s/veh		66.5			50.5			22.4			10.1	
Approach LOS		E			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	18.7	5.2	78.4	11.0	15.4	5.6	78.0
Change Period (Y+Rc), s	3.5	5.0	3.5	6.0	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	8.5	38.0	11.5	34.0	7.5	39.0	7.5	38.0
Max Q Clear Time (g_c+I1), s	5.1	8.7	2.7	18.3	9.5	7.6	2.9	20.9
Green Ext Time (p_c), s	0.1	0.8	0.0	12.6	0.0	0.7	0.0	10.0

Intersection Summary	
HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	9	78	0	322	801	0	1437	0	0	0
Future Vol, veh/h	9	78	0	322	801	0	1437	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	37	2	9	5	2	4	2	2	2
Mvmt Flow	9	81	0	335	834	0	1497	0	0	0

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1665	-	-	0	-	-	-	0
Stage 1	1497	-	-	-	-	-	-	-
Stage 2	168	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	88	0	0	-	0	0	-	0
Stage 1	172	0	0	-	0	0	-	0
Stage 2	844	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	88	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	88	-	-	-	-	-	-	-
Stage 1	172	-	-	-	-	-	-	-
Stage 2	844	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	50.7	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	88	-	-
HCM Lane V/C Ratio	-	0.107	-	-
HCM Control Delay (s)	-	50.7	0	-
HCM Lane LOS	-	F	A	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1292	6	231	91	234	0	0	313	20
Future Volume (veh/h)	0	0	0	1292	6	231	91	234	0	0	313	20
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1841	1870	1870	1530	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1393	0	0	98	252	0	0	337	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				4	2	2	25	2	0	0	2	2
Cap, veh/h				1556	0		395	1605	0	0	1710	
Arrive On Green				0.44	0.00	0.00	0.06	0.45	0.00	0.00	0.33	0.00
Sat Flow, veh/h				3506	0	1585	1457	3647	0	0	5443	0
Grp Volume(v), veh/h				1393	0	0	98	252	0	0	337	0
Grp Sat Flow(s),veh/h/ln				1753	0	1585	1457	1777	0	0	1702	0
Q Serve(g_s), s				40.3	0.0	0.0	4.7	4.6	0.0	0.0	5.2	0.0
Cycle Q Clear(g_c), s				40.3	0.0	0.0	4.7	4.6	0.0	0.0	5.2	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				1556	0		395	1605	0	0	1710	
V/C Ratio(X)				0.90	0.00		0.25	0.16	0.00	0.00	0.20	
Avail Cap(c_a), veh/h				2231	0		410	1605	0	0	1710	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				28.2	0.0	0.0	20.7	17.8	0.0	0.0	26.0	0.0
Incr Delay (d2), s/veh				3.8	0.0	0.0	0.3	0.2	0.0	0.0	0.3	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				23.0	0.0	0.0	2.8	3.3	0.0	0.0	3.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				32.0	0.0	0.0	21.1	18.0	0.0	0.0	26.3	0.0
LnGrp LOS				C	A		C	B	A	A	C	
Approach Vol, veh/h					1393	A		350			337	A
Approach Delay, s/veh					32.0			18.9			26.3	
Approach LOS					C			B			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.9	42.3		54.8		55.2
Change Period (Y+Rc), s	6.5	5.5		6.0		5.5
Max Green Setting (Gmax), s	7.5	14.5		70.0		28.5
Max Q Clear Time (g_c+I1), s	6.7	7.2		42.3		6.6
Green Ext Time (p_c), s	0.0	1.1		6.5		1.4

Intersection Summary	
HCM 6th Ctrl Delay	28.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

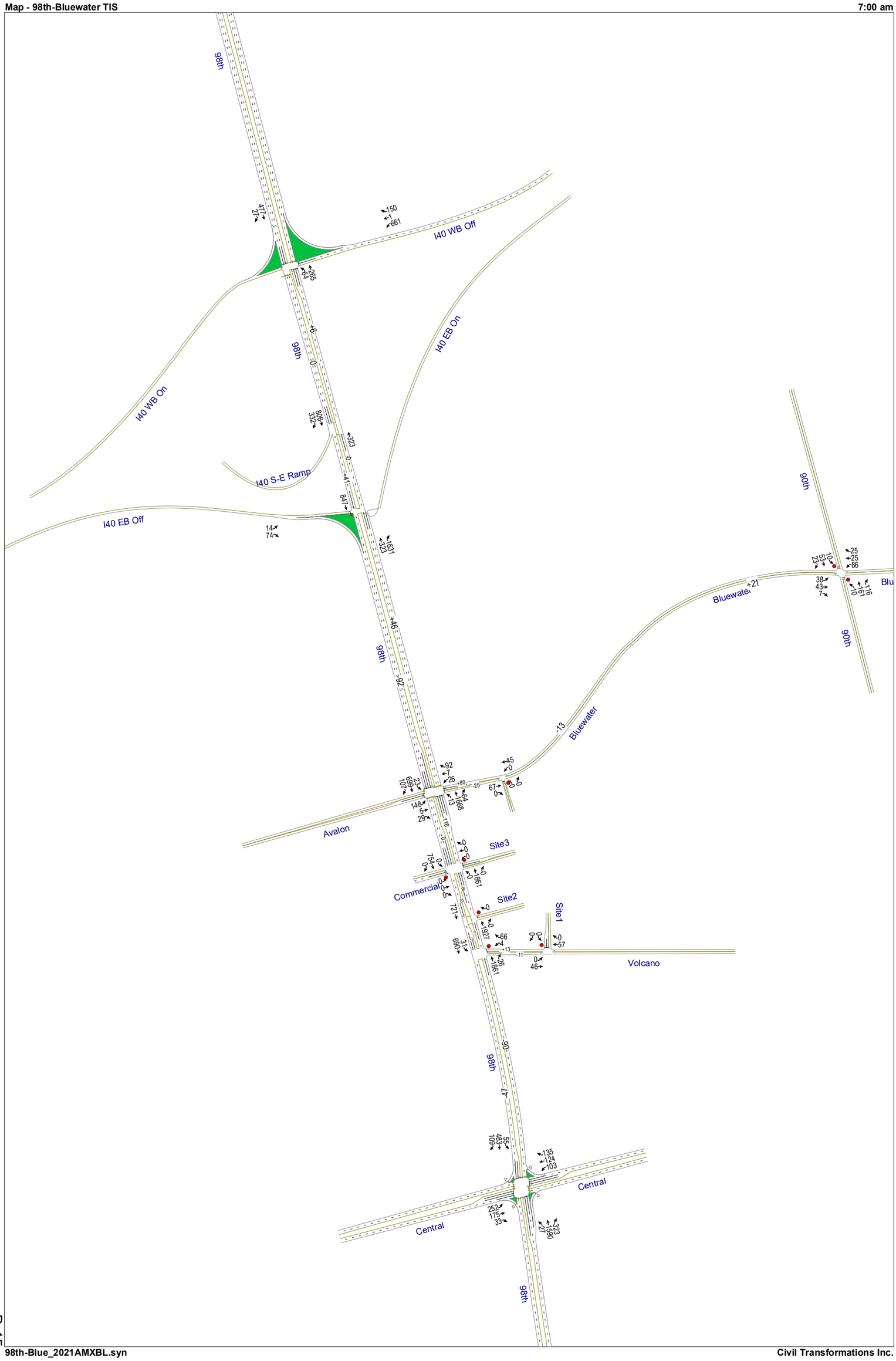
Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	45	20	57	48	19	9	48	24	5	103	31
Future Vol, veh/h	38	45	20	57	48	19	9	48	24	5	103	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
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, %	8	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	51	23	65	55	22	10	55	27	6	117	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	77	0	0	74	0	0	421	356	63	386	356	66
Stage 1	-	-	-	-	-	-	149	149	-	196	196	-
Stage 2	-	-	-	-	-	-	272	207	-	190	160	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1484	-	-	1526	-	-	543	570	1002	573	570	998
Stage 1	-	-	-	-	-	-	854	774	-	806	739	-
Stage 2	-	-	-	-	-	-	734	731	-	812	766	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1484	-	-	1526	-	-	411	528	1002	485	528	998
Mov Cap-2 Maneuver	-	-	-	-	-	-	411	528	-	485	528	-
Stage 1	-	-	-	-	-	-	829	752	-	783	706	-
Stage 2	-	-	-	-	-	-	564	698	-	711	744	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.8	3.4	11.9	13.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	411	627	1484	-	-	1526	-	-	485	593
HCM Lane V/C Ratio	0.025	0.13	0.029	-	-	0.042	-	-	0.012	0.257
HCM Control Delay (s)	14	11.6	7.5	-	-	7.5	0	-	12.5	13.2
HCM Lane LOS	B	B	A	-	-	A	A	-	B	B
HCM 95th %tile Q(veh)	0.1	0.4	0.1	-	-	0.1	-	-	0	1


98th
I40 WB Off
I40 EB On
I40 WB On
I40 S-E Ramp
I40 EB Off
90th
Bluewater
Avalon
Site3
Commercial
Site2
Site1
Volcano
Central

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	175	33	103	124	135	27	1590	323	55	483	109
Future Volume (veh/h)	252	175	33	103	124	135	27	1590	323	55	483	109
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1707	1796	1737	1796	1841	1870	1856	1633	1885	1767
Adj Flow Rate, veh/h	274	190	0	112	135	0	29	1728	0	60	525	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	8	13	7	11	7	4	2	3	18	1	9
Cap, veh/h	326	581		160	411		388	1531		106	1603	
Arrive On Green	0.10	0.17	0.00	0.05	0.12	0.00	0.02	0.43	0.00	0.03	0.45	0.00
Sat Flow, veh/h	3428	3474	0	3319	3387	0	1753	3554	1572	1555	3676	0
Grp Volume(v), veh/h	274	190	0	112	135	0	29	1728	0	60	525	0
Grp Sat Flow(s),veh/h/ln	1714	1692	0	1659	1650	0	1753	1777	1572	1555	1791	0
Q Serve(g_s), s	10.2	6.4	0.0	4.3	4.9	0.0	1.2	56.0	0.0	2.8	12.3	0.0
Cycle Q Clear(g_c), s	10.2	6.4	0.0	4.3	4.9	0.0	1.2	56.0	0.0	2.8	12.3	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	326	581		160	411		388	1531		106	1603	
V/C Ratio(X)	0.84	0.33		0.70	0.33		0.07	1.13		0.56	0.33	
Avail Cap(c_a), veh/h	462	859		294	685		461	1531		145	1603	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.8	47.2	0.0	61.0	51.9	0.0	20.6	37.0	0.0	31.5	23.3	0.0
Incr Delay (d2), s/veh	6.7	0.3	0.0	2.1	0.5	0.0	0.0	66.9	0.0	1.7	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.1	4.7	0.0	3.3	3.5	0.0	0.9	51.3	0.0	1.9	8.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.5	47.6	0.0	63.0	52.4	0.0	20.7	103.9	0.0	33.3	23.8	0.0
LnGrp LOS	E	D		E	D		C	F		C	C	
Approach Vol, veh/h		464	A		247	A		1757	A		585	A
Approach Delay, s/veh		57.6			57.2			102.5			24.8	
Approach LOS		E			E			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	29.3	6.6	64.2	16.9	23.2	8.8	62.0
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	4.5	7.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	33.0	7.5	56.0	17.5	27.0	7.5	56.0
Max Q Clear Time (g_c+I1), s	6.3	8.4	3.2	14.3	12.2	6.9	4.8	58.0
Green Ext Time (p_c), s	0.0	1.0	0.0	2.1	0.2	0.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	77.1
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	66	1861	26	31	690
Future Vol, veh/h	4	66	1861	26	31	690
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	4	2	0	4	6
Mvmt Flow	4	71	2001	28	33	742

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2453	1016	0	0	2030	0
Stage 1	2016	-	-	-	-	-
Stage 2	437	-	-	-	-	-
Critical Hdwy	6.8	6.98	-	-	4.18	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.34	-	-	2.24	-
Pot Cap-1 Maneuver	26	232	-	-	268	-
Stage 1	91	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	23	232	-	-	268	-
Mov Cap-2 Maneuver	23	-	-	-	-	-
Stage 1	91	-	-	-	-	-
Stage 2	547	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	36.8	0	0.9
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	23	232	268	-
HCM Lane V/C Ratio	-	-	0.187	0.306	0.124	-
HCM Control Delay (s)	-	-	194.5	27.2	20.3	-
HCM Lane LOS	-	-	F	D	C	-
HCM 95th %tile Q(veh)	-	-	0.6	1.2	0.4	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	5	29	26	7	92	13	1668	64	23	699	107
Future Volume (veh/h)	148	5	29	26	7	92	13	1668	64	23	699	107
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		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	1144	1870	1633	1826	1604	1752	1900	1870	1841	1737	1856	1100
Adj Flow Rate, veh/h	159	5	31	28	8	99	14	1794	69	25	752	115
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	51	2	18	5	20	10	0	2	4	11	3	54
Cap, veh/h	348	85	526	489	31	383	235	1886	72	94	1685	256
Arrive On Green	0.09	0.38	0.38	0.02	0.30	0.30	0.02	0.75	0.75	0.01	0.38	0.38
Sat Flow, veh/h	1090	225	1394	1739	103	1271	1810	5046	194	1654	4438	673
Grp Volume(v), veh/h	159	0	36	28	0	107	14	1210	653	25	571	296
Grp Sat Flow(s),veh/h/ln	1090	0	1619	1739	0	1373	1810	1702	1835	1654	1689	1734
Q Serve(g_s), s	12.1	0.0	1.8	1.4	0.0	7.7	0.6	40.3	40.5	1.2	16.4	16.6
Cycle Q Clear(g_c), s	12.1	0.0	1.8	1.4	0.0	7.7	0.6	40.3	40.5	1.2	16.4	16.6
Prop In Lane	1.00		0.86	1.00		0.93	1.00		0.11	1.00		0.39
Lane Grp Cap(c), veh/h	348	0	611	489	0	414	235	1273	686	94	1282	658
V/C Ratio(X)	0.46	0.00	0.06	0.06	0.00	0.26	0.06	0.95	0.95	0.27	0.45	0.45
Avail Cap(c_a), veh/h	348	0	611	621	0	414	387	1273	686	224	1282	658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	25.8	30.7	0.0	34.4	25.7	15.4	15.4	31.7	30.1	30.2
Incr Delay (d2), s/veh	2.0	0.0	0.2	0.1	0.0	1.5	0.2	15.9	24.4	3.2	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.6	0.0	1.4	1.1	0.0	5.0	0.5	12.9	15.8	1.0	10.8	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.5	0.0	25.9	30.8	0.0	35.9	25.9	31.2	39.8	34.9	30.6	31.2
LnGrp LOS	C	A	C	C	A	D	C	C	D	C	C	C
Approach Vol, veh/h		195			135			1877			892	
Approach Delay, s/veh		28.8			34.8			34.2			30.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	54.1	4.7	55.3	15.6	44.2	5.4	54.6
Change Period (Y+Rc), s	3.5	5.0	3.5	6.0	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	12.1	39.2	12.1	48.6	12.1	39.2	12.1	48.6
Max Q Clear Time (g_c+I1), s	3.4	3.8	2.6	18.6	14.1	9.7	3.2	42.5
Green Ext Time (p_c), s	0.0	0.3	0.0	11.2	0.0	1.2	0.0	5.7

Intersection Summary	
HCM 6th Ctrl Delay	32.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	14	74	0	323	1631	0	847	0	0	0
Future Vol, veh/h	14	74	0	323	1631	0	847	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	45	2	9	6	2	8	2	2	2
Mvmt Flow	15	78	0	340	1717	0	892	0	0	0

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1062	-	-	0	-	-	-	0
Stage 1	892	-	-	-	-	-	-	-
Stage 2	170	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	219	0	0	-	0	0	-	0
Stage 1	361	0	0	-	0	0	-	0
Stage 2	843	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	219	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	219	-	-	-	-	-	-	-
Stage 1	361	-	-	-	-	-	-	-
Stage 2	843	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	219	-	-
HCM Lane V/C Ratio	-	0.067	-	-
HCM Control Delay (s)	-	22.6	0	-
HCM Lane LOS	-	C	A	-
HCM 95th %tile Q(veh)	-	0.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	661	1	150	64	265	0	0	477	27
Future Volume (veh/h)	0	0	0	661	1	150	64	265	0	0	477	27
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1870	1870	1322	1870	0	0	1870	1870
Adj Flow Rate, veh/h				719	0	0	70	288	0	0	518	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				8	2	2	39	2	0	0	2	2
Cap, veh/h				813	0		353	1941	0	0	2325	
Arrive On Green				0.24	0.00	0.00	0.04	0.55	0.00	0.00	0.46	0.00
Sat Flow, veh/h				3393	0	1585	1259	3647	0	0	5443	0
Grp Volume(v), veh/h				719	0	0	70	288	0	0	518	0
Grp Sat Flow(s),veh/h/ln				1697	0	1585	1259	1777	0	0	1702	0
Q Serve(g_s), s				26.6	0.0	0.0	3.7	5.2	0.0	0.0	8.0	0.0
Cycle Q Clear(g_c), s				26.6	0.0	0.0	3.7	5.2	0.0	0.0	8.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				813	0		353	1941	0	0	2325	
V/C Ratio(X)				0.88	0.00		0.20	0.15	0.00	0.00	0.22	
Avail Cap(c_a), veh/h				1240	0		374	1941	0	0	2325	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				47.7	0.0	0.0	16.9	14.6	0.0	0.0	21.5	0.0
Incr Delay (d2), s/veh				5.3	0.0	0.0	0.3	0.2	0.0	0.0	0.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				17.0	0.0	0.0	1.9	3.7	0.0	0.0	5.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				53.0	0.0	0.0	17.1	14.7	0.0	0.0	21.7	0.0
LnGrp LOS				D	A		B	B	A	A	C	
Approach Vol, veh/h					719	A		358			518	A
Approach Delay, s/veh					53.0			15.2			21.7	
Approach LOS					D			B			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.8	65.2		36.6		77.0
Change Period (Y+Rc), s	6.5	* 6		5.5		6.0
Max Green Setting (Gmax), s	7.5	* 58		47.5		71.0
Max Q Clear Time (g_c+I1), s	5.7	10.0		28.6		7.2
Green Ext Time (p_c), s	0.0	3.5		2.6		1.8

Intersection Summary	
HCM 6th Ctrl Delay	34.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

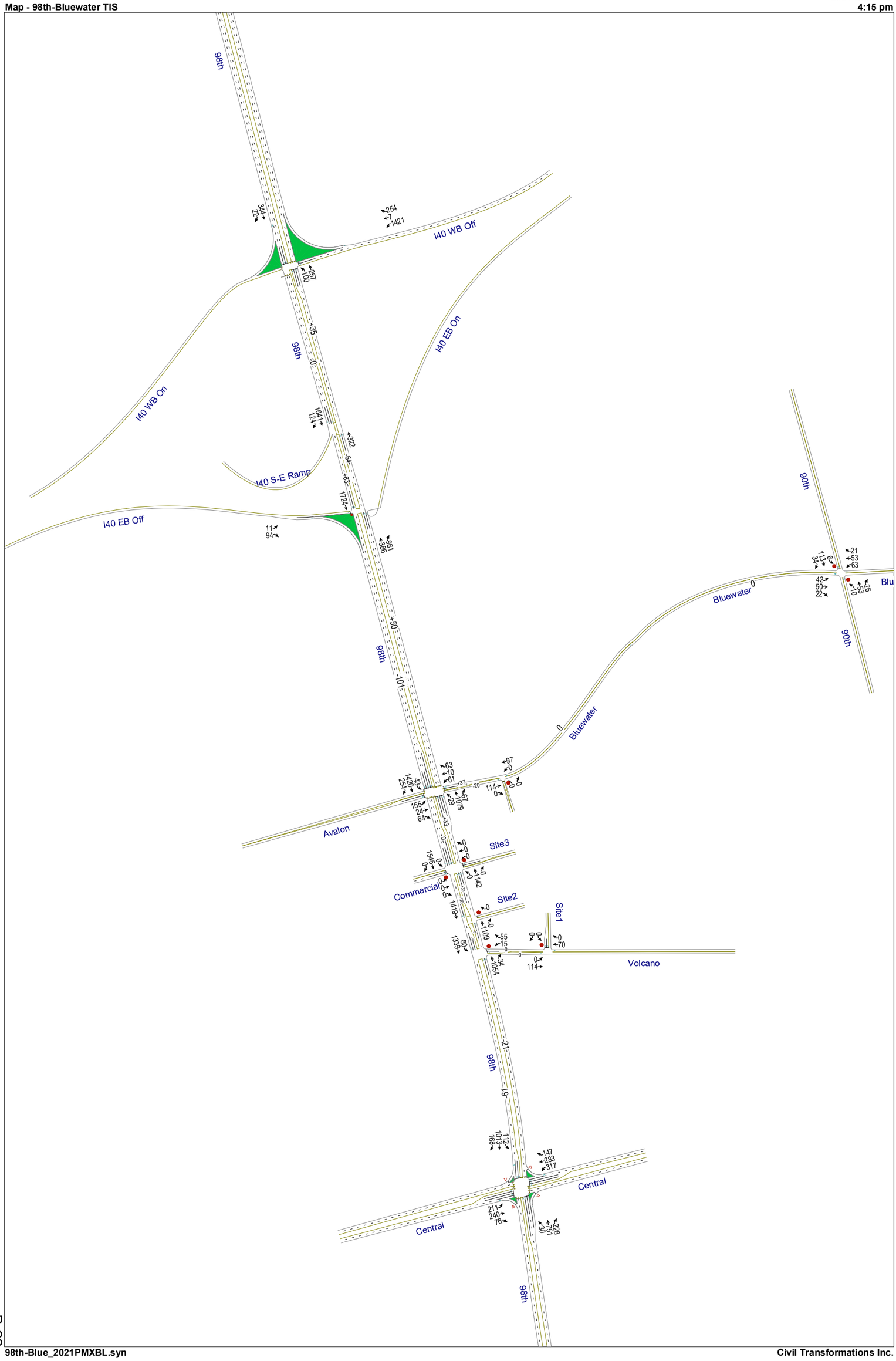
Intersection	
Int Delay, s/veh	11.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	43	7	86	25	25	10	161	116	10	53	23
Future Vol, veh/h	38	43	7	86	25	25	10	161	116	10	53	23
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	7	2	2	2	5	5	2	2	3	13	5	22
Mvmt Flow	45	51	8	101	29	29	12	189	136	12	62	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	63	0	0	59	0	0	435	410	55	559	400	49
Stage 1	-	-	-	-	-	-	145	145	-	251	251	-
Stage 2	-	-	-	-	-	-	290	265	-	308	149	-
Critical Hdwy	4.17	-	-	4.12	-	-	7.12	6.52	6.23	7.23	6.55	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Follow-up Hdwy	2.263	-	-	2.218	-	-	3.518	4.018	3.327	3.617	4.045	3.498
Pot Cap-1 Maneuver	1508	-	-	1545	-	-	531	531	1009	423	534	966
Stage 1	-	-	-	-	-	-	858	777	-	729	694	-
Stage 2	-	-	-	-	-	-	718	689	-	679	768	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1501	-	-	1545	-	-	431	478	1009	234	481	961
Mov Cap-2 Maneuver	-	-	-	-	-	-	431	478	-	234	481	-
Stage 1	-	-	-	-	-	-	832	754	-	703	643	-
Stage 2	-	-	-	-	-	-	587	639	-	426	745	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	4.7	17.2	13.5
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	431	613	1501	-	-	1545	-	-	234	567
HCM Lane V/C Ratio	0.027	0.532	0.03	-	-	0.065	-	-	0.05	0.158
HCM Control Delay (s)	13.6	17.3	7.5	-	-	7.5	0	-	21.2	12.5
HCM Lane LOS	B	C	A	-	-	A	A	-	C	B
HCM 95th %tile Q(veh)	0.1	3.1	0.1	-	-	0.2	-	-	0.2	0.6


98th
I40 WB Off
I40 EB On
I40 WB On
I40 S-E Ramp
I40 EB Off
90th
Bluewater
Avalon
Site3
Commercial
Site2
Site1
Volcano
Central

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	240	76	317	283	147	30	751	228	112	1013	168
Future Volume (veh/h)	211	240	76	317	283	147	30	751	228	112	1013	168
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		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	1841	1870	1707	1870	1870	1856	1870	1826
Adj Flow Rate, veh/h	222	253	0	334	298	0	32	791	0	118	1066	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	4	2	13	2	2	3	2	5
Cap, veh/h	284	905		391	999		233	1335		300	1469	
Arrive On Green	0.08	0.25	0.00	0.11	0.29	0.00	0.02	0.38	0.00	0.11	0.83	0.00
Sat Flow, veh/h	3456	3647	0	3456	3589	0	1626	3554	1585	1767	3647	0
Grp Volume(v), veh/h	222	253	0	334	298	0	32	791	0	118	1066	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1728	1749	0	1626	1777	1585	1767	1777	0
Q Serve(g_s), s	6.9	6.3	0.0	10.4	7.3	0.0	1.3	19.7	0.0	4.4	14.3	0.0
Cycle Q Clear(g_c), s	6.9	6.3	0.0	10.4	7.3	0.0	1.3	19.7	0.0	4.4	14.3	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	284	905		391	999		233	1335		300	1469	
V/C Ratio(X)	0.78	0.28		0.85	0.30		0.14	0.59		0.39	0.73	
Avail Cap(c_a), veh/h	424	905		393	999		328	1335		336	1469	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.5	32.9	0.0	47.9	30.7	0.0	21.1	27.6	0.0	19.2	6.8	0.0
Incr Delay (d2), s/veh	2.7	0.8	0.0	15.8	0.8	0.0	0.1	1.9	0.0	0.3	3.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.3	4.8	0.0	8.8	5.4	0.0	0.9	13.0	0.0	2.9	5.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.3	33.7	0.0	63.7	31.5	0.0	21.2	29.5	0.0	19.6	10.0	0.0
LnGrp LOS	D	C		E	C		C	C		B	A	
Approach Vol, veh/h		475	A		632	A		823	A		1184	A
Approach Delay, s/veh		42.4			48.5			29.2			10.9	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	35.0	6.6	51.5	13.5	38.4	10.7	47.3
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	4.5	7.0	4.5	6.0
Max Green Setting (Gmax), s	12.5	28.0	8.5	39.0	13.5	27.0	8.5	39.0
Max Q Clear Time (g_c+I1), s	12.4	8.3	3.3	16.3	8.9	9.3	6.4	21.7
Green Ext Time (p_c), s	0.0	1.2	0.0	4.8	0.1	1.4	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	55	1054	34	80	1339
Future Vol, veh/h	15	55	1054	34	80	1339
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	5	2
Mvmt Flow	16	58	1109	36	84	1409

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2001	574	0	0	1146	0
Stage 1	1128	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.2	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.25	-
Pot Cap-1 Maneuver	52	462	-	-	589	-
Stage 1	271	-	-	-	-	-
Stage 2	369	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	45	462	-	-	588	-
Mov Cap-2 Maneuver	45	-	-	-	-	-
Stage 1	271	-	-	-	-	-
Stage 2	316	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	37.3	0	0.7
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	45	462	588	-
HCM Lane V/C Ratio	-	-	0.351	0.125	0.143	-
HCM Control Delay (s)	-	-	123.2	13.9	12.1	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	1.2	0.4	0.5	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	24	64	61	10	63	29	1079	67	43	1420	254
Future Volume (veh/h)	155	24	64	61	10	63	29	1079	67	43	1420	254
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		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	1129	1411	1841	1841	1470	1811	1500	1870	1856	1781	1870	1337
Adj Flow Rate, veh/h	158	24	65	62	10	64	30	1101	68	44	1449	259
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	33	4	4	29	6	27	2	3	8	2	38
Cap, veh/h	170	40	110	208	16	104	200	3211	198	312	2862	511
Arrive On Green	0.07	0.12	0.12	0.04	0.09	0.09	0.01	0.22	0.22	0.02	0.66	0.66
Sat Flow, veh/h	1076	336	911	1753	171	1097	1428	4916	303	1697	4357	777
Grp Volume(v), veh/h	158	0	89	62	0	74	30	762	407	44	1132	576
Grp Sat Flow(s),veh/h/ln	1076	0	1247	1753	0	1269	1428	1702	1816	1697	1702	1730
Q Serve(g_s), s	7.5	0.0	7.4	3.5	0.0	6.2	0.8	20.9	20.9	1.0	18.8	18.9
Cycle Q Clear(g_c), s	7.5	0.0	7.4	3.5	0.0	6.2	0.8	20.9	20.9	1.0	18.8	18.9
Prop In Lane	1.00		0.73	1.00		0.86	1.00		0.17	1.00		0.45
Lane Grp Cap(c), veh/h	170	0	150	208	0	120	200	2223	1186	312	2236	1137
V/C Ratio(X)	0.93	0.00	0.59	0.30	0.00	0.61	0.15	0.34	0.34	0.14	0.51	0.51
Avail Cap(c_a), veh/h	170	0	431	269	0	450	326	2223	1186	393	2236	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	0.0	45.8	42.5	0.0	47.8	8.0	23.1	23.2	8.2	9.7	9.7
Incr Delay (d2), s/veh	50.3	0.0	7.8	1.7	0.0	10.4	0.7	0.4	0.8	0.4	0.8	1.6
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(95%),veh/ln	8.0	0.0	4.8	2.9	0.0	4.1	0.4	14.6	15.5	0.6	10.2	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.7	0.0	53.6	44.2	0.0	58.3	8.7	23.6	24.0	8.7	10.5	11.3
LnGrp LOS	F	A	D	D	A	E	A	C	C	A	B	B
Approach Vol, veh/h		247			136			1199			1752	
Approach Delay, s/veh		81.8			51.8			23.3			10.7	
Approach LOS		F			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	18.2	5.3	78.3	11.0	15.4	5.7	77.8
Change Period (Y+Rc), s	3.5	5.0	3.5	6.0	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	8.5	38.0	11.5	34.0	7.5	39.0	7.5	38.0
Max Q Clear Time (g_c+I1), s	5.5	9.4	2.8	20.9	9.5	8.2	3.0	22.9
Green Ext Time (p_c), s	0.1	0.9	0.0	11.3	0.0	0.7	0.0	9.9

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	11	94	0	386	961	0	1724	0	0	0
Future Vol, veh/h	11	94	0	386	961	0	1724	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	37	2	9	5	2	4	2	2	2
Mvmt Flow	11	98	0	402	1001	0	1796	0	0	0

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1997	-	-	0	-	-	-	0
Stage 1	1796	-	-	-	-	-	-	-
Stage 2	201	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	52	0	0	-	0	0	-	0
Stage 1	118	0	0	-	0	0	-	0
Stage 2	813	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	52	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	52	-	-	-	-	-	-	-
Stage 1	118	-	-	-	-	-	-	-
Stage 2	813	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	92.8	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	52	-	-
HCM Lane V/C Ratio	-	0.22	-	-
HCM Control Delay (s)	-	92.8	0	-
HCM Lane LOS	-	F	A	-
HCM 95th %tile Q(veh)	-	0.7	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1421	7	254	100	257	0	0	344	22
Future Volume (veh/h)	0	0	0	1421	7	254	100	257	0	0	344	22
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1841	1870	1870	1530	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1534	0	0	108	276	0	0	370	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				4	2	2	25	2	0	0	2	2
Cap, veh/h				1699	0		352	1460	0	0	1458	
Arrive On Green				0.48	0.00	0.00	0.07	0.41	0.00	0.00	0.29	0.00
Sat Flow, veh/h				3506	0	1585	1457	3647	0	0	5443	0
Grp Volume(v), veh/h				1534	0	0	108	276	0	0	370	0
Grp Sat Flow(s),veh/h/ln				1753	0	1585	1457	1777	0	0	1702	0
Q Serve(g_s), s				44.1	0.0	0.0	5.6	5.5	0.0	0.0	6.1	0.0
Cycle Q Clear(g_c), s				44.1	0.0	0.0	5.6	5.5	0.0	0.0	6.1	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				1699	0		352	1460	0	0	1458	
V/C Ratio(X)				0.90	0.00		0.31	0.19	0.00	0.00	0.25	
Avail Cap(c_a), veh/h				2231	0		355	1460	0	0	1458	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				26.0	0.0	0.0	23.9	20.7	0.0	0.0	30.3	0.0
Incr Delay (d2), s/veh				4.5	0.0	0.0	0.5	0.3	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				24.6	0.0	0.0	3.4	4.0	0.0	0.0	4.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				30.5	0.0	0.0	24.4	21.0	0.0	0.0	30.7	0.0
LnGrp LOS				C	A		C	C	A	A	C	
Approach Vol, veh/h					1534	A		384			370	A
Approach Delay, s/veh					30.5			22.0			30.7	
Approach LOS					C			C			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.8	36.9		59.3		50.7
Change Period (Y+Rc), s	6.5	5.5		6.0		5.5
Max Green Setting (Gmax), s	7.5	14.5		70.0		28.5
Max Q Clear Time (g_c+I1), s	7.6	8.1		46.1		7.5
Green Ext Time (p_c), s	0.0	1.1		7.2		1.5

Intersection Summary	
HCM 6th Ctrl Delay	29.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

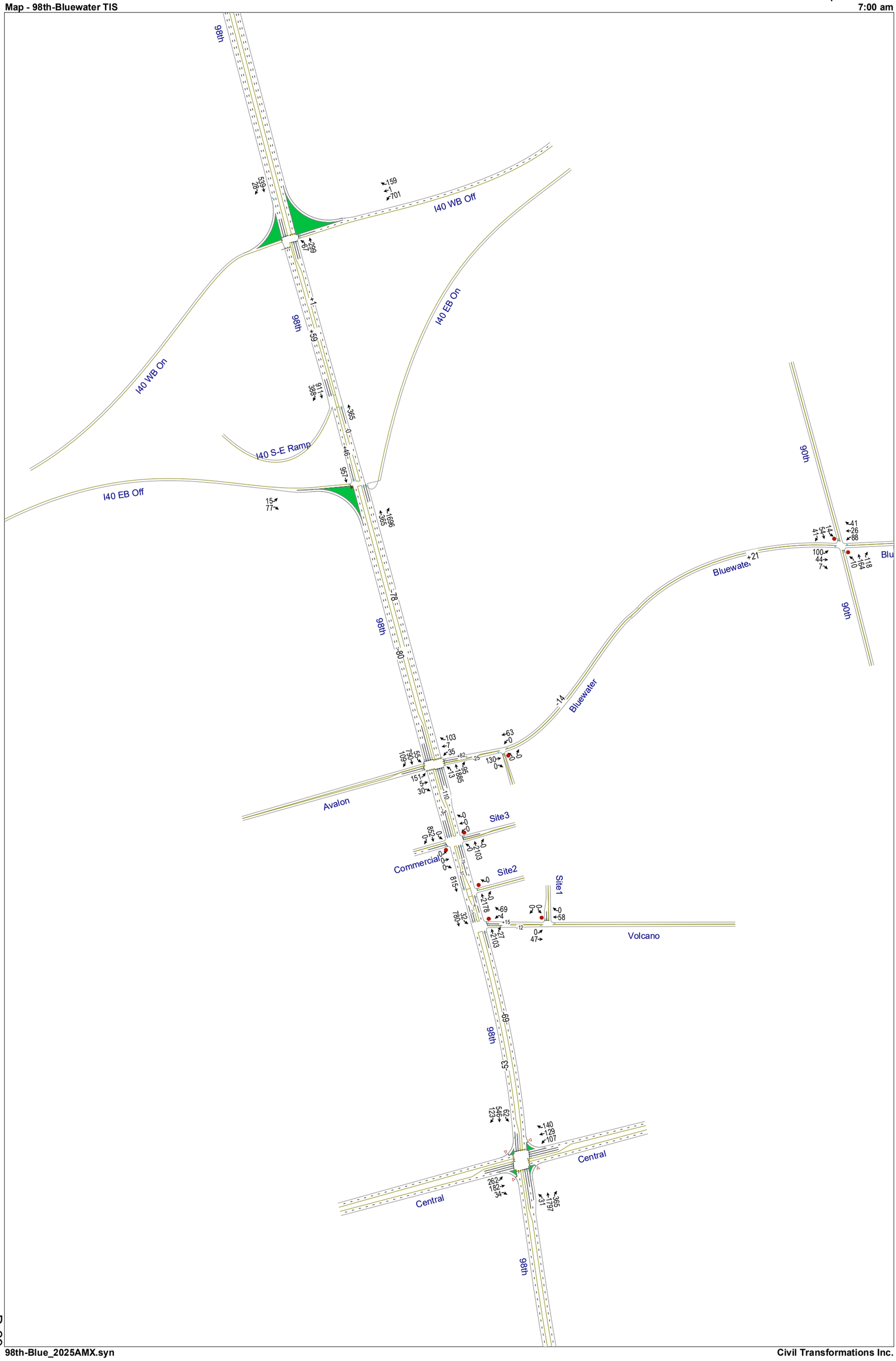
Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	50	22	63	53	21	10	53	26	6	113	34
Future Vol, veh/h	42	50	22	63	53	21	10	53	26	6	113	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
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, %	8	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	57	25	72	60	24	11	60	30	7	128	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	84	0	0	82	0	0	466	394	70	427	394	72
Stage 1	-	-	-	-	-	-	166	166	-	216	216	-
Stage 2	-	-	-	-	-	-	300	228	-	211	178	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1476	-	-	1515	-	-	507	542	993	538	542	990
Stage 1	-	-	-	-	-	-	836	761	-	786	724	-
Stage 2	-	-	-	-	-	-	709	715	-	791	752	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1476	-	-	1515	-	-	367	498	993	445	498	990
Mov Cap-2 Maneuver	-	-	-	-	-	-	367	498	-	445	498	-
Stage 1	-	-	-	-	-	-	808	736	-	760	688	-
Stage 2	-	-	-	-	-	-	526	679	-	682	727	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.8	3.4	12.4	14.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	367	596	1476	-	-	1515	-	-	445	563
HCM Lane V/C Ratio	0.031	0.151	0.032	-	-	0.047	-	-	0.015	0.297
HCM Control Delay (s)	15.1	12.1	7.5	-	-	7.5	0	-	13.2	14.1
HCM Lane LOS	C	B	A	-	-	A	A	-	B	B
HCM 95th %tile Q(veh)	0.1	0.5	0.1	-	-	0.1	-	-	0	1.2


98th
I40 WB Off
I40 EB On
I40 WB On
I40 S-E Ramp
I40 EB Off
90th
Bluewater
Avalon
Site3
Commercial
Site2
Site1
Volcano
Central

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	175	33	103	124	135	27	1590	323	55	483	109
Future Volume (veh/h)	252	175	33	103	124	135	27	1590	323	55	483	109
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1707	1796	1737	1796	1841	1870	1856	1633	1885	1767
Adj Flow Rate, veh/h	285	198	0	116	140	0	33	1953	0	68	593	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	8	13	7	11	7	4	2	3	18	1	9
Cap, veh/h	337	587		164	411		363	1531		112	1608	
Arrive On Green	0.10	0.17	0.00	0.05	0.12	0.00	0.02	0.43	0.00	0.04	0.45	0.00
Sat Flow, veh/h	3428	3474	0	3319	3387	0	1753	3554	1572	1555	3676	0
Grp Volume(v), veh/h	285	198	0	116	140	0	33	1953	0	68	593	0
Grp Sat Flow(s),veh/h/ln	1714	1692	0	1659	1650	0	1753	1777	1572	1555	1791	0
Q Serve(g_s), s	10.6	6.7	0.0	4.5	5.0	0.0	1.4	56.0	0.0	3.2	14.2	0.0
Cycle Q Clear(g_c), s	10.6	6.7	0.0	4.5	5.0	0.0	1.4	56.0	0.0	3.2	14.2	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	337	587		164	411		363	1531		112	1608	
V/C Ratio(X)	0.85	0.34		0.71	0.34		0.09	1.28		0.61	0.37	
Avail Cap(c_a), veh/h	462	859		294	685		432	1531		145	1608	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.6	47.2	0.0	60.9	52.0	0.0	20.7	37.0	0.0	31.4	23.6	0.0
Incr Delay (d2), s/veh	7.8	0.3	0.0	2.1	0.5	0.0	0.0	129.3	0.0	2.0	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.4	4.9	0.0	3.4	3.7	0.0	1.0	72.9	0.0	2.1	9.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.4	47.5	0.0	63.0	52.5	0.0	20.7	166.3	0.0	33.3	24.3	0.0
LnGrp LOS	E	D		E	D		C	F		C	C	
Approach Vol, veh/h		483	A		256	A		1986	A		661	A
Approach Delay, s/veh		58.1			57.2			163.9			25.2	
Approach LOS		E			E			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	29.6	6.9	64.4	17.3	23.2	9.2	62.0
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	4.5	7.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	33.0	7.5	56.0	17.5	27.0	7.5	56.0
Max Q Clear Time (g_c+I1), s	6.5	8.7	3.4	16.2	12.6	7.0	5.2	58.0
Green Ext Time (p_c), s	0.0	1.0	0.0	2.4	0.2	0.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	113.7
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	66	1861	26	31	690
Future Vol, veh/h	4	66	1861	26	31	690
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	4	2	0	4	6
Mvmt Flow	4	74	2261	29	35	838

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2766	1146	0	0	2291	0
Stage 1	2277	-	-	-	-	-
Stage 2	489	-	-	-	-	-
Critical Hdwy	6.8	6.98	-	-	4.18	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.34	-	-	2.24	-
Pot Cap-1 Maneuver	16	190	-	-	211	-
Stage 1	65	-	-	-	-	-
Stage 2	588	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	13	190	-	-	211	-
Mov Cap-2 Maneuver	13	-	-	-	-	-
Stage 1	65	-	-	-	-	-
Stage 2	490	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	55.7	0	1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	13	190	211	-
HCM Lane V/C Ratio	-	-	0.344	0.388	0.164	-
HCM Control Delay (s)	-	-	$ 388.6	35.5	25.4	-
HCM Lane LOS	-	-	F	E	D	-
HCM 95th %tile Q(veh)	-	-	0.9	1.7	0.6	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	5	29	34	7	101	13	1668	93	54	699	107
Future Volume (veh/h)	148	5	29	34	7	101	13	1668	93	54	699	107
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		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	1144	1870	1633	1826	1604	1752	1900	1870	1841	1737	1856	1100
Adj Flow Rate, veh/h	162	5	32	37	8	111	14	2027	102	59	849	117
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	51	2	18	5	20	10	0	2	4	11	3	54
Cap, veh/h	340	81	521	498	28	386	224	1862	93	110	1792	246
Arrive On Green	0.09	0.37	0.37	0.02	0.30	0.30	0.02	0.75	0.75	0.03	0.40	0.40
Sat Flow, veh/h	1090	219	1400	1739	92	1280	1810	4980	250	1654	4504	618
Grp Volume(v), veh/h	162	0	37	37	0	119	14	1383	746	59	635	331
Grp Sat Flow(s),veh/h/ln	1090	0	1618	1739	0	1372	1810	1702	1825	1654	1689	1744
Q Serve(g_s), s	12.1	0.0	1.9	1.9	0.0	8.6	0.6	48.6	48.6	2.8	18.1	18.3
Cycle Q Clear(g_c), s	12.1	0.0	1.9	1.9	0.0	8.6	0.6	48.6	48.6	2.8	18.1	18.3
Prop In Lane	1.00		0.86	1.00		0.93	1.00		0.14	1.00		0.35
Lane Grp Cap(c), veh/h	340	0	602	498	0	414	224	1273	682	110	1344	694
V/C Ratio(X)	0.48	0.00	0.06	0.07	0.00	0.29	0.06	1.09	1.09	0.53	0.47	0.48
Avail Cap(c_a), veh/h	340	0	602	621	0	414	376	1273	682	209	1344	694
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	0.0	26.2	30.3	0.0	34.7	25.6	16.4	16.4	32.4	29.0	29.1
Incr Delay (d2), s/veh	2.2	0.0	0.2	0.1	0.0	1.7	0.2	52.4	62.4	8.3	0.6	1.1
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(95%),veh/ln	6.7	0.0	1.4	1.5	0.0	5.6	0.5	22.5	26.4	2.4	11.6	12.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	0.0	26.4	30.5	0.0	36.5	25.9	68.8	78.8	40.7	29.6	30.2
LnGrp LOS	C	A	C	C	A	D	C	F	F	D	C	C
Approach Vol, veh/h		199			156			2143			1025	
Approach Delay, s/veh		29.4			35.0			72.0			30.4	
Approach LOS		C			D			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	53.4	4.7	57.7	15.6	44.2	7.8	54.6
Change Period (Y+Rc), s	3.5	5.0	3.5	6.0	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	12.1	39.2	12.1	48.6	12.1	39.2	12.1	48.6
Max Q Clear Time (g_c+I1), s	3.9	3.9	2.6	20.3	14.1	10.6	4.8	50.6
Green Ext Time (p_c), s	0.1	0.3	0.0	12.3	0.0	1.3	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	55.9
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	14	74	0	323	1631	0	847	0	0	0
Future Vol, veh/h	14	74	0	323	1631	0	847	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	45	2	9	6	2	8	2	2	2
Mvmt Flow	15	81	0	384	1786	0	1007	0	0	0

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1199	-	-	0	-	-	-	0
Stage 1	1007	-	-	-	-	-	-	-
Stage 2	192	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	178	0	0	-	0	0	-	0
Stage 1	314	0	0	-	0	0	-	0
Stage 2	822	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	178	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	178	-	-	-	-	-	-	-
Stage 1	314	-	-	-	-	-	-	-
Stage 2	822	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.1	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	178	-	-
HCM Lane V/C Ratio	-	0.086	-	-
HCM Control Delay (s)	-	27.1	0	-
HCM Lane LOS	-	D	A	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	661	1	150	64	265	0	0	477	27
Future Volume (veh/h)	0	0	0	661	1	150	64	265	0	0	477	27
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1870	1870	1322	1870	0	0	1870	1870
Adj Flow Rate, veh/h				763	0	0	72	325	0	0	586	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				8	2	2	39	2	0	0	2	2
Cap, veh/h				858	0		333	1941	0	0	2320	
Arrive On Green				0.25	0.00	0.00	0.04	0.55	0.00	0.00	0.45	0.00
Sat Flow, veh/h				3393	0	1585	1259	3647	0	0	5443	0
Grp Volume(v), veh/h				763	0	0	72	325	0	0	586	0
Grp Sat Flow(s),veh/h/ln				1697	0	1585	1259	1777	0	0	1702	0
Q Serve(g_s), s				28.2	0.0	0.0	3.9	5.9	0.0	0.0	9.2	0.0
Cycle Q Clear(g_c), s				28.2	0.0	0.0	3.9	5.9	0.0	0.0	9.2	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				858	0		333	1941	0	0	2320	
V/C Ratio(X)				0.89	0.00		0.22	0.17	0.00	0.00	0.25	
Avail Cap(c_a), veh/h				1240	0		353	1941	0	0	2320	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				46.8	0.0	0.0	17.0	14.7	0.0	0.0	21.9	0.0
Incr Delay (d2), s/veh				6.0	0.0	0.0	0.3	0.2	0.0	0.0	0.3	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				18.0	0.0	0.0	2.0	4.2	0.0	0.0	6.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				52.8	0.0	0.0	17.3	14.9	0.0	0.0	22.1	0.0
LnGrp LOS				D	A		B	B	A	A	C	
Approach Vol, veh/h					763	A		397			586	A
Approach Delay, s/veh					52.8			15.4			22.1	
Approach LOS					D			B			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.9	65.1		38.4		77.0
Change Period (Y+Rc), s	6.5	* 6		5.5		6.0
Max Green Setting (Gmax), s	7.5	* 58		47.5		71.0
Max Q Clear Time (g_c+I1), s	5.9	11.2		30.2		7.9
Green Ext Time (p_c), s	0.0	4.1		2.7		2.1

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

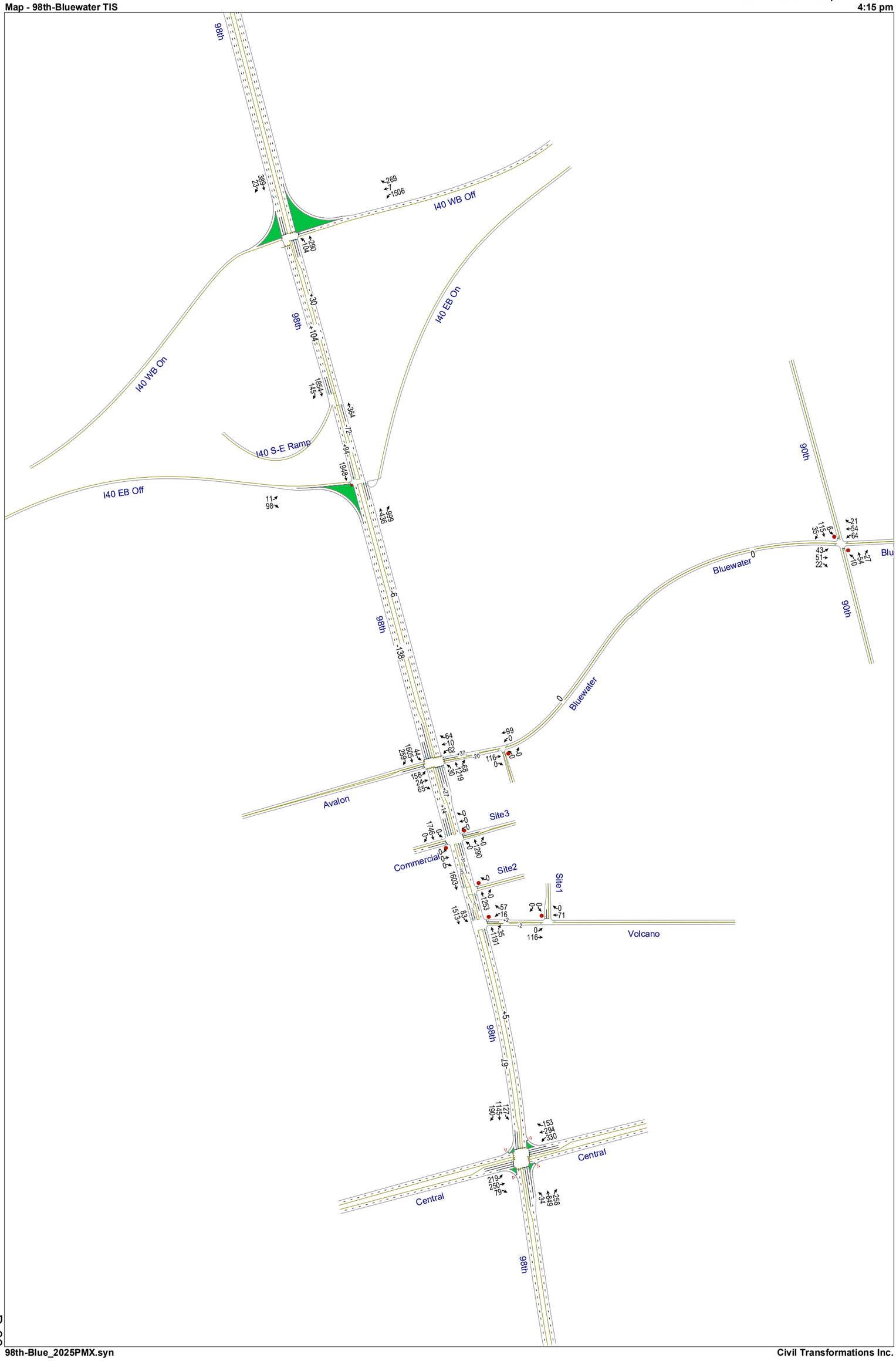
Intersection	
Int Delay, s/veh	15.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	98	43	7	86	25	40	10	161	116	14	53	40
Future Vol, veh/h	98	43	7	86	25	40	10	161	116	14	53	40
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	7	2	2	2	5	5	2	2	3	13	5	22
Mvmt Flow	118	52	8	103	30	48	12	193	139	17	64	48

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	83	0	0	60	0	0	608	581	56	723	561	59
Stage 1	-	-	-	-	-	-	292	292	-	265	265	-
Stage 2	-	-	-	-	-	-	316	289	-	458	296	-
Critical Hdwy	4.17	-	-	4.12	-	-	7.12	6.52	6.23	7.23	6.55	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Follow-up Hdwy	2.263	-	-	2.218	-	-	3.518	4.018	3.327	3.617	4.045	3.498
Pot Cap-1 Maneuver	1483	-	-	1544	-	-	408	425	1008	328	432	953
Stage 1	-	-	-	-	-	-	716	671	-	717	684	-
Stage 2	-	-	-	-	-	-	695	673	-	562	663	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1476	-	-	1544	-	-	300	362	1008	147	368	948
Mov Cap-2 Maneuver	-	-	-	-	-	-	300	362	-	147	368	-
Stage 1	-	-	-	-	-	-	659	617	-	657	633	-
Stage 2	-	-	-	-	-	-	552	623	-	306	610	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.1	4.3	25.6	16.7
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	300	495	1476	-	-	1544	-	-	147	499
HCM Lane V/C Ratio	0.04	0.672	0.08	-	-	0.067	-	-	0.114	0.224
HCM Control Delay (s)	17.5	25.9	7.7	-	-	7.5	0	-	32.6	14.3
HCM Lane LOS	C	D	A	-	-	A	A	-	D	B
HCM 95th %tile Q(veh)	0.1	4.9	0.3	-	-	0.2	-	-	0.4	0.8


98th
I40 WB Off
I40 WB On
I40 EB On
I40 S-E Ramp
I40 EB Off
90th
Bluewater
Avalon
Site3
Commercial
Site2
Site1
Volcano
Central

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	240	76	317	283	147	30	751	228	112	1013	168
Future Volume (veh/h)	211	240	76	317	283	147	30	751	228	112	1013	168
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		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	1841	1870	1707	1870	1870	1856	1870	1826
Adj Flow Rate, veh/h	231	263	0	347	310	0	36	893	0	133	1205	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	4	2	13	2	2	3	2	5
Cap, veh/h	293	905		393	992		194	1312		274	1459	
Arrive On Green	0.08	0.25	0.00	0.11	0.28	0.00	0.02	0.37	0.00	0.13	0.82	0.00
Sat Flow, veh/h	3456	3647	0	3456	3589	0	1626	3554	1585	1767	3647	0
Grp Volume(v), veh/h	231	263	0	347	310	0	36	893	0	133	1205	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1728	1749	0	1626	1777	1585	1767	1777	0
Q Serve(g_s), s	7.2	6.6	0.0	10.9	7.7	0.0	1.5	23.3	0.0	5.0	20.8	0.0
Cycle Q Clear(g_c), s	7.2	6.6	0.0	10.9	7.7	0.0	1.5	23.3	0.0	5.0	20.8	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	293	905		393	992		194	1312		274	1459	
V/C Ratio(X)	0.79	0.29		0.88	0.31		0.19	0.68		0.49	0.83	
Avail Cap(c_a), veh/h	424	905		393	992		285	1312		299	1459	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.4	33.0	0.0	48.0	31.0	0.0	22.2	29.2	0.0	20.2	7.7	0.0
Incr Delay (d2), s/veh	3.6	0.8	0.0	19.8	0.8	0.0	0.2	2.9	0.0	0.5	5.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.6	5.0	0.0	9.4	5.7	0.0	1.0	15.0	0.0	3.2	7.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.0	33.8	0.0	67.9	31.8	0.0	22.4	32.1	0.0	20.7	13.1	0.0
LnGrp LOS	D	C		E	C		C	C		C	B	
Approach Vol, veh/h		494	A		657	A		929	A		1338	A
Approach Delay, s/veh		42.8			50.9			31.7			13.9	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	35.0	6.9	51.1	13.8	38.2	11.4	46.6
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	4.5	7.0	4.5	6.0
Max Green Setting (Gmax), s	12.5	28.0	8.5	39.0	13.5	27.0	8.5	39.0
Max Q Clear Time (g_c+I1), s	12.9	8.6	3.5	22.8	9.2	9.7	7.0	25.3
Green Ext Time (p_c), s	0.0	1.3	0.0	5.0	0.1	1.5	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	30.0
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	55	1054	34	80	1339
Future Vol, veh/h	15	55	1054	34	80	1339
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	5	2
Mvmt Flow	16	60	1254	37	88	1593

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2247	647	0	0	1292	0
Stage 1	1274	-	-	-	-	-
Stage 2	973	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.2	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.25	-
Pot Cap-1 Maneuver	35	414	-	-	517	-
Stage 1	226	-	-	-	-	-
Stage 2	327	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	29	414	-	-	517	-
Mov Cap-2 Maneuver	29	-	-	-	-	-
Stage 1	226	-	-	-	-	-
Stage 2	271	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	62.2	0	0.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	29	414	517	-
HCM Lane V/C Ratio	-	-	0.566	0.145	0.169	-
HCM Control Delay (s)	-	-	234.4	15.2	13.4	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	1.8	0.5	0.6	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	24	64	61	10	63	29	1079	67	43	1420	254
Future Volume (veh/h)	155	24	64	61	10	63	29	1079	67	43	1420	254
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		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	1129	1411	1841	1841	1470	1811	1500	1870	1856	1781	1870	1337
Adj Flow Rate, veh/h	161	25	67	63	10	66	30	1244	70	45	1637	264
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	33	4	4	29	6	27	2	3	8	2	38
Cap, veh/h	168	41	109	205	16	105	175	3228	182	275	2913	468
Arrive On Green	0.07	0.12	0.12	0.04	0.09	0.09	0.01	0.22	0.22	0.02	0.66	0.66
Sat Flow, veh/h	1076	339	908	1753	167	1101	1428	4946	278	1697	4435	712
Grp Volume(v), veh/h	161	0	92	63	0	76	30	856	458	45	1255	646
Grp Sat Flow(s),veh/h/ln	1076	0	1247	1753	0	1268	1428	1702	1820	1697	1702	1742
Q Serve(g_s), s	7.5	0.0	7.7	3.5	0.0	6.3	0.8	23.7	23.7	1.0	22.0	22.3
Cycle Q Clear(g_c), s	7.5	0.0	7.7	3.5	0.0	6.3	0.8	23.7	23.7	1.0	22.0	22.3
Prop In Lane	1.00		0.73	1.00		0.87	1.00		0.15	1.00		0.41
Lane Grp Cap(c), veh/h	168	0	149	205	0	120	175	2222	1188	275	2236	1144
V/C Ratio(X)	0.96	0.00	0.62	0.31	0.00	0.63	0.17	0.39	0.39	0.16	0.56	0.56
Avail Cap(c_a), veh/h	168	0	431	265	0	450	301	2222	1188	355	2236	1144
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.6	0.0	46.0	42.5	0.0	47.9	8.8	24.3	24.3	8.9	10.3	10.3
Incr Delay (d2), s/veh	56.9	0.0	8.5	1.8	0.0	11.1	1.0	0.5	0.9	0.6	1.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.6	0.0	5.0	2.9	0.0	4.3	0.4	16.2	17.3	0.6	11.6	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	104.5	0.0	54.6	44.3	0.0	59.0	9.8	24.8	25.2	9.5	11.3	12.3
LnGrp LOS	F	A	D	D	A	E	A	C	C	A	B	B
Approach Vol, veh/h		253			139			1344			1946	
Approach Delay, s/veh		86.4			52.3			24.6			11.6	
Approach LOS		F			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	18.2	5.3	78.3	11.0	15.4	5.8	77.8
Change Period (Y+Rc), s	3.5	5.0	3.5	6.0	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	8.5	38.0	11.5	34.0	7.5	39.0	7.5	38.0
Max Q Clear Time (g_c+I1), s	5.5	9.7	2.8	24.3	9.5	8.3	3.0	25.7
Green Ext Time (p_c), s	0.1	1.0	0.0	9.0	0.0	0.8	0.0	9.2

Intersection Summary	
HCM 6th Ctrl Delay	23.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	11	94	0	386	961	0	1724	0	0	0
Future Vol, veh/h	11	94	0	386	961	0	1724	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	37	2	9	5	2	4	2	2	2
Mvmt Flow	12	102	0	454	1041	0	2029	0	0	0

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	2256	-	-	0	-	-	-	0
Stage 1	2029	-	-	-	-	-	-	-
Stage 2	227	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	35	0	0	-	0	0	-	0
Stage 1	88	0	0	-	0	0	-	0
Stage 2	789	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	35	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	35	-	-	-	-	-	-	-
Stage 1	88	-	-	-	-	-	-	-
Stage 2	789	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	153.8	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	35	-	-
HCM Lane V/C Ratio	-	0.34	-	-
HCM Control Delay (s)	-	153.8	0	-
HCM Lane LOS	-	F	A	-
HCM 95th %tile Q(veh)	-	1.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1421	7	254	100	257	0	0	344	22
Future Volume (veh/h)	0	0	0	1421	7	254	100	257	0	0	344	22
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1841	1870	1870	1530	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1626	0	0	112	312	0	0	418	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				4	2	2	25	2	0	0	2	2
Cap, veh/h				1790	0		316	1368	0	0	1316	
Arrive On Green				0.51	0.00	0.00	0.07	0.38	0.00	0.00	0.26	0.00
Sat Flow, veh/h				3506	0	1585	1457	3647	0	0	5443	0
Grp Volume(v), veh/h				1626	0	0	112	312	0	0	418	0
Grp Sat Flow(s),veh/h/ln				1753	0	1585	1457	1777	0	0	1702	0
Q Serve(g_s), s				46.6	0.0	0.0	6.0	6.5	0.0	0.0	7.3	0.0
Cycle Q Clear(g_c), s				46.6	0.0	0.0	6.0	6.5	0.0	0.0	7.3	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				1790	0		316	1368	0	0	1316	
V/C Ratio(X)				0.91	0.00		0.35	0.23	0.00	0.00	0.32	
Avail Cap(c_a), veh/h				2231	0		316	1368	0	0	1316	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				24.6	0.0	0.0	26.1	22.8	0.0	0.0	33.0	0.0
Incr Delay (d2), s/veh				5.1	0.0	0.0	0.7	0.4	0.0	0.0	0.6	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				25.6	0.0	0.0	3.7	4.8	0.0	0.0	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				29.7	0.0	0.0	26.8	23.2	0.0	0.0	33.6	0.0
LnGrp LOS				C	A		C	C	A	A	C	
Approach Vol, veh/h					1626	A		424			418	A
Approach Delay, s/veh					29.7			24.1			33.6	
Approach LOS					C			C			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.0	33.8		62.2		47.8
Change Period (Y+Rc), s	6.5	5.5		6.0		5.5
Max Green Setting (Gmax), s	7.5	14.5		70.0		28.5
Max Q Clear Time (g_c+I1), s	8.0	9.3		48.6		8.5
Green Ext Time (p_c), s	0.0	1.1		7.6		1.7

Intersection Summary	
HCM 6th Ctrl Delay	29.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

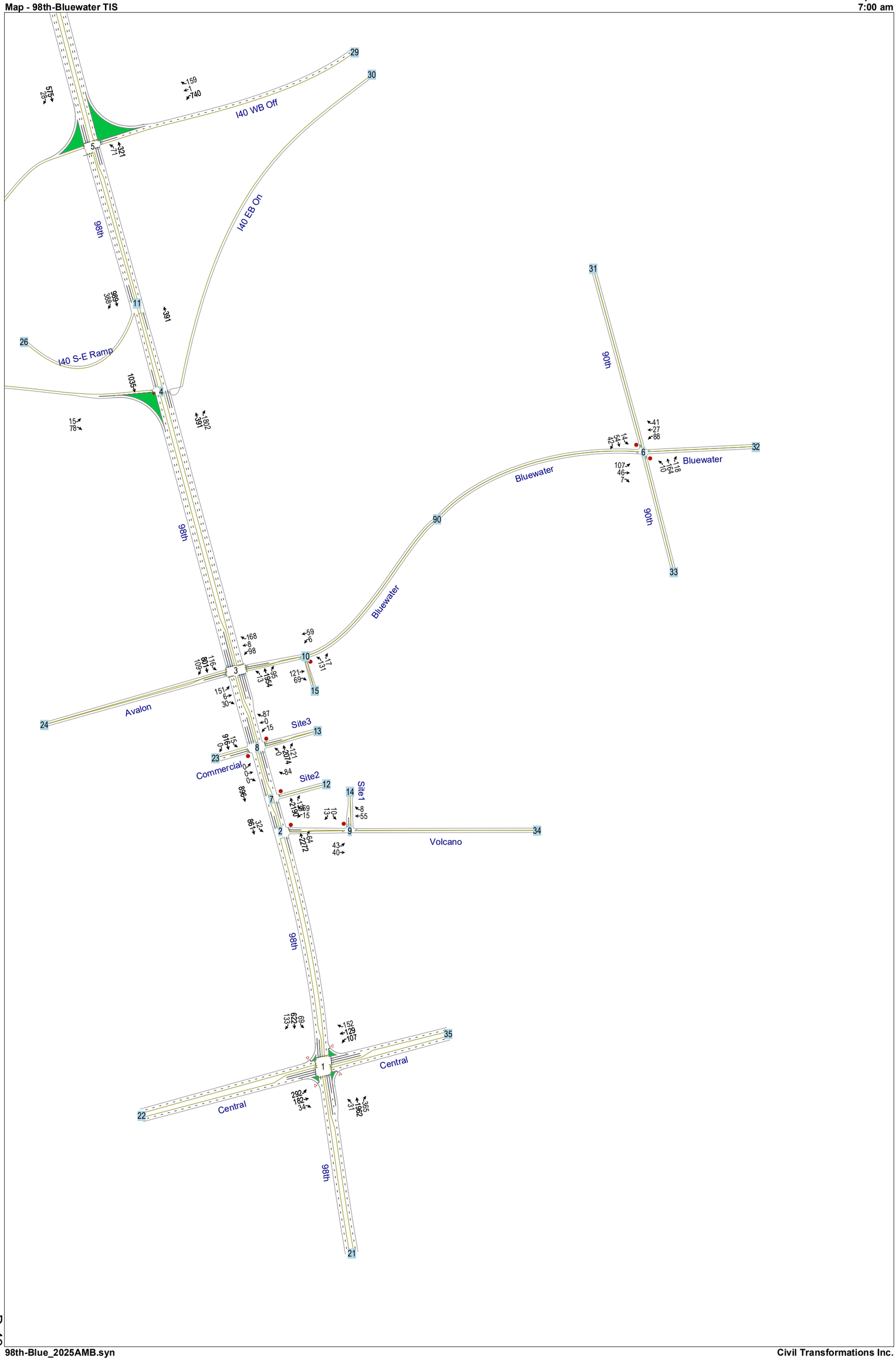
Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	50	22	63	53	21	10	53	26	6	113	34
Future Vol, veh/h	42	50	22	63	53	21	10	53	26	6	113	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
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, %	8	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	58	26	73	61	24	12	61	30	7	131	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	85	0	0	84	0	0	473	400	71	434	401	73
Stage 1	-	-	-	-	-	-	169	169	-	219	219	-
Stage 2	-	-	-	-	-	-	304	231	-	215	182	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1474	-	-	1513	-	-	501	538	991	532	538	989
Stage 1	-	-	-	-	-	-	833	759	-	783	722	-
Stage 2	-	-	-	-	-	-	705	713	-	787	749	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1474	-	-	1513	-	-	360	494	991	438	494	989
Mov Cap-2 Maneuver	-	-	-	-	-	-	360	494	-	438	494	-
Stage 1	-	-	-	-	-	-	806	734	-	757	685	-
Stage 2	-	-	-	-	-	-	520	677	-	676	724	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.8	3.4	12.5	14.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	360	592	1474	-	-	1513	-	-	438	559
HCM Lane V/C Ratio	0.032	0.155	0.033	-	-	0.048	-	-	0.016	0.305
HCM Control Delay (s)	15.3	12.2	7.5	-	-	7.5	0	-	13.4	14.2
HCM Lane LOS	C	B	A	-	-	A	A	-	B	B
HCM 95th %tile Q(veh)	0.1	0.5	0.1	-	-	0.2	-	-	0	1.3


I40 WB Off
I40 EB On
I40 S-E Ramp
98th
90th
Bluewater
Avalon
Commercial
Site3
Site2
Site1
Volcano
Central

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	175	33	103	124	135	27	1590	323	55	483	109
Future Volume (veh/h)	281	175	33	103	124	146	27	1736	323	61	550	118
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1707	1796	1737	1796	1841	1870	1856	1633	1885	1767
Adj Flow Rate, veh/h	318	198	0	116	140	0	33	2132	0	75	676	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	8	13	7	11	7	4	2	3	18	1	9
Cap, veh/h	369	619		164	411		331	1531		117	1619	
Arrive On Green	0.11	0.18	0.00	0.05	0.12	0.00	0.02	0.43	0.00	0.04	0.45	0.00
Sat Flow, veh/h	3428	3474	0	3319	3387	0	1753	3554	1572	1555	3676	0
Grp Volume(v), veh/h	318	198	0	116	140	0	33	2132	0	75	676	0
Grp Sat Flow(s),veh/h/ln	1714	1692	0	1659	1650	0	1753	1777	1572	1555	1791	0
Q Serve(g_s), s	11.9	6.6	0.0	4.5	5.0	0.0	1.4	56.0	0.0	3.5	16.6	0.0
Cycle Q Clear(g_c), s	11.9	6.6	0.0	4.5	5.0	0.0	1.4	56.0	0.0	3.5	16.6	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	369	619		164	411		331	1531		117	1619	
V/C Ratio(X)	0.86	0.32		0.71	0.34		0.10	1.39		0.64	0.42	
Avail Cap(c_a), veh/h	462	859		294	685		400	1531		145	1619	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.0	46.1	0.0	60.9	52.0	0.0	20.9	37.0	0.0	31.2	24.1	0.0
Incr Delay (d2), s/veh	11.0	0.3	0.0	2.1	0.5	0.0	0.0	180.8	0.0	3.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.3	4.9	0.0	3.4	3.7	0.0	1.0	91.2	0.0	2.4	11.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.0	46.4	0.0	63.0	52.5	0.0	20.9	217.8	0.0	34.2	24.9	0.0
LnGrp LOS	E	D		E	D		C	F		C	C	
Approach Vol, veh/h		516	A		256	A		2165	A		751	A
Approach Delay, s/veh		59.7			57.2			214.8			25.8	
Approach LOS		E			E			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	30.8	6.9	64.8	18.5	23.2	9.6	62.0
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	4.5	7.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	33.0	7.5	56.0	17.5	27.0	7.5	56.0
Max Q Clear Time (g_c+I1), s	6.5	8.6	3.4	18.6	13.9	7.0	5.5	58.0
Green Ext Time (p_c), s	0.0	1.0	0.0	2.8	0.1	0.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	143.7
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	6.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	66	1861	26	31	690
Future Vol, veh/h	14	66	2011	62	31	762
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	4	2	0	4	6
Mvmt Flow	16	74	2443	69	35	926

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3012	1257	0	0	2513	0
Stage 1	2479	-	-	-	-	-
Stage 2	533	-	-	-	-	-
Critical Hdwy	6.8	6.98	-	-	4.18	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.34	-	-	2.24	-
Pot Cap-1 Maneuver	~ 11	160	-	-	172	-
Stage 1	50	-	-	-	-	-
Stage 2	558	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 9	160	-	-	172	-
Mov Cap-2 Maneuver	~ 9	-	-	-	-	-
Stage 1	50	-	-	-	-	-
Stage 2	445	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	239.6	0	1.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	9	160	172	-
HCM Lane V/C Ratio	-	-	1.74	0.461	0.202	-
HCM Control Delay (s)	-	-	$ 1155.2	45.4	31.1	-
HCM Lane LOS	-	-	F	E	D	-
HCM 95th %tile Q(veh)	-	-	2.9	2.1	0.7	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	5	29	34	7	101	13	1668	93	54	699	107
Future Volume (veh/h)	148	6	29	96	8	165	13	1729	93	114	709	107
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		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	1144	1870	1633	1826	1604	1752	1900	1870	1841	1737	1856	1100
Adj Flow Rate, veh/h	162	7	32	105	9	181	14	2101	102	125	861	117
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	51	2	18	5	20	10	0	2	4	11	3	54
Cap, veh/h	295	99	452	557	20	393	241	1865	90	157	1922	260
Arrive On Green	0.09	0.34	0.34	0.06	0.30	0.30	0.02	0.75	0.75	0.06	0.43	0.43
Sat Flow, veh/h	1090	293	1337	1739	65	1303	1810	4990	241	1654	4513	610
Grp Volume(v), veh/h	162	0	39	105	0	190	14	1431	772	125	643	335
Grp Sat Flow(s),veh/h/ln	1090	0	1630	1739	0	1368	1810	1702	1827	1654	1689	1746
Q Serve(g_s), s	12.1	0.0	2.1	5.4	0.0	14.7	0.6	48.6	48.6	5.8	17.6	17.7
Cycle Q Clear(g_c), s	12.1	0.0	2.1	5.4	0.0	14.7	0.6	48.6	48.6	5.8	17.6	17.7
Prop In Lane	1.00		0.82	1.00		0.95	1.00		0.13	1.00		0.35
Lane Grp Cap(c), veh/h	295	0	551	557	0	412	241	1273	683	157	1439	744
V/C Ratio(X)	0.55	0.00	0.07	0.19	0.00	0.46	0.06	1.12	1.13	0.80	0.45	0.45
Avail Cap(c_a), veh/h	295	0	551	620	0	412	393	1273	683	209	1439	744
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	0.0	29.2	28.5	0.0	36.8	25.2	16.4	16.4	31.1	26.5	26.5
Incr Delay (d2), s/veh	3.8	0.0	0.2	0.3	0.0	3.7	0.2	66.6	76.5	20.8	0.5	0.9
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(95%),veh/ln	6.9	0.0	1.6	4.2	0.0	9.1	0.5	26.3	30.5	5.6	11.2	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	0.0	29.4	28.8	0.0	40.5	25.4	83.0	92.9	51.9	26.9	27.4
LnGrp LOS	C	A	C	C	A	D	C	F	F	D	C	C
Approach Vol, veh/h		201			295			2217			1103	
Approach Delay, s/veh		32.3			36.3			86.1			29.9	
Approach LOS		C			D			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	48.9	4.7	61.4	15.6	44.2	11.5	54.6
Change Period (Y+Rc), s	3.5	5.0	3.5	6.0	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	12.1	39.2	12.1	48.6	12.1	39.2	12.1	48.6
Max Q Clear Time (g_c+I1), s	7.4	4.1	2.6	19.7	14.1	16.7	7.8	50.6
Green Ext Time (p_c), s	0.2	0.3	0.0	12.6	0.0	2.1	0.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	63.2
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	14	74	0	323	1631	0	847	0	0	0
Future Vol, veh/h	14	75	0	346	1733	0	916	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	45	2	9	6	2	8	2	2	2
Mvmt Flow	15	82	0	412	1897	0	1090	0	0	0

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1296	-	-	0	-	-	-	0
Stage 1	1090	-	-	-	-	-	-	-
Stage 2	206	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	154	0	0	-	0	0	-	0
Stage 1	284	0	0	-	0	0	-	0
Stage 2	808	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	154	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	154	-	-	-	-	-	-	-
Stage 1	284	-	-	-	-	-	-	-
Stage 2	808	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.9	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	154	-	-
HCM Lane V/C Ratio	-	0.1	-	-
HCM Control Delay (s)	-	30.9	0	-
HCM Lane LOS	-	D	A	-
HCM 95th %tile Q(veh)	-	0.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	661	1	150	64	265	0	0	477	27
Future Volume (veh/h)	0	0	0	698	1	150	68	284	0	0	509	27
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1870	1870	1322	1870	0	0	1870	1870
Adj Flow Rate, veh/h				805	0	0	77	349	0	0	625	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				8	2	2	39	2	0	0	2	2
Cap, veh/h				900	0		323	1941	0	0	2307	
Arrive On Green				0.27	0.00	0.00	0.04	0.55	0.00	0.00	0.45	0.00
Sat Flow, veh/h				3393	0	1585	1259	3647	0	0	5443	0
Grp Volume(v), veh/h				805	0	0	77	349	0	0	625	0
Grp Sat Flow(s),veh/h/ln				1697	0	1585	1259	1777	0	0	1702	0
Q Serve(g_s), s				29.7	0.0	0.0	4.1	6.4	0.0	0.0	9.9	0.0
Cycle Q Clear(g_c), s				29.7	0.0	0.0	4.1	6.4	0.0	0.0	9.9	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				900	0		323	1941	0	0	2307	
V/C Ratio(X)				0.89	0.00		0.24	0.18	0.00	0.00	0.27	
Avail Cap(c_a), veh/h				1240	0		340	1941	0	0	2307	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				46.0	0.0	0.0	17.2	14.8	0.0	0.0	22.3	0.0
Incr Delay (d2), s/veh				6.7	0.0	0.0	0.4	0.2	0.0	0.0	0.3	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				18.9	0.0	0.0	2.1	4.6	0.0	0.0	7.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				52.7	0.0	0.0	17.5	15.0	0.0	0.0	22.6	0.0
LnGrp LOS				D	A		B	B	A	A	C	
Approach Vol, veh/h					805	A		426			625	A
Approach Delay, s/veh					52.7			15.5			22.6	
Approach LOS					D			B			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.3	64.7		40.0		77.0
Change Period (Y+Rc), s	6.5	* 6		5.5		6.0
Max Green Setting (Gmax), s	7.5	* 58		47.5		71.0
Max Q Clear Time (g_c+I1), s	6.1	11.9		31.7		8.4
Green Ext Time (p_c), s	0.0	4.4		2.8		2.2

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	15.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	98	43	7	86	25	40	10	161	116	14	53	40
Future Vol, veh/h	105	45	7	86	26	40	10	161	116	14	53	41
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	7	2	2	2	5	5	2	2	3	13	5	22
Mvmt Flow	126	54	8	103	31	48	12	193	139	17	64	49

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	84	0	0	62	0	0	628	600	58	742	580	60
Stage 1	-	-	-	-	-	-	310	310	-	266	266	-
Stage 2	-	-	-	-	-	-	318	290	-	476	314	-
Critical Hdwy	4.17	-	-	4.12	-	-	7.12	6.52	6.23	7.23	6.55	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Follow-up Hdwy	2.263	-	-	2.218	-	-	3.518	4.018	3.327	3.617	4.045	3.498
Pot Cap-1 Maneuver	1482	-	-	1541	-	-	395	415	1005	318	422	952
Stage 1	-	-	-	-	-	-	700	659	-	716	683	-
Stage 2	-	-	-	-	-	-	693	672	-	549	651	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1475	-	-	1541	-	-	287	352	1005	138	357	947
Mov Cap-2 Maneuver	-	-	-	-	-	-	287	352	-	138	357	-
Stage 1	-	-	-	-	-	-	641	603	-	652	632	-
Stage 2	-	-	-	-	-	-	550	622	-	294	596	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.1	4.2	26.9	17.1
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	287	484	1475	-	-	1541	-	-	138	490
HCM Lane V/C Ratio	0.042	0.687	0.085	-	-	0.067	-	-	0.122	0.23
HCM Control Delay (s)	18.1	27.2	7.7	-	-	7.5	0	-	34.7	14.5
HCM Lane LOS	C	D	A	-	-	A	A	-	D	B
HCM 95th %tile Q(veh)	0.1	5.2	0.3	-	-	0.2	-	-	0.4	0.9

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1927	0	0	721
Future Vol, veh/h	0	84	1938	139	0	793
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	90	2355	149	0	964

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1252	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	164	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	164	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	51	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	164	-
HCM Lane V/C Ratio	-	-	0.551	-
HCM Control Delay (s)	-	-	51	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	2.8	-

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	1861	0	0	754	0
Future Vol, veh/h	0	0	0	15	0	87	0	1835	121	15	811	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	100	-	-	175	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	16	0	94	0	2230	130	16	985	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2132	3377	493	2820	3312	1180	985	0	0	2360	0	0
Stage 1	1017	1017	-	2295	2295	-	-	-	-	-	-	-
Stage 2	1115	2360	-	525	1017	-	-	-	-	-	-	-
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	28	7	522	~ 8	8	183	697	-	-	204	-	-
Stage 1	254	313	-	40	73	-	-	-	-	-	-	-
Stage 2	222	67	-	504	313	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	13	6	522	~ 8	7	183	697	-	-	204	-	-
Mov Cap-2 Maneuver	13	6	-	~ 8	7	-	-	-	-	-	-	-
Stage 1	254	289	-	40	73	-	-	-	-	-	-	-
Stage 2	109	67	-	464	289	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	237.5	0	0.4
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	697	-	-	-	-	8	183	204	-	-
HCM Lane V/C Ratio	-	-	-	-	-	2.016	0.511	0.079	-	-
HCM Control Delay (s)	0	-	-	0	$	1362.3	43.6	24.2	-	-
HCM Lane LOS	A	-	-	A	A	F	E	C	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	3	2.6	0.3	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	46	57	0	0	0
Future Vol, veh/h	43	39	54	8	10	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	43	59	9	11	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	68	0	-	0	199	64
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	135	-
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	1533	-	-	-	790	1000
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	891	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1533	-	-	-	766	1000
Mov Cap-2 Maneuver	-	-	-	-	766	-
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	SB
HCM Control Delay, s	3.9	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1533	-	-	-	766	1000
HCM Lane V/C Ratio	0.03	-	-	-	0.014	0.014
HCM Control Delay (s)	7.4	0	-	-	9.8	8.7
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0

Intersection	
Int Delay, s/veh	4.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	127	0	0	62	0	0
Future Vol, veh/h	119	69	6	58	131	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	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	131	74	6	64	141	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	205	0	244	168
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	76	-
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	-	-	1366	-	744	876
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	947	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1366	-	740	876
Mov Cap-2 Maneuver	-	-	-	-	740	-
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	942	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	753	-	-	1366	-
HCM Lane V/C Ratio	0.211	-	-	0.005	-
HCM Control Delay (s)	11.1	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0	-

90th
Bluewater
Volcano
Site1
Site2
Site3
98th
Central
Commercial
Avalon
I40 WB Off
I40 EB On
I40 S-E Ramp
I40 WB On
I40 EB Off

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	240	76	317	283	147	30	751	228	112	1013	168
Future Volume (veh/h)	219	240	76	317	283	153	30	785	228	123	1074	178
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		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	1841	1870	1707	1870	1870	1856	1870	1826
Adj Flow Rate, veh/h	240	263	0	347	310	0	36	934	0	146	1277	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	4	2	13	2	2	3	2	5
Cap, veh/h	301	905		393	983		172	1293		267	1458	
Arrive On Green	0.09	0.25	0.00	0.11	0.28	0.00	0.02	0.36	0.00	0.14	0.82	0.00
Sat Flow, veh/h	3456	3647	0	3456	3589	0	1626	3554	1585	1767	3647	0
Grp Volume(v), veh/h	240	263	0	347	310	0	36	934	0	146	1277	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1728	1749	0	1626	1777	1585	1767	1777	0
Q Serve(g_s), s	7.5	6.6	0.0	10.9	7.7	0.0	1.5	24.9	0.0	5.6	25.2	0.0
Cycle Q Clear(g_c), s	7.5	6.6	0.0	10.9	7.7	0.0	1.5	24.9	0.0	5.6	25.2	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	301	905		393	983		172	1293		267	1458	
V/C Ratio(X)	0.80	0.29		0.88	0.32		0.21	0.72		0.55	0.88	
Avail Cap(c_a), veh/h	424	905		393	983		263	1293		284	1458	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.2	33.0	0.0	48.0	31.2	0.0	23.3	30.2	0.0	20.8	8.1	0.0
Incr Delay (d2), s/veh	4.5	0.8	0.0	19.8	0.8	0.0	0.2	3.5	0.0	0.9	7.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.9	5.0	0.0	9.4	5.7	0.0	1.0	16.0	0.0	3.6	8.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.7	33.8	0.0	67.9	32.0	0.0	23.5	33.7	0.0	21.7	15.7	0.0
LnGrp LOS	D	C		E	C		C	C		C	B	
Approach Vol, veh/h		503	A		657	A		970	A		1423	A
Approach Delay, s/veh		43.3			51.0			33.3			16.3	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	35.0	6.9	51.1	14.1	37.9	12.0	46.0
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	4.5	7.0	4.5	6.0
Max Green Setting (Gmax), s	12.5	28.0	8.5	39.0	13.5	27.0	8.5	39.0
Max Q Clear Time (g_c+I1), s	12.9	8.6	3.5	27.2	9.5	9.7	7.6	26.9
Green Ext Time (p_c), s	0.0	1.3	0.0	4.7	0.1	1.5	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	31.2
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	55	1054	34	80	1339
Future Vol, veh/h	23	55	1091	45	80	1413
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	5	2
Mvmt Flow	25	60	1298	49	88	1681

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2341	675	0	0	1348	0
Stage 1	1324	-	-	-	-	-
Stage 2	1017	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.2	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.25	-
Pot Cap-1 Maneuver	30	396	-	-	491	-
Stage 1	213	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 25	396	-	-	491	-
Mov Cap-2 Maneuver	~ 25	-	-	-	-	-
Stage 1	213	-	-	-	-	-
Stage 2	255	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	130.8	0	0.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	25	396	491	-
HCM Lane V/C Ratio	-	-	1.007	0.152	0.178	-
HCM Control Delay (s)	-	-	$ 406.1	15.7	13.9	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	3.1	0.5	0.6	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	24	64	61	10	63	29	1079	67	43	1420	254
Future Volume (veh/h)	155	26	64	127	11	100	29	1129	67	118	1440	254
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		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	1129	1411	1841	1841	1470	1811	1500	1870	1856	1781	1870	1337
Adj Flow Rate, veh/h	161	27	67	132	11	104	30	1302	70	123	1660	264
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	33	4	4	29	6	27	2	3	8	2	38
Cap, veh/h	164	40	100	252	15	138	165	2986	161	282	2803	443
Arrive On Green	0.07	0.11	0.11	0.08	0.12	0.12	0.01	0.20	0.20	0.04	0.63	0.63
Sat Flow, veh/h	1076	359	891	1753	121	1141	1428	4960	267	1697	4445	703
Grp Volume(v), veh/h	161	0	94	132	0	115	30	894	478	123	1269	655
Grp Sat Flow(s),veh/h/ln	1076	0	1251	1753	0	1262	1428	1702	1822	1697	1702	1744
Q Serve(g_s), s	7.5	0.0	7.9	7.3	0.0	9.7	0.9	25.3	25.3	2.9	24.2	24.4
Cycle Q Clear(g_c), s	7.5	0.0	7.9	7.3	0.0	9.7	0.9	25.3	25.3	2.9	24.2	24.4
Prop In Lane	1.00		0.71	1.00		0.90	1.00		0.15	1.00		0.40
Lane Grp Cap(c), veh/h	164	0	140	252	0	153	165	2050	1097	282	2146	1100
V/C Ratio(X)	0.98	0.00	0.67	0.52	0.00	0.75	0.18	0.44	0.44	0.44	0.59	0.60
Avail Cap(c_a), veh/h	164	0	432	252	0	447	291	2050	1097	321	2146	1100
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	0.0	46.9	39.4	0.0	46.7	10.8	27.7	27.7	11.7	12.0	12.0
Incr Delay (d2), s/veh	64.4	0.0	11.2	3.8	0.0	14.6	1.1	0.7	1.3	2.3	1.2	2.4
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(95%),veh/ln	8.9	0.0	5.3	6.1	0.0	6.6	0.5	17.2	18.4	1.9	12.9	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	111.8	0.0	58.1	43.2	0.0	61.3	11.9	28.4	28.9	14.0	13.2	14.4
LnGrp LOS	F	A	E	D	A	E	B	C	C	B	B	B
Approach Vol, veh/h		255			247			1402			2047	
Approach Delay, s/veh		92.0			51.6			28.2			13.6	
Approach LOS		F			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	17.3	5.3	75.4	11.0	18.3	8.4	72.2
Change Period (Y+Rc), s	3.5	5.0	3.5	6.0	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	8.5	38.0	11.5	34.0	7.5	39.0	7.5	38.0
Max Q Clear Time (g_c+I1), s	9.3	9.9	2.9	26.4	9.5	11.7	4.9	27.3
Green Ext Time (p_c), s	0.0	1.0	0.0	7.1	0.0	1.2	0.1	8.3

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	11	94	0	386	961	0	1724	0	0	0
Future Vol, veh/h	11	98	0	413	1021	0	1815	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	37	2	9	5	2	4	2	2	2
Mvmt Flow	12	106	0	486	1106	0	2136	0	0	0

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	2379	-	-	0	-	-	-	0
Stage 1	2136	-	-	-	-	-	-	-
Stage 2	243	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	29	0	0	-	0	0	-	0
Stage 1	76	0	0	-	0	0	-	0
Stage 2	775	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	29	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	29	-	-	-	-	-	-	-
Stage 1	76	-	-	-	-	-	-	-
Stage 2	775	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	197.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	29	-	-
HCM Lane V/C Ratio	-	0.411	-	-
HCM Control Delay (s)	-	197.9	0	-
HCM Lane LOS	-	F	A	-
HCM 95th %tile Q(veh)	-	1.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1421	7	254	100	257	0	0	344	22
Future Volume (veh/h)	0	0	0	1496	7	254	108	276	0	0	360	22
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1841	1870	1870	1530	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1711	0	0	121	335	0	0	437	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				4	2	2	25	2	0	0	2	2
Cap, veh/h				1871	0		292	1286	0	0	1198	
Arrive On Green				0.53	0.00	0.00	0.07	0.36	0.00	0.00	0.23	0.00
Sat Flow, veh/h				3506	0	1585	1457	3647	0	0	5443	0
Grp Volume(v), veh/h				1711	0	0	121	335	0	0	437	0
Grp Sat Flow(s),veh/h/ln				1753	0	1585	1457	1777	0	0	1702	0
Q Serve(g_s), s				48.9	0.0	0.0	6.8	7.3	0.0	0.0	7.9	0.0
Cycle Q Clear(g_c), s				48.9	0.0	0.0	6.8	7.3	0.0	0.0	7.9	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				1871	0		292	1286	0	0	1198	
V/C Ratio(X)				0.91	0.00		0.41	0.26	0.00	0.00	0.36	
Avail Cap(c_a), veh/h				2231	0		292	1286	0	0	1198	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				23.4	0.0	0.0	28.2	24.7	0.0	0.0	35.2	0.0
Incr Delay (d2), s/veh				5.7	0.0	0.0	0.9	0.5	0.0	0.0	0.9	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				26.6	0.0	0.0	4.2	5.5	0.0	0.0	5.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				29.1	0.0	0.0	29.1	25.2	0.0	0.0	36.1	0.0
LnGrp LOS				C	A		C	C	A	A	D	
Approach Vol, veh/h					1711	A		456			437	A
Approach Delay, s/veh					29.1			26.3			36.1	
Approach LOS					C			C			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.0	31.3		64.7		45.3
Change Period (Y+Rc), s	6.5	5.5		6.0		5.5
Max Green Setting (Gmax), s	7.5	14.5		70.0		28.5
Max Q Clear Time (g_c+I1), s	8.8	9.9		50.9		9.3
Green Ext Time (p_c), s	0.0	1.1		7.8		1.8

Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	50	22	63	53	21	10	53	26	6	113	34
Future Vol, veh/h	48	52	22	63	55	21	10	53	26	6	113	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
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, %	8	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	56	60	26	73	64	24	12	61	30	7	131	42

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	88	0	0	86	0	0	494	419	73	453	420	76
Stage 1	-	-	-	-	-	-	185	185	-	222	222	-
Stage 2	-	-	-	-	-	-	309	234	-	231	198	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1471	-	-	1510	-	-	486	525	989	517	525	985
Stage 1	-	-	-	-	-	-	817	747	-	780	720	-
Stage 2	-	-	-	-	-	-	701	711	-	772	737	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1471	-	-	1510	-	-	344	479	989	422	479	985
Mov Cap-2 Maneuver	-	-	-	-	-	-	344	479	-	422	479	-
Stage 1	-	-	-	-	-	-	786	719	-	750	683	-
Stage 2	-	-	-	-	-	-	515	675	-	658	709	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3	3.4	12.8	14.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	344	577	1471	-	-	1510	-	-	422	547
HCM Lane V/C Ratio	0.034	0.159	0.038	-	-	0.048	-	-	0.016	0.316
HCM Control Delay (s)	15.8	12.4	7.5	-	-	7.5	0	-	13.7	14.6
HCM Lane LOS	C	B	A	-	-	A	A	-	B	B
HCM 95th %tile Q(veh)	0.1	0.6	0.1	-	-	0.2	-	-	0.1	1.3

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1109	0	0	1419
Future Vol, veh/h	0	69	1080	66	0	1493
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	74	1312	71	0	1814

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	692	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	386	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	386	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	386	-
HCM Lane V/C Ratio	-	-	0.192	-
HCM Control Delay (s)	-	-	16.5	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.7	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	1142	0	0	1545	0
Future Vol, veh/h	0	0	0	13	0	71	0	1121	61	25	1606	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	100	-	-	175	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	0	76	0	1362	66	27	1951	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2686	3433	976	2425	3400	714	1951	0	0	1428	0	0
Stage 1	2005	2005	-	1395	1395	-	-	-	-	-	-	-
Stage 2	681	1428	-	1030	2005	-	-	-	-	-	-	-
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	10	7	251	17	7	374	296	-	-	472	-	-
Stage 1	61	103	-	149	207	-	-	-	-	-	-	-
Stage 2	407	199	-	250	103	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	8	7	251	16	7	374	296	-	-	472	-	-
Mov Cap-2 Maneuver	8	7	-	16	7	-	-	-	-	-	-	-
Stage 1	61	97	-	149	207	-	-	-	-	-	-	-
Stage 2	324	199	-	236	97	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	91.9	0	0.2
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	296	-	-	-	-	16	374	472	-	-
HCM Lane V/C Ratio	-	-	-	-	-	0.874	0.204	0.057	-	-
HCM Control Delay (s)	0	-	-	0	0$	500.3	17.1	13.1	-	-
HCM Lane LOS	A	-	-	A	A	F	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	2.2	0.8	0.2	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	114	70	0	0	0
Future Vol, veh/h	17	108	68	5	13	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	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	118	75	5	14	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	80	0	-	0	232	78
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	154	-
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	1518	-	-	-	756	983
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	874	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1518	-	-	-	746	983
Mov Cap-2 Maneuver	-	-	-	-	746	-
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	874	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1518	-	-	-	746	983
HCM Lane V/C Ratio	0.012	-	-	-	0.019	0.011
HCM Control Delay (s)	7.4	0	-	-	9.9	8.7
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

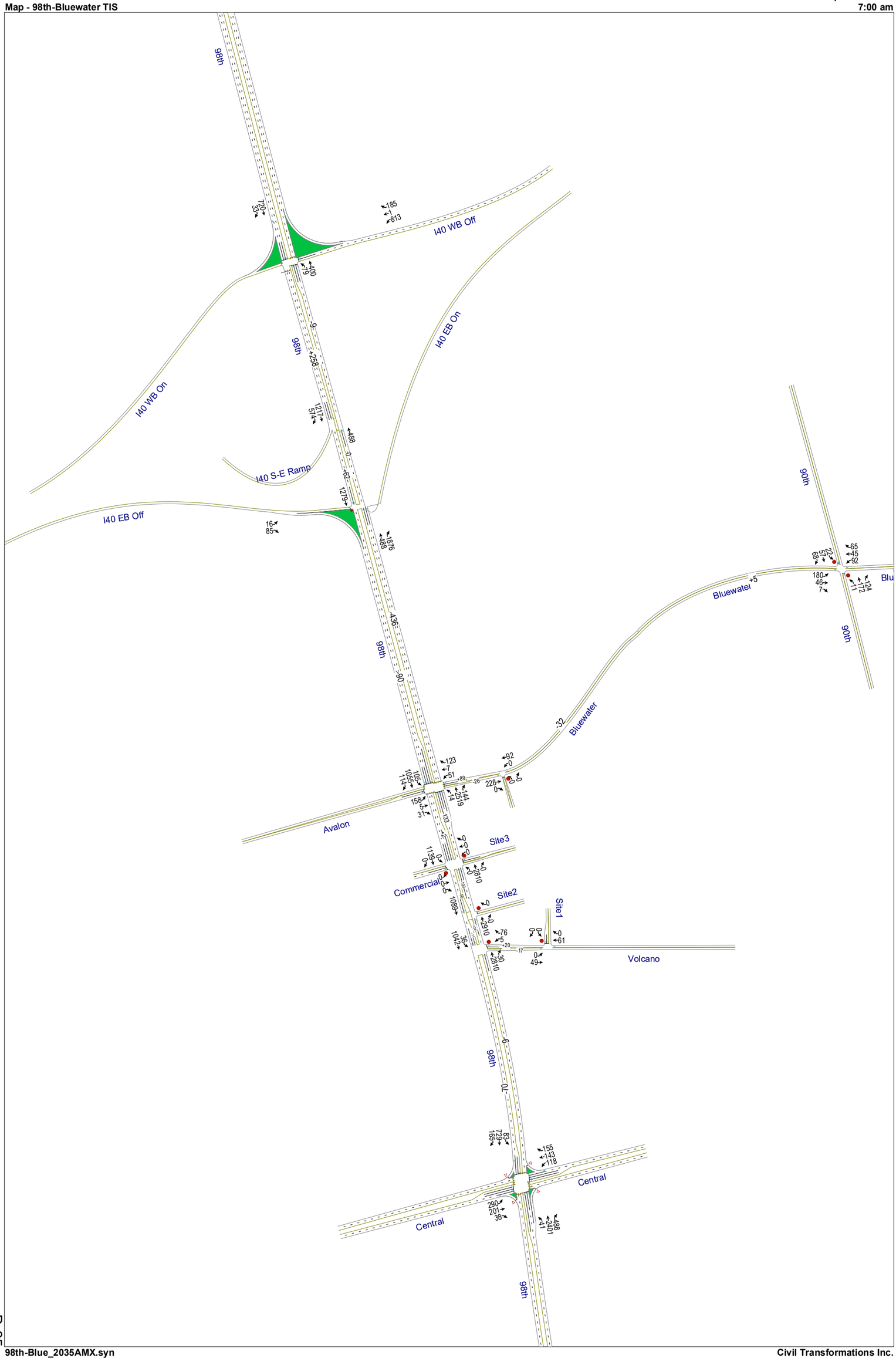
Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	114	0	0	97	0	0
Future Vol, veh/h	107	84	7	94	107	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	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	117	90	8	103	115	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	207	0	281	162
Stage 1	-	-	-	-	162	-
Stage 2	-	-	-	-	119	-
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	-	-	1364	-	709	883
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	906	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1364	-	705	883
Mov Cap-2 Maneuver	-	-	-	-	705	-
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	901	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	723	-	-	1364	-
HCM Lane V/C Ratio	0.181	-	-	0.006	-
HCM Control Delay (s)	11.1	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-


98th
I40 WB Off
I40 EB On
I40 WB On
I40 S-E Ramp
I40 EB Off
90th
Bluewater
Avalon
Site3
Commercial
Site2
Site1
Volcano
Central

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	175	33	103	124	135	27	1590	323	55	483	109
Future Volume (veh/h)	252	175	33	103	124	135	27	1590	323	55	483	109
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1707	1796	1737	1796	1841	1870	1856	1633	1885	1767
Adj Flow Rate, veh/h	315	219	0	129	155	0	44	2610	0	90	793	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	8	13	7	11	7	4	2	3	18	1	9
Cap, veh/h	366	603		178	411		297	1531		126	1622	
Arrive On Green	0.11	0.18	0.00	0.05	0.12	0.00	0.02	0.43	0.00	0.05	0.45	0.00
Sat Flow, veh/h	3428	3474	0	3319	3387	0	1753	3554	1572	1555	3676	0
Grp Volume(v), veh/h	315	219	0	129	155	0	44	2610	0	90	793	0
Grp Sat Flow(s),veh/h/ln	1714	1692	0	1659	1650	0	1753	1777	1572	1555	1791	0
Q Serve(g_s), s	11.7	7.4	0.0	5.0	5.6	0.0	1.8	56.0	0.0	4.2	20.2	0.0
Cycle Q Clear(g_c), s	11.7	7.4	0.0	5.0	5.6	0.0	1.8	56.0	0.0	4.2	20.2	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	366	603		178	411		297	1531		126	1622	
V/C Ratio(X)	0.86	0.36		0.73	0.38		0.15	1.70		0.71	0.49	
Avail Cap(c_a), veh/h	462	859		294	685		357	1531		145	1622	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.1	47.0	0.0	60.6	52.3	0.0	21.1	37.0	0.0	30.9	25.0	0.0
Incr Delay (d2), s/veh	10.7	0.4	0.0	2.1	0.6	0.0	0.1	320.1	0.0	9.9	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.3	5.5	0.0	3.7	4.1	0.0	1.3	141.7	0.0	3.2	13.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.8	47.3	0.0	62.7	52.8	0.0	21.2	357.1	0.0	40.8	26.0	0.0
LnGrp LOS	E	D		E	D		C	F		D	C	
Approach Vol, veh/h		534	A		284	A		2654	A		883	A
Approach Delay, s/veh		59.4			57.3			351.5			27.6	
Approach LOS		E			E			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	30.1	7.5	64.9	18.4	23.2	10.4	62.0
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	4.5	7.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	33.0	7.5	56.0	17.5	27.0	7.5	56.0
Max Q Clear Time (g_c+I1), s	7.0	9.4	3.8	22.2	13.7	7.6	6.2	58.0
Green Ext Time (p_c), s	0.0	1.1	0.0	3.4	0.2	0.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	230.8
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	66	1861	26	31	690
Future Vol, veh/h	4	66	1861	26	31	690
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	4	2	0	4	6
Mvmt Flow	5	82	3022	32	38	1120

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3675	1528	0	0	3055	0
Stage 1	3039	-	-	-	-	-
Stage 2	636	-	-	-	-	-
Critical Hdwy	6.8	6.98	-	-	4.18	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.34	-	-	2.24	-
Pot Cap-1 Maneuver	~ 4	104	-	-	103	-
Stage 1	24	-	-	-	-	-
Stage 2	495	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 3	104	-	-	103	-
Mov Cap-2 Maneuver	~ 3	-	-	-	-	-
Stage 1	24	-	-	-	-	-
Stage 2	312	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	237.3	0	2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	3	104	103	-
HCM Lane V/C Ratio	-	-	1.649	0.785	0.372	-
HCM Control Delay (s)	-	-	$ 2305.8	111.9	59.3	-
HCM Lane LOS	-	-	F	F	F	-
HCM 95th %tile Q(veh)	-	-	1.5	4.3	1.5	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	5	29	48	7	115	13	1668	135	98	699	107
Future Volume (veh/h)	148	5	29	48	7	115	13	1668	135	98	699	107
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		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	1144	1870	1633	1826	1604	1752	1900	1870	1841	1737	1856	1100
Adj Flow Rate, veh/h	170	6	33	55	8	132	15	2708	155	113	1135	123
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	51	2	18	5	20	10	0	2	4	11	3	54
Cap, veh/h	326	90	497	515	24	389	177	1849	104	149	1953	211
Arrive On Green	0.09	0.36	0.36	0.03	0.30	0.30	0.02	0.75	0.75	0.06	0.42	0.42
Sat Flow, veh/h	1090	250	1373	1739	78	1291	1810	4946	278	1654	4640	502
Grp Volume(v), veh/h	170	0	39	55	0	140	15	1849	1014	113	826	432
Grp Sat Flow(s),veh/h/ln	1090	0	1623	1739	0	1370	1810	1702	1820	1654	1689	1765
Q Serve(g_s), s	12.1	0.0	2.0	2.8	0.0	10.3	0.7	48.6	48.6	5.3	24.4	24.4
Cycle Q Clear(g_c), s	12.1	0.0	2.0	2.8	0.0	10.3	0.7	48.6	48.6	5.3	24.4	24.4
Prop In Lane	1.00		0.85	1.00		0.94	1.00		0.15	1.00		0.28
Lane Grp Cap(c), veh/h	326	0	587	515	0	413	177	1273	681	149	1421	743
V/C Ratio(X)	0.52	0.00	0.07	0.11	0.00	0.34	0.08	1.45	1.49	0.76	0.58	0.58
Avail Cap(c_a), veh/h	326	0	587	620	0	413	328	1273	681	209	1421	743
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	0.0	27.1	29.7	0.0	35.3	26.0	16.4	16.4	31.3	28.9	28.9
Incr Delay (d2), s/veh	2.9	0.0	0.2	0.2	0.0	2.2	0.4	208.3	228.2	16.6	1.0	1.8
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(95%),veh/ln	2.0	0.0	1.5	2.2	0.0	6.7	0.5	65.6	75.8	4.8	14.8	15.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	0.0	27.3	29.9	0.0	37.5	26.4	224.7	244.6	47.8	29.8	30.7
LnGrp LOS	C	A	C	C	A	D	C	F	F	D	C	C
Approach Vol, veh/h		209			195			2878			1371	
Approach Delay, s/veh		31.0			35.4			230.7			31.6	
Approach LOS		C			D			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	52.0	4.8	60.7	15.6	44.2	10.9	54.6
Change Period (Y+Rc), s	3.5	5.0	3.5	6.0	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	12.1	39.2	12.1	48.6	12.1	39.2	12.1	48.6
Max Q Clear Time (g_c+I1), s	4.8	4.0	2.7	26.4	14.1	12.3	7.3	50.6
Green Ext Time (p_c), s	0.1	0.3	0.0	14.0	0.0	1.6	0.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	154.9
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	14	74	0	323	1631	0	847	0	0	0
Future Vol, veh/h	14	74	0	323	1631	0	847	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	45	2	9	6	2	8	2	2	2
Mvmt Flow	17	90	0	513	1974	0	1346	0	0	0

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1603	-	-	0	-	-	-	0
Stage 1	1346	-	-	-	-	-	-	-
Stage 2	257	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	96	0	0	-	0	0	-	0
Stage 1	207	0	0	-	0	0	-	0
Stage 2	762	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	96	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	96	-	-	-	-	-	-	-
Stage 1	207	-	-	-	-	-	-	-
Stage 2	762	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	50.4	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	96	-	-
HCM Lane V/C Ratio	-	0.177	-	-
HCM Control Delay (s)	-	50.4	0	-
HCM Lane LOS	-	F	A	-
HCM 95th %tile Q(veh)	-	0.6	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	661	1	150	64	265	0	0	477	27
Future Volume (veh/h)	0	0	0	661	1	150	64	265	0	0	477	27
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1870	1870	1322	1870	0	0	1870	1870
Adj Flow Rate, veh/h				885	0	0	86	435	0	0	783	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				8	2	2	39	2	0	0	2	2
Cap, veh/h				980	0		286	1941	0	0	2283	
Arrive On Green				0.29	0.00	0.00	0.05	0.55	0.00	0.00	0.45	0.00
Sat Flow, veh/h				3393	0	1585	1259	3647	0	0	5443	0
Grp Volume(v), veh/h				885	0	0	86	435	0	0	783	0
Grp Sat Flow(s),veh/h/ln				1697	0	1585	1259	1777	0	0	1702	0
Q Serve(g_s), s				32.6	0.0	0.0	4.7	8.2	0.0	0.0	13.0	0.0
Cycle Q Clear(g_c), s				32.6	0.0	0.0	4.7	8.2	0.0	0.0	13.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				980	0		286	1941	0	0	2283	
V/C Ratio(X)				0.90	0.00		0.30	0.22	0.00	0.00	0.34	
Avail Cap(c_a), veh/h				1240	0		297	1941	0	0	2283	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				44.5	0.0	0.0	17.7	15.3	0.0	0.0	23.5	0.0
Incr Delay (d2), s/veh				8.0	0.0	0.0	0.6	0.3	0.0	0.0	0.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				20.5	0.0	0.0	2.4	5.8	0.0	0.0	8.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				52.5	0.0	0.0	18.3	15.5	0.0	0.0	23.9	0.0
LnGrp LOS				D	A		B	B	A	A	C	
Approach Vol, veh/h					885	A		521			783	A
Approach Delay, s/veh					52.5			16.0			23.9	
Approach LOS					D			B			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.9	64.1		43.0		77.0
Change Period (Y+Rc), s	6.5	* 6		5.5		6.0
Max Green Setting (Gmax), s	7.5	* 58		47.5		71.0
Max Q Clear Time (g_c+I1), s	6.7	15.0		34.6		10.2
Green Ext Time (p_c), s	0.0	5.7		2.9		2.9

Intersection Summary	
HCM 6th Ctrl Delay	33.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

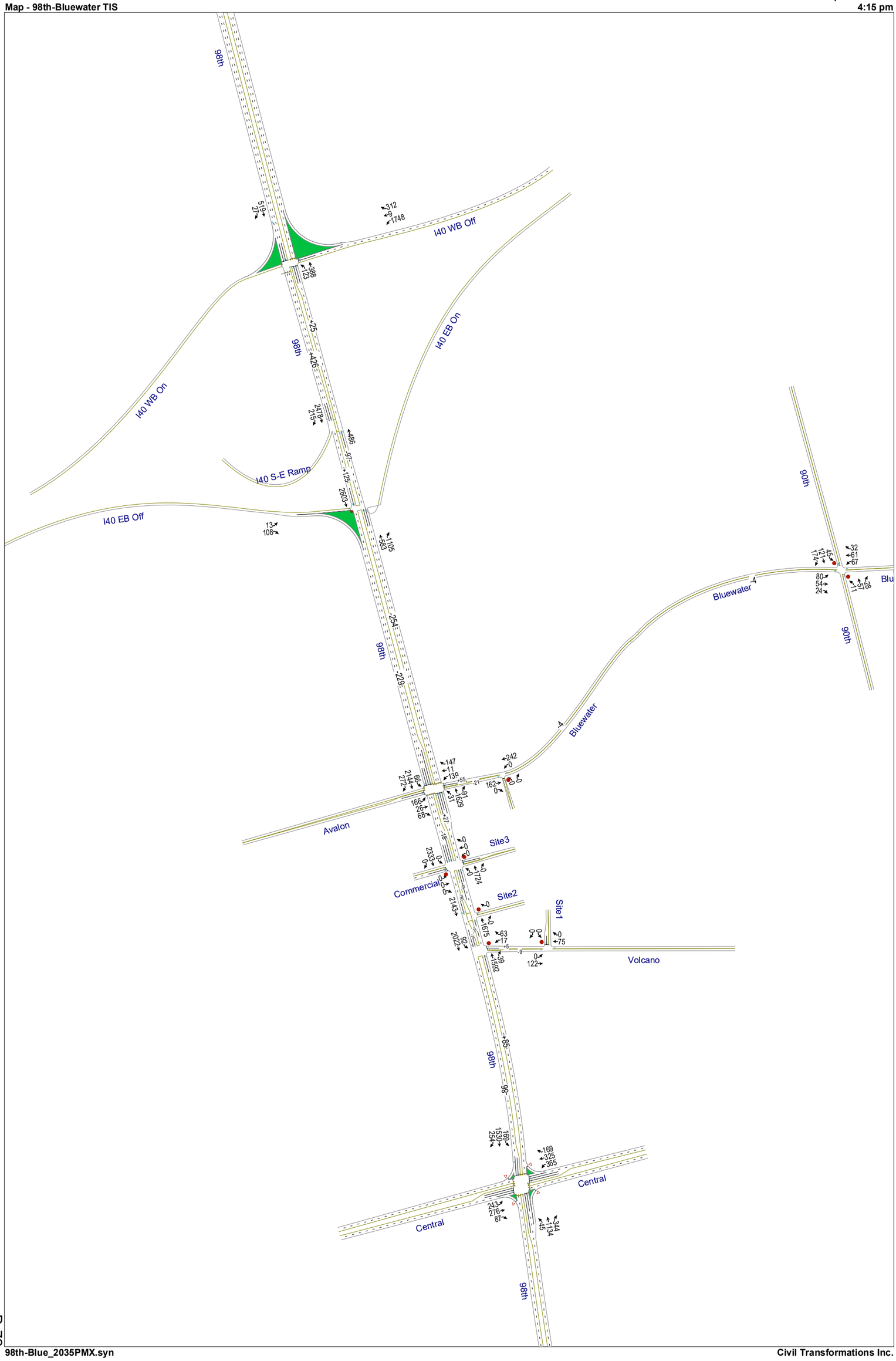
Intersection	
Int Delay, s/veh	36.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	168	43	7	86	42	61	10	161	116	21	53	64
Future Vol, veh/h	168	43	7	86	42	61	10	161	116	21	53	64
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	7	2	2	2	5	5	2	2	3	13	5	22
Mvmt Flow	211	54	9	108	53	77	13	203	146	26	67	81

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	135	0	0	63	0	0	863	832	59	968	798	97
Stage 1	-	-	-	-	-	-	481	481	-	313	313	-
Stage 2	-	-	-	-	-	-	382	351	-	655	485	-
Critical Hdwy	4.17	-	-	4.12	-	-	7.12	6.52	6.23	7.23	6.55	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Follow-up Hdwy	2.263	-	-	2.218	-	-	3.518	4.018	3.327	3.617	4.045	3.498
Pot Cap-1 Maneuver	1419	-	-	1540	-	-	275	305	1004	223	316	907
Stage 1	-	-	-	-	-	-	566	554	-	675	652	-
Stage 2	-	-	-	-	-	-	640	632	-	437	547	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1412	-	-	1540	-	-	167	239	1004	47	247	903
Mov Cap-2 Maneuver	-	-	-	-	-	-	167	239	-	47	247	-
Stage 1	-	-	-	-	-	-	482	471	-	572	599	-
Stage 2	-	-	-	-	-	-	479	581	-	181	465	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	6.2	3.4	79.6	39.2
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	167	351	1412	-	-	1540	-	-	47	410
HCM Lane V/C Ratio	0.075	0.993	0.15	-	-	0.07	-	-	0.562	0.359
HCM Control Delay (s)	28.3	81.5	8	-	-	7.5	0	-	153.7	18.6
HCM Lane LOS	D	F	A	-	-	A	A	-	F	C
HCM 95th %tile Q(veh)	0.2	11.3	0.5	-	-	0.2	-	-	2.1	1.6


98th
I40 WB Off
I40 EB On
I40 WB On
I40 S-E Ramp
I40 EB Off
90th
Bluewater
Avalon
Site3
Commercial
Site2
Site1
Volcano
Central

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	240	76	317	283	147	30	751	228	112	1013	168
Future Volume (veh/h)	211	240	76	317	283	147	30	751	228	112	1013	168
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		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	1841	1870	1707	1870	1870	1856	1870	1826
Adj Flow Rate, veh/h	255	291	0	384	343	0	48	1194	0	178	1610	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	4	2	13	2	2	3	2	5
Cap, veh/h	316	905		393	968		112	1260		215	1433	
Arrive On Green	0.09	0.25	0.00	0.11	0.28	0.00	0.03	0.35	0.00	0.15	0.81	0.00
Sat Flow, veh/h	3456	3647	0	3456	3589	0	1626	3554	1585	1767	3647	0
Grp Volume(v), veh/h	255	291	0	384	343	0	48	1194	0	178	1610	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1728	1749	0	1626	1777	1585	1767	1777	0
Q Serve(g_s), s	8.0	7.3	0.0	12.2	8.7	0.0	2.1	35.9	0.0	7.0	44.4	0.0
Cycle Q Clear(g_c), s	8.0	7.3	0.0	12.2	8.7	0.0	2.1	35.9	0.0	7.0	44.4	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	316	905		393	968		112	1260		215	1433	
V/C Ratio(X)	0.81	0.32		0.98	0.35		0.43	0.95		0.83	1.12	
Avail Cap(c_a), veh/h	424	905		393	968		191	1260		215	1433	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.0	33.3	0.0	48.6	31.9	0.0	28.5	34.5	0.0	23.9	10.6	0.0
Incr Delay (d2), s/veh	5.9	0.9	0.0	39.3	1.0	0.0	1.0	15.6	0.0	21.5	65.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.4	5.6	0.0	11.5	6.4	0.0	1.4	24.0	0.0	6.6	25.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.9	34.2	0.0	87.9	32.9	0.0	29.5	50.1	0.0	45.4	75.8	0.0
LnGrp LOS	D	C		F	C		C	D		D	F	
Approach Vol, veh/h		546	A		727	A		1242	A		1788	A
Approach Delay, s/veh		43.9			62.0			49.3			72.8	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	35.0	7.6	50.4	14.6	37.4	13.0	45.0
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	4.5	7.0	4.5	6.0
Max Green Setting (Gmax), s	12.5	28.0	8.5	39.0	13.5	27.0	8.5	39.0
Max Q Clear Time (g_c+I1), s	14.2	9.3	4.1	46.4	10.0	10.7	9.0	37.9
Green Ext Time (p_c), s	0.0	1.4	0.0	0.0	0.1	1.6	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	60.5
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	55	1054	34	80	1339
Future Vol, veh/h	15	55	1054	34	80	1339
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	5	2
Mvmt Flow	18	67	1675	41	97	2128

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2955	859	0	0	1717	0
Stage 1	1697	-	-	-	-	-
Stage 2	1258	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.2	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.25	-
Pot Cap-1 Maneuver	~ 11	300	-	-	352	-
Stage 1	134	-	-	-	-	-
Stage 2	231	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 8	300	-	-	352	-
Mov Cap-2 Maneuver	~ 8	-	-	-	-	-
Stage 1	134	-	-	-	-	-
Stage 2	167	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 332.4	0	0.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	8	300	352	-
HCM Lane V/C Ratio	-	-	2.27	0.222	0.275	-
HCM Control Delay (s)	-	-	$ 1476.4	20.4	19.1	-
HCM Lane LOS	-	-	F	C	C	-
HCM 95th %tile Q(veh)	-	-	3.3	0.8	1.1	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	24	64	130	10	137	29	1079	85	62	1420	254
Future Volume (veh/h)	155	24	64	130	10	137	29	1079	85	62	1420	254
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		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	1129	1411	1841	1841	1470	1811	1500	1870	1856	1781	1870	1337
Adj Flow Rate, veh/h	169	26	70	142	11	150	32	1663	93	68	2188	277
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	33	4	4	29	6	27	2	3	8	2	38
Cap, veh/h	166	51	138	304	14	188	113	2854	159	188	2716	337
Arrive On Green	0.07	0.15	0.15	0.08	0.16	0.16	0.01	0.19	0.19	0.03	0.59	0.59
Sat Flow, veh/h	1076	338	909	1753	86	1171	1428	4948	277	1697	4600	571
Grp Volume(v), veh/h	169	0	96	142	0	161	32	1144	612	68	1608	857
Grp Sat Flow(s),veh/h/ln	1076	0	1247	1753	0	1257	1428	1702	1821	1697	1702	1768
Q Serve(g_s), s	7.5	0.0	7.8	7.5	0.0	13.6	1.0	33.7	33.7	1.8	40.3	42.4
Cycle Q Clear(g_c), s	7.5	0.0	7.8	7.5	0.0	13.6	1.0	33.7	33.7	1.8	40.3	42.4
Prop In Lane	1.00		0.73	1.00		0.93	1.00		0.15	1.00		0.32
Lane Grp Cap(c), veh/h	166	0	189	304	0	202	113	1964	1050	188	2009	1043
V/C Ratio(X)	1.02	0.00	0.51	0.47	0.00	0.80	0.28	0.58	0.58	0.36	0.80	0.82
Avail Cap(c_a), veh/h	166	0	431	304	0	446	237	1964	1050	252	2009	1043
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	0.0	42.9	35.9	0.0	44.5	20.4	32.5	32.5	15.8	17.5	17.9
Incr Delay (d2), s/veh	74.2	0.0	4.5	2.4	0.0	14.1	2.9	1.3	2.4	2.5	3.5	7.3
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(95%),veh/ln	9.8	0.0	4.8	6.1	0.0	8.7	0.8	22.0	23.7	1.3	20.9	23.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	119.8	0.0	47.4	38.3	0.0	58.6	23.3	33.7	34.9	18.3	21.0	25.2
LnGrp LOS	F	A	D	D	A	E	C	C	C	B	C	C
Approach Vol, veh/h		265			303			1788			2533	
Approach Delay, s/veh		93.6			49.1			33.9			22.3	
Approach LOS		F			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	21.7	5.4	70.9	11.0	22.7	6.9	69.5
Change Period (Y+Rc), s	3.5	5.0	3.5	6.0	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	8.5	38.0	11.5	34.0	7.5	39.0	7.5	38.0
Max Q Clear Time (g_c+I1), s	9.5	9.8	3.0	44.4	9.5	15.6	3.8	35.7
Green Ext Time (p_c), s	0.0	1.0	0.1	0.0	0.0	1.8	0.1	2.2

Intersection Summary	
HCM 6th Ctrl Delay	32.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	11	94	0	386	961	0	1724	0	0	0
Future Vol, veh/h	11	94	0	386	961	0	1724	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	37	2	9	5	2	4	2	2	2
Mvmt Flow	13	113	0	607	1151	0	2712	0	0	0

Major/Minor	Minor2	Major1			Major2			
Conflicting Flow All	3016	-	-	0	-	-	-	0
Stage 1	2712	-	-	-	-	-	-	-
Stage 2	304	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	~ 10	0	0	-	0	0	-	0
Stage 1	36	0	0	-	0	0	-	0
Stage 2	722	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	~ 10	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	~ 10	-	-	-	-	-	-	-
Stage 1	36	-	-	-	-	-	-	-
Stage 2	722	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 904	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	10	-	-
HCM Lane V/C Ratio	-	1.318	-	-
HCM Control Delay (s)	-	$ 904	0	-
HCM Lane LOS	-	F	A	-
HCM 95th %tile Q(veh)	-	2.4	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1421	7	254	100	257	0	0	344	22
Future Volume (veh/h)	0	0	0	1421	7	254	100	257	0	0	344	22
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1841	1870	1870	1530	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1885	0	0	132	417	0	0	559	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				4	2	2	25	2	0	0	2	2
Cap, veh/h				2025	0		228	1129	0	0	973	
Arrive On Green				0.58	0.00	0.00	0.07	0.32	0.00	0.00	0.19	0.00
Sat Flow, veh/h				3506	0	1585	1457	3647	0	0	5443	0
Grp Volume(v), veh/h				1885	0	0	132	417	0	0	559	0
Grp Sat Flow(s),veh/h/ln				1753	0	1585	1457	1777	0	0	1702	0
Q Serve(g_s), s				54.0	0.0	0.0	7.5	10.0	0.0	0.0	10.9	0.0
Cycle Q Clear(g_c), s				54.0	0.0	0.0	7.5	10.0	0.0	0.0	10.9	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				2025	0		228	1129	0	0	973	
V/C Ratio(X)				0.93	0.00		0.58	0.37	0.00	0.00	0.57	
Avail Cap(c_a), veh/h				2231	0		228	1129	0	0	973	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				21.2	0.0	0.0	33.2	29.0	0.0	0.0	40.5	0.0
Incr Delay (d2), s/veh				7.3	0.0	0.0	3.6	0.9	0.0	0.0	2.5	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				28.6	0.0	0.0	5.2	7.6	0.0	0.0	8.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.5	0.0	0.0	36.8	29.9	0.0	0.0	42.9	0.0
LnGrp LOS				C	A		D	C	A	A	D	
Approach Vol, veh/h					1885	A		549			559	A
Approach Delay, s/veh					28.5			31.6			42.9	
Approach LOS					C			C			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.0	26.5		69.5		40.5
Change Period (Y+Rc), s	6.5	5.5		6.0		5.5
Max Green Setting (Gmax), s	7.5	14.5		70.0		28.5
Max Q Clear Time (g_c+I1), s	9.5	12.9		56.0		12.0
Green Ext Time (p_c), s	0.0	0.5		7.5		2.2

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

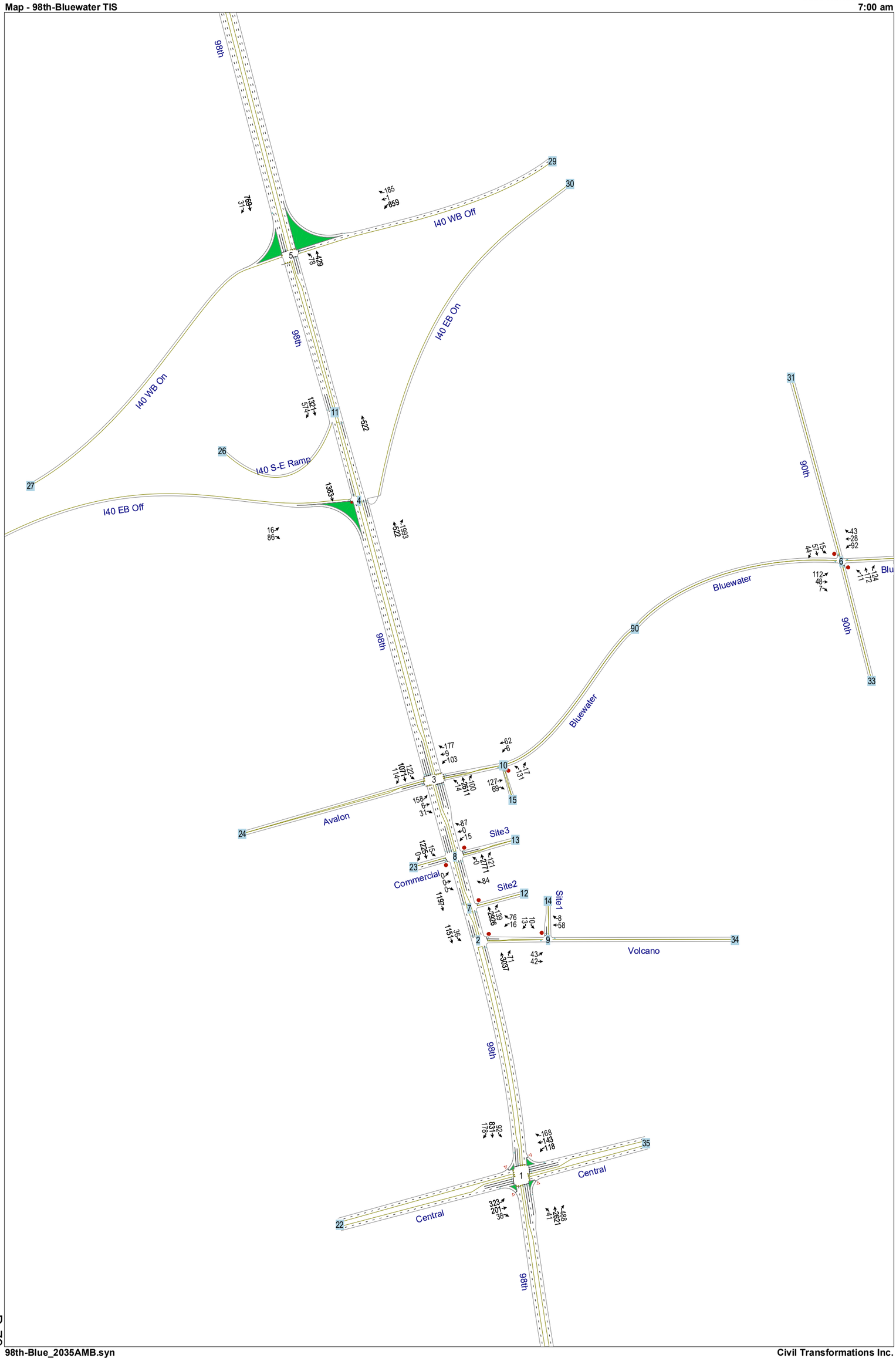
Intersection	
Int Delay, s/veh	11.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	50	22	63	57	30	10	53	26	42	113	163
Future Vol, veh/h	75	50	22	63	57	30	10	53	26	42	113	163
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
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, %	8	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	91	61	27	77	69	36	12	64	32	51	137	198

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	105	0	0	88	0	0	666	516	75	546	511	87
Stage 1	-	-	-	-	-	-	257	257	-	241	241	-
Stage 2	-	-	-	-	-	-	409	259	-	305	270	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1450	-	-	1508	-	-	373	463	986	448	466	971
Stage 1	-	-	-	-	-	-	748	695	-	762	706	-
Stage 2	-	-	-	-	-	-	619	694	-	705	686	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1450	-	-	1508	-	-	202	410	986	349	413	971
Mov Cap-2 Maneuver	-	-	-	-	-	-	202	410	-	349	413	-
Stage 1	-	-	-	-	-	-	701	651	-	714	668	-
Stage 2	-	-	-	-	-	-	370	657	-	576	643	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.9	3.2	14.9	17.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	202	508	1450	-	-	1508	-	-	349	625
HCM Lane V/C Ratio	0.06	0.189	0.063	-	-	0.051	-	-	0.146	0.537
HCM Control Delay (s)	24	13.7	7.6	-	-	7.5	0	-	17.1	17.2
HCM Lane LOS	C	B	A	-	-	A	A	-	C	C
HCM 95th %tile Q(veh)	0.2	0.7	0.2	-	-	0.2	-	-	0.5	3.2


98th
I40 WB Off
I40 EB On
I40 WB On
I40 S-E Ramp
I40 EB Off
90th
Bluewater
Avalon
Site3
Commercial
Site2
Site1
Volcano
Central

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	175	33	103	124	135	27	1590	323	55	483	109
Future Volume (veh/h)	281	175	33	103	124	146	27	1736	323	61	550	118
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1707	1796	1737	1796	1841	1870	1856	1633	1885	1767
Adj Flow Rate, veh/h	351	219	0	129	155	0	44	2849	0	100	903	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	8	13	7	11	7	4	2	3	18	1	9
Cap, veh/h	401	637		178	411		263	1531		132	1636	
Arrive On Green	0.12	0.19	0.00	0.05	0.12	0.00	0.02	0.43	0.00	0.05	0.46	0.00
Sat Flow, veh/h	3428	3474	0	3319	3387	0	1753	3554	1572	1555	3676	0
Grp Volume(v), veh/h	351	219	0	129	155	0	44	2849	0	100	903	0
Grp Sat Flow(s),veh/h/ln	1714	1692	0	1659	1650	0	1753	1777	1572	1555	1791	0
Q Serve(g_s), s	13.1	7.3	0.0	5.0	5.6	0.0	1.8	56.0	0.0	4.6	23.8	0.0
Cycle Q Clear(g_c), s	13.1	7.3	0.0	5.0	5.6	0.0	1.8	56.0	0.0	4.6	23.8	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	401	637		178	411		263	1531		132	1636	
V/C Ratio(X)	0.87	0.34		0.73	0.38		0.17	1.86		0.76	0.55	
Avail Cap(c_a), veh/h	462	859		294	685		323	1531		145	1636	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.5	45.8	0.0	60.6	52.3	0.0	21.6	37.0	0.0	30.7	25.7	0.0
Incr Delay (d2), s/veh	14.0	0.3	0.0	2.1	0.6	0.0	0.1	390.0	0.0	15.9	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.3	5.4	0.0	3.7	4.1	0.0	1.3	167.1	0.0	3.9	15.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.5	46.1	0.0	62.7	52.8	0.0	21.7	427.0	0.0	46.6	27.0	0.0
LnGrp LOS	E	D		E	D		C	F		D	C	
Approach Vol, veh/h		570	A		284	A		2893	A		1003	A
Approach Delay, s/veh		61.1			57.3			420.9			29.0	
Approach LOS		E			E			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	31.5	7.5	65.4	19.7	23.2	10.9	62.0
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	4.5	7.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	33.0	7.5	56.0	17.5	27.0	7.5	56.0
Max Q Clear Time (g_c+I1), s	7.0	9.3	3.8	25.8	15.1	7.6	6.6	58.0
Green Ext Time (p_c), s	0.0	1.1	0.0	4.0	0.1	0.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	273.2
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	54.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	66	1861	26	31	690
Future Vol, veh/h	14	66	2011	62	31	762
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	4	2	0	4	6
Mvmt Flow	17	82	3265	77	38	1237

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	4000	1672	0	0	3343	0
Stage 1	3305	-	-	-	-	-
Stage 2	695	-	-	-	-	-
Critical Hdwy	6.8	6.98	-	-	4.18	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.34	-	-	2.24	-
Pot Cap-1 Maneuver	~ 2	83	-	-	79	-
Stage 1	~ 17	-	-	-	-	-
Stage 2	462	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 1	83	-	-	79	-
Mov Cap-2 Maneuver	~ 1	-	-	-	-	-
Stage 1	~ 17	-	-	-	-	-
Stage 2	240	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, $	2551.9	0	2.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	1	83	79	-
HCM Lane V/C Ratio	-	-	17.312	0.983	0.485	-
HCM Control Delay (s)	-	$	13718.4	183.2	87.6	-
HCM Lane LOS	-	-	F	F	F	-
HCM 95th %tile Q(veh)	-	-	3.8	5.4	2	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	5	29	34	7	101	13	1668	93	54	699	107
Future Volume (veh/h)	148	6	29	96	8	165	13	1729	93	114	709	107
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		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	1144	1870	1633	1826	1604	1752	1900	1870	1841	1737	1856	1100
Adj Flow Rate, veh/h	170	7	33	110	9	190	15	2807	107	131	1151	123
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	51	2	18	5	20	10	0	2	4	11	3	54
Cap, veh/h	289	96	451	560	19	394	178	1888	71	161	1988	212
Arrive On Green	0.09	0.34	0.34	0.06	0.30	0.30	0.02	0.75	0.75	0.06	0.43	0.43
Sat Flow, veh/h	1090	285	1344	1739	62	1305	1810	5050	190	1654	4647	496
Grp Volume(v), veh/h	170	0	40	110	0	199	15	1881	1033	131	836	438
Grp Sat Flow(s),veh/h/ln	1090	0	1629	1739	0	1367	1810	1702	1836	1654	1689	1766
Q Serve(g_s), s	12.1	0.0	2.2	5.6	0.0	15.5	0.7	48.6	48.6	6.1	24.5	24.5
Cycle Q Clear(g_c), s	12.1	0.0	2.2	5.6	0.0	15.5	0.7	48.6	48.6	6.1	24.5	24.5
Prop In Lane	1.00		0.82	1.00		0.95	1.00		0.10	1.00		0.28
Lane Grp Cap(c), veh/h	289	0	547	560	0	412	178	1273	686	161	1445	756
V/C Ratio(X)	0.59	0.00	0.07	0.20	0.00	0.48	0.08	1.48	1.51	0.82	0.58	0.58
Avail Cap(c_a), veh/h	289	0	547	620	0	412	329	1273	686	209	1445	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.4	0.0	29.4	28.4	0.0	37.1	25.9	16.4	16.4	31.0	28.3	28.3
Incr Delay (d2), s/veh	4.8	0.0	0.3	0.4	0.0	4.0	0.4	219.3	234.9	23.2	0.9	1.8
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(95%),veh/ln	2.8	0.0	1.6	4.4	0.0	9.6	0.5	68.8	78.5	6.0	14.8	15.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	0.0	29.7	28.7	0.0	41.1	26.3	235.7	251.3	54.2	29.2	30.1
LnGrp LOS	D	A	C	C	A	D	C	F	F	D	C	C
Approach Vol, veh/h		210			309			2929			1405	
Approach Delay, s/veh		34.2			36.7			240.2			31.8	
Approach LOS		C			D			F			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	48.6	4.8	61.6	15.6	44.2	11.8	54.6
Change Period (Y+Rc), s	3.5	5.0	3.5	6.0	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	12.1	39.2	12.1	48.6	12.1	39.2	12.1	48.6
Max Q Clear Time (g_c+I1), s	7.6	4.2	2.7	26.5	14.1	17.5	8.1	50.6
Green Ext Time (p_c), s	0.2	0.4	0.0	14.1	0.0	2.2	0.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	158.0
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	14	74	0	323	1631	0	847	0	0	0
Future Vol, veh/h	14	75	0	346	1733	0	916	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	45	2	9	6	2	8	2	2	2
Mvmt Flow	17	91	0	550	2098	0	1456	0	0	0

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1731	-	-	0	-	-	-	0
Stage 1	1456	-	-	-	-	-	-	-
Stage 2	275	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	79	0	0	-	0	0	-	0
Stage 1	181	0	0	-	0	0	-	0
Stage 2	747	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	79	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	79	-	-	-	-	-	-	-
Stage 1	181	-	-	-	-	-	-	-
Stage 2	747	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	62.6	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	79	-	-
HCM Lane V/C Ratio	-	0.215	-	-
HCM Control Delay (s)	-	62.6	0	-
HCM Lane LOS	-	F	A	-
HCM 95th %tile Q(veh)	-	0.7	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	661	1	150	64	265	0	0	477	27
Future Volume (veh/h)	0	0	0	698	1	150	68	284	0	0	509	27
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1870	1870	1322	1870	0	0	1870	1870
Adj Flow Rate, veh/h				934	0	0	85	466	0	0	835	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				8	2	2	39	2	0	0	2	2
Cap, veh/h				1027	0		274	1941	0	0	2286	
Arrive On Green				0.30	0.00	0.00	0.05	0.55	0.00	0.00	0.45	0.00
Sat Flow, veh/h				3393	0	1585	1259	3647	0	0	5443	0
Grp Volume(v), veh/h				934	0	0	85	466	0	0	835	0
Grp Sat Flow(s),veh/h/ln				1697	0	1585	1259	1777	0	0	1702	0
Q Serve(g_s), s				34.4	0.0	0.0	4.6	8.9	0.0	0.0	14.0	0.0
Cycle Q Clear(g_c), s				34.4	0.0	0.0	4.6	8.9	0.0	0.0	14.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				1027	0		274	1941	0	0	2286	
V/C Ratio(X)				0.91	0.00		0.31	0.24	0.00	0.00	0.37	
Avail Cap(c_a), veh/h				1240	0		286	1941	0	0	2286	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				43.6	0.0	0.0	17.8	15.4	0.0	0.0	23.7	0.0
Incr Delay (d2), s/veh				8.9	0.0	0.0	0.6	0.3	0.0	0.0	0.5	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				21.6	0.0	0.0	2.4	6.3	0.0	0.0	9.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				52.5	0.0	0.0	18.5	15.7	0.0	0.0	24.2	0.0
LnGrp LOS				D	A		B	B	A	A	C	
Approach Vol, veh/h					934	A		551			835	A
Approach Delay, s/veh					52.5			16.1			24.2	
Approach LOS					D			B			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.8	64.2		44.8		77.0
Change Period (Y+Rc), s	6.5	* 6		5.5		6.0
Max Green Setting (Gmax), s	7.5	* 58		47.5		71.0
Max Q Clear Time (g_c+I1), s	6.6	16.0		36.4		10.9
Green Ext Time (p_c), s	0.0	6.1		2.9		3.1

Intersection Summary	
HCM 6th Ctrl Delay	33.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	18.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	98	43	7	86	25	40	10	161	116	14	53	40
Future Vol, veh/h	105	45	7	86	26	40	10	161	116	14	53	41
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	7	2	2	2	5	5	2	2	3	13	5	22
Mvmt Flow	132	57	9	108	33	50	13	203	146	18	67	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	88	0	0	66	0	0	660	630	62	779	609	63
Stage 1	-	-	-	-	-	-	326	326	-	279	279	-
Stage 2	-	-	-	-	-	-	334	304	-	500	330	-
Critical Hdwy	4.17	-	-	4.12	-	-	7.12	6.52	6.23	7.23	6.55	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Follow-up Hdwy	2.263	-	-	2.218	-	-	3.518	4.018	3.327	3.617	4.045	3.498
Pot Cap-1 Maneuver	1477	-	-	1536	-	-	376	399	1000	300	406	948
Stage 1	-	-	-	-	-	-	687	648	-	704	674	-
Stage 2	-	-	-	-	-	-	680	663	-	533	640	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1470	-	-	1536	-	-	267	334	1000	118	340	943
Mov Cap-2 Maneuver	-	-	-	-	-	-	267	334	-	118	340	-
Stage 1	-	-	-	-	-	-	625	590	-	638	621	-
Stage 2	-	-	-	-	-	-	531	611	-	272	582	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.1	4.3	32.4	18.5
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	267	463	1470	-	-	1536	-	-	118	472
HCM Lane V/C Ratio	0.047	0.753	0.09	-	-	0.07	-	-	0.149	0.251
HCM Control Delay (s)	19.1	32.9	7.7	-	-	7.5	0	-	40.8	15.2
HCM Lane LOS	C	D	A	-	-	A	A	-	E	C
HCM 95th %tile Q(veh)	0.1	6.3	0.3	-	-	0.2	-	-	0.5	1

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1927	0	0	721
Future Vol, veh/h	0	84	1938	139	0	793
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	90	3147	149	0	1288

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1648	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	~ 88	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	~ 88	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	189.4	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	88	-
HCM Lane V/C Ratio	-	-	1.026	-
HCM Control Delay (s)	-	-	189.4	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	6	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	25.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	1861	0	0	754	0
Future Vol, veh/h	0	0	0	15	0	87	0	1835	121	15	811	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	100	-	-	175	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	16	0	94	0	2979	130	16	1317	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2839	4458	659	3735	4393	1555	1317	0	0	3109	0	0
Stage 1	1349	1349	-	3044	3044	-	-	-	-	-	-	-
Stage 2	1490	3109	-	691	1349	-	-	-	-	-	-	-
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	8	1	406	~ 2	2	102	521	-	-	102	-	-
Stage 1	159	217	-	~ 13	29	-	-	-	-	-	-	-
Stage 2	130	27	-	401	217	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	1	1	406	~ 2	2	102	521	-	-	102	-	-
Mov Cap-2 Maneuver	1	1	-	~ 2	2	-	-	-	-	-	-	-
Stage 1	159	183	-	~ 13	29	-	-	-	-	-	-	-
Stage 2	11	27	-	338	183	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	$ 1064.5	0	0.6
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	521	-	-	-	-	2	102	102	-	-
HCM Lane V/C Ratio	-	-	-	-	-	8.065	0.917	0.158	-	-
HCM Control Delay (s)	0	-	-	0	$	6404.3	143.8	46.8	-	-
HCM Lane LOS	A	-	-	A	A	F	F	E	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	3.5	5.4	0.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	46	57	0	0	0
Future Vol, veh/h	43	39	54	8	10	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	45	62	9	11	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	71	0	-	0	204	67
Stage 1	-	-	-	-	67	-
Stage 2	-	-	-	-	137	-
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	1529	-	-	-	784	997
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1529	-	-	-	760	997
Mov Cap-2 Maneuver	-	-	-	-	760	-
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	890	-

Approach	EB	WB	SB
HCM Control Delay, s	3.8	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1529	-	-	-	760	997
HCM Lane V/C Ratio	0.03	-	-	-	0.014	0.014
HCM Control Delay (s)	7.4	0	-	-	9.8	8.7
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	127	0	0	62	0	0
Future Vol, veh/h	119	69	6	58	131	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	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	74	6	67	141	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	211	0	253	174
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	79	-
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	-	-	1360	-	736	869
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	944	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1360	-	732	869
Mov Cap-2 Maneuver	-	-	-	-	732	-
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	939	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	746	-	-	1360	-
HCM Lane V/C Ratio	0.213	-	-	0.005	-
HCM Control Delay (s)	11.1	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0	-

90th
Bluewater
Volcano
Site1
Site2
Site3
98th
Central
Commercial
Avalon
I40 WB Off
I40 EB On
I40 S-E Ramp
I40 WB On
I40 EB Off

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	240	76	317	283	147	30	751	228	112	1013	168
Future Volume (veh/h)	219	240	76	317	283	153	30	785	228	123	1074	178
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		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	1841	1870	1707	1870	1870	1856	1870	1826
Adj Flow Rate, veh/h	265	291	0	384	343	0	48	1248	0	196	1707	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	4	2	13	2	2	3	2	5
Cap, veh/h	326	905		393	958		112	1260		204	1433	
Arrive On Green	0.09	0.25	0.00	0.11	0.27	0.00	0.03	0.35	0.00	0.15	0.81	0.00
Sat Flow, veh/h	3456	3647	0	3456	3589	0	1626	3554	1585	1767	3647	0
Grp Volume(v), veh/h	265	291	0	384	343	0	48	1248	0	196	1707	0
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1728	1749	0	1626	1777	1585	1767	1777	0
Q Serve(g_s), s	8.3	7.3	0.0	12.2	8.7	0.0	2.1	38.4	0.0	7.9	44.4	0.0
Cycle Q Clear(g_c), s	8.3	7.3	0.0	12.2	8.7	0.0	2.1	38.4	0.0	7.9	44.4	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	326	905		393	958		112	1260		204	1433	
V/C Ratio(X)	0.81	0.32		0.98	0.36		0.43	0.99		0.96	1.19	
Avail Cap(c_a), veh/h	424	905		393	958		191	1260		204	1433	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.9	33.3	0.0	48.6	32.2	0.0	28.5	35.3	0.0	24.2	10.6	0.0
Incr Delay (d2), s/veh	6.9	0.9	0.0	39.3	1.0	0.0	1.0	23.2	0.0	50.9	93.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.7	5.6	0.0	11.5	6.5	0.0	1.4	26.9	0.0	9.4	33.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	34.2	0.0	87.9	33.2	0.0	29.5	58.5	0.0	75.1	103.8	0.0
LnGrp LOS	E	C		F	C		C	E		E	F	
Approach Vol, veh/h		556	A		727	A		1296	A		1903	A
Approach Delay, s/veh		44.5			62.1			57.4			100.8	
Approach LOS		D			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	35.0	7.6	50.4	14.9	37.1	13.0	45.0
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	4.5	7.0	4.5	6.0
Max Green Setting (Gmax), s	12.5	28.0	8.5	39.0	13.5	27.0	8.5	39.0
Max Q Clear Time (g_c+I1), s	14.2	9.3	4.1	46.4	10.3	10.7	9.9	40.4
Green Ext Time (p_c), s	0.0	1.4	0.0	0.0	0.1	1.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	75.0
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	19.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	55	1054	34	80	1339
Future Vol, veh/h	23	55	1091	45	80	1413
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	5	2
Mvmt Flow	28	67	1734	54	97	2246

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3079	895	0	0	1789	0
Stage 1	1762	-	-	-	-	-
Stage 2	1317	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.2	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.25	-
Pot Cap-1 Maneuver	~ 9	284	-	-	330	-
Stage 1	123	-	-	-	-	-
Stage 2	215	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 6	284	-	-	330	-
Mov Cap-2 Maneuver	~ 6	-	-	-	-	-
Stage 1	123	-	-	-	-	-
Stage 2	152	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 844.1	0	0.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	6	284	330	-
HCM Lane V/C Ratio	-	-	4.64	0.234	0.293	-
HCM Control Delay (s)	-	-	$ 2811.1	21.5	20.4	-
HCM Lane LOS	-	-	F	C	C	-
HCM 95th %tile Q(veh)	-	-	4.9	0.9	1.2	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	24	64	61	10	63	29	1079	67	43	1420	254
Future Volume (veh/h)	155	26	64	127	11	100	29	1129	67	118	1440	254
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		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	1129	1411	1841	1841	1470	1811	1500	1870	1856	1781	1870	1337
Adj Flow Rate, veh/h	169	28	70	139	12	109	32	1740	73	129	2219	277
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	33	4	4	29	6	27	2	3	8	2	38
Cap, veh/h	165	42	105	255	16	144	118	2991	125	214	2880	352
Arrive On Green	0.07	0.12	0.12	0.08	0.13	0.13	0.01	0.20	0.20	0.05	0.62	0.62
Sat Flow, veh/h	1076	357	893	1753	125	1137	1428	5026	211	1697	4609	564
Grp Volume(v), veh/h	169	0	98	139	0	121	32	1178	635	129	1627	869
Grp Sat Flow(s),veh/h/ln	1076	0	1250	1753	0	1262	1428	1702	1832	1697	1702	1769
Q Serve(g_s), s	7.5	0.0	8.3	7.6	0.0	10.2	1.0	34.5	34.6	3.1	37.8	39.9
Cycle Q Clear(g_c), s	7.5	0.0	8.3	7.6	0.0	10.2	1.0	34.5	34.6	3.1	37.8	39.9
Prop In Lane	1.00		0.71	1.00		0.90	1.00		0.11	1.00		0.32
Lane Grp Cap(c), veh/h	165	0	147	255	0	159	118	2026	1091	214	2127	1105
V/C Ratio(X)	1.03	0.00	0.67	0.55	0.00	0.76	0.27	0.58	0.58	0.60	0.76	0.79
Avail Cap(c_a), veh/h	165	0	432	255	0	448	243	2026	1091	250	2127	1105
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	0.0	46.5	39.1	0.0	46.4	17.4	31.8	31.8	19.2	14.8	15.2
Incr Delay (d2), s/veh	77.4	0.0	10.7	4.3	0.0	14.5	2.6	1.2	2.3	5.9	2.7	5.7
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(95%),veh/ln	10.0	0.0	5.4	6.4	0.0	6.9	0.7	22.5	24.3	3.8	19.0	21.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	124.7	0.0	57.2	43.4	0.0	60.9	20.1	33.0	34.1	25.2	17.5	20.9
LnGrp LOS	F	A	E	D	A	E	C	C	C	C	B	C
Approach Vol, veh/h		267			260			1845			2625	
Approach Delay, s/veh		99.9			51.5			33.1			19.0	
Approach LOS		F			D			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	17.9	5.4	74.7	11.0	18.9	8.6	71.5
Change Period (Y+Rc), s	3.5	5.0	3.5	6.0	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	8.5	38.0	11.5	34.0	7.5	39.0	7.5	38.0
Max Q Clear Time (g_c+I1), s	9.6	10.3	3.0	41.9	9.5	12.2	5.1	36.6
Green Ext Time (p_c), s	0.0	1.0	0.1	0.0	0.0	1.3	0.1	1.4

Intersection Summary	
HCM 6th Ctrl Delay	30.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	11	94	0	386	961	0	1724	0	0	0
Future Vol, veh/h	11	98	0	413	1021	0	1815	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	37	2	9	5	2	4	2	2	2
Mvmt Flow	13	117	0	650	1223	0	2855	0	0	0

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	3180	-	-	0	-	-	-	0
Stage 1	2855	-	-	-	-	-	-	-
Stage 2	325	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	~ 8	0	0	-	0	0	-	0
Stage 1	30	0	0	-	0	0	-	0
Stage 2	705	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	~ 8	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	~ 8	-	-	-	-	-	-	-
Stage 1	30	-	-	-	-	-	-	-
Stage 2	705	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, $	1196.2	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	8	-	-
HCM Lane V/C Ratio	-	1.647	-	-
HCM Control Delay (s)	$	1196.2	0	-
HCM Lane LOS	-	F	A	-
HCM 95th %tile Q(veh)	-	2.6	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1421	7	254	100	257	0	0	344	22
Future Volume (veh/h)	0	0	0	1496	7	254	108	276	0	0	360	22
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1841	1870	1870	1530	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1985	0	0	134	448	0	0	585	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				4	2	2	25	2	0	0	2	2
Cap, veh/h				2105	0		206	1049	0	0	857	
Arrive On Green				0.60	0.00	0.00	0.07	0.30	0.00	0.00	0.17	0.00
Sat Flow, veh/h				3506	0	1585	1457	3647	0	0	5443	0
Grp Volume(v), veh/h				1985	0	0	134	448	0	0	585	0
Grp Sat Flow(s),veh/h/ln				1753	0	1585	1457	1777	0	0	1702	0
Q Serve(g_s), s				57.4	0.0	0.0	7.5	11.2	0.0	0.0	11.8	0.0
Cycle Q Clear(g_c), s				57.4	0.0	0.0	7.5	11.2	0.0	0.0	11.8	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				2105	0		206	1049	0	0	857	
V/C Ratio(X)				0.94	0.00		0.65	0.43	0.00	0.00	0.68	
Avail Cap(c_a), veh/h				2231	0		206	1049	0	0	857	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				20.3	0.0	0.0	36.1	31.3	0.0	0.0	43.0	0.0
Incr Delay (d2), s/veh				8.8	0.0	0.0	7.1	1.3	0.0	0.0	4.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				30.1	0.0	0.0	5.8	8.4	0.0	0.0	8.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				29.0	0.0	0.0	43.2	32.5	0.0	0.0	47.4	0.0
LnGrp LOS				C	A		D	C	A	A	D	
Approach Vol, veh/h					1985	A		582			585	A
Approach Delay, s/veh					29.0			35.0			47.4	
Approach LOS					C			C			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.0	24.0		72.0		38.0
Change Period (Y+Rc), s	6.5	5.5		6.0		5.5
Max Green Setting (Gmax), s	7.5	14.5		70.0		28.5
Max Q Clear Time (g_c+I1), s	9.5	13.8		59.4		13.2
Green Ext Time (p_c), s	0.0	0.3		6.6		2.3

Intersection Summary	
HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	50	22	63	53	21	10	53	26	6	113	34
Future Vol, veh/h	48	52	22	63	55	21	10	53	26	6	113	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
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, %	8	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	63	27	77	67	26	12	64	32	7	137	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	93	0	0	90	0	0	518	440	77	475	440	80
Stage 1	-	-	-	-	-	-	193	193	-	234	234	-
Stage 2	-	-	-	-	-	-	325	247	-	241	206	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1464	-	-	1505	-	-	468	511	984	500	511	980
Stage 1	-	-	-	-	-	-	809	741	-	769	711	-
Stage 2	-	-	-	-	-	-	687	702	-	762	731	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1464	-	-	1505	-	-	322	464	984	403	464	980
Mov Cap-2 Maneuver	-	-	-	-	-	-	322	464	-	403	464	-
Stage 1	-	-	-	-	-	-	777	711	-	738	673	-
Stage 2	-	-	-	-	-	-	494	664	-	644	702	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3	3.4	13.1	15.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	322	562	1464	-	-	1505	-	-	403	532
HCM Lane V/C Ratio	0.038	0.171	0.04	-	-	0.051	-	-	0.018	0.341
HCM Control Delay (s)	16.6	12.7	7.6	-	-	7.5	0	-	14.1	15.2
HCM Lane LOS	C	B	A	-	-	A	A	-	B	C
HCM 95th %tile Q(veh)	0.1	0.6	0.1	-	-	0.2	-	-	0.1	1.5

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1109	0	0	1419
Future Vol, veh/h	0	69	1080	66	0	1493
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	74	1754	71	0	2424

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	913	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	276	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	276	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.8	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	276	-
HCM Lane V/C Ratio	-	-	0.269	-
HCM Control Delay (s)	-	-	22.8	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	1.1	-

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	1142	0	0	1545	0
Future Vol, veh/h	0	0	0	13	0	71	0	1121	61	25	1606	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	100	-	-	175	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	0	76	0	1820	66	27	2608	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3572	4548	1304	3211	4515	943	2608	0	0	1886	0	0
Stage 1	2662	2662	-	1853	1853	-	-	-	-	-	-	-
Stage 2	910	1886	-	1358	2662	-	-	-	-	-	-	-
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	2	1	151	~ 4	1	264	162	-	-	314	-	-
Stage 1	23	47	-	76	122	-	-	-	-	-	-	-
Stage 2	296	118	-	157	47	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	1	1	151	~ 4	1	264	162	-	-	314	-	-
Mov Cap-2 Maneuver	1	1	-	~ 4	1	-	-	-	-	-	-	-
Stage 1	23	43	-	76	122	-	-	-	-	-	-	-
Stage 2	210	118	-	144	43	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	$ 450.9	0	0.2
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	162	-	-	-	-	4	264	314	-	-
HCM Lane V/C Ratio	-	-	-	-	-	3.495	0.289	0.086	-	-
HCM Control Delay (s)	0	-	-	0	$	2781.7	24.1	17.5	-	-
HCM Lane LOS	A	-	-	A	A	F	C	C	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	3	1.2	0.3	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	114	70	0	0	0
Future Vol, veh/h	17	108	68	5	13	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	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	124	78	5	14	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	83	0	-	0	241	81
Stage 1	-	-	-	-	81	-
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	1514	-	-	-	747	979
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	869	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1514	-	-	-	737	979
Mov Cap-2 Maneuver	-	-	-	-	737	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	869	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1514	-	-	-	737	979
HCM Lane V/C Ratio	0.012	-	-	-	0.019	0.011
HCM Control Delay (s)	7.4	0	-	-	10	8.7
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

Intersection	
Int Delay, s/veh	3.3

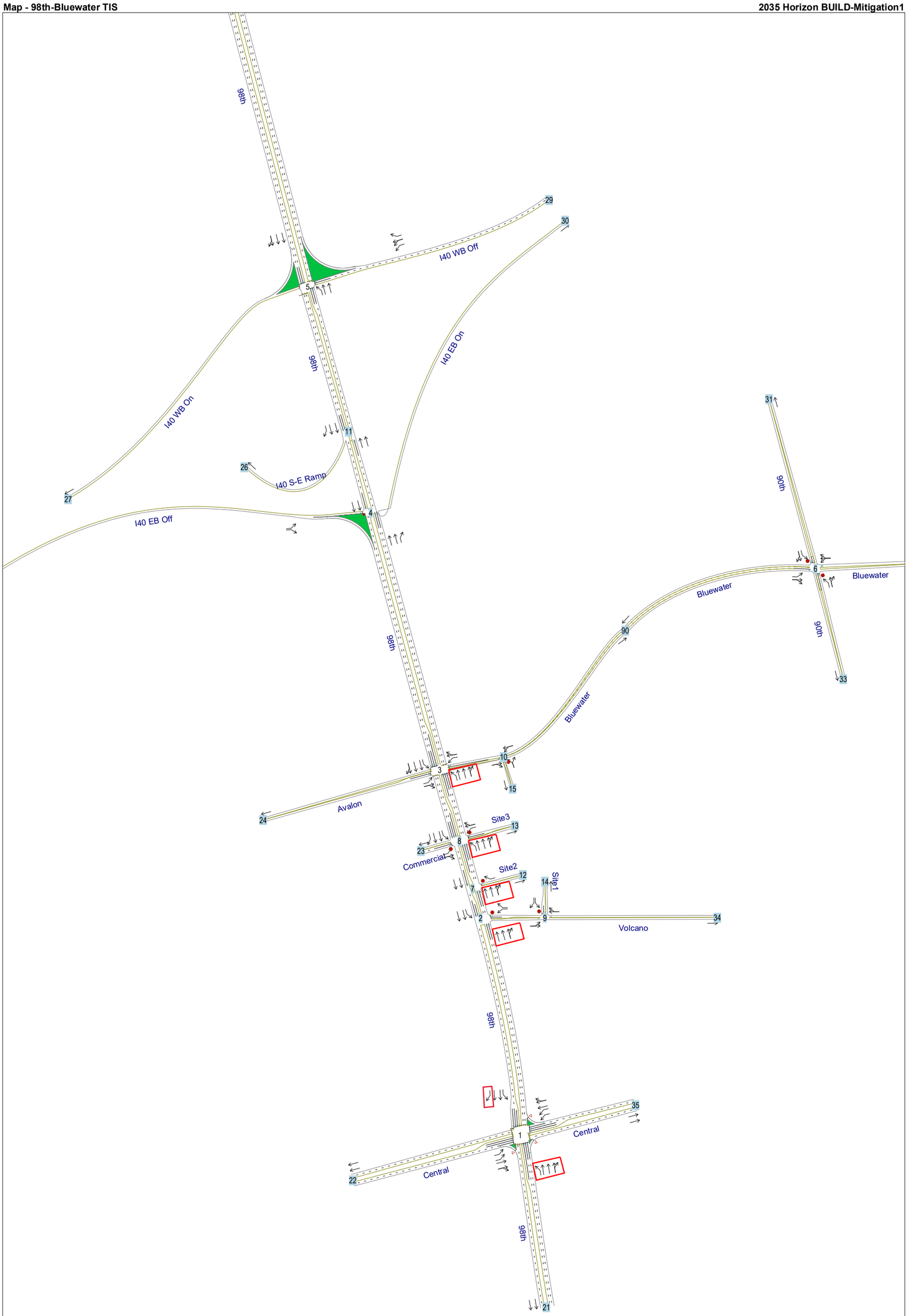
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	114	0	0	97	0	0
Future Vol, veh/h	107	84	7	94	107	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	90	8	108	115	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	213	0	292	168
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	124	-
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	-	-	1357	-	699	876
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	902	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1357	-	695	876
Mov Cap-2 Maneuver	-	-	-	-	695	-
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	897	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	713	-	-	1357	-
HCM Lane V/C Ratio	0.184	-	-	0.006	-
HCM Control Delay (s)	11.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

APPENDIX E
Mitigation Analysis LOS Worksheets


98th
29
30
I40 WB Off
5
98th
I40 EB On
I40 WB On
11
26
I40 S-E Ramp
27
I40 EB Off
4
31
90th
6
Bluewater
Bluewater
90th
90
33
98th
Bluewater
10
3
15
Avalon
24
Site3
13
8
23
Commercial
Site2
12
7
14
Site1
2
9
34
Volcano
98th
35
1
Central
22
Central
98th
21

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	175	33	103	124	135	27	1590	323	55	483	109
Future Volume (veh/h)	281	175	33	103	124	146	27	1736	323	61	550	118
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1707	1796	1737	1796	1841	1870	1856	1633	1885	1767
Adj Flow Rate, veh/h	351	219	0	129	155	0	44	2849	0	100	903	194
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, %	3	8	13	7	11	7	4	2	3	18	1	9
Cap, veh/h	345	532		171	357		255	2723		109	2009	991
Arrive On Green	0.10	0.16	0.00	0.05	0.11	0.00	0.02	0.53	0.00	0.04	0.56	0.56
Sat Flow, veh/h	3428	3474	0	3319	3387	0	1753	5106	1572	1555	3582	1497
Grp Volume(v), veh/h	351	219	0	129	155	0	44	2849	0	100	903	194
Grp Sat Flow(s),veh/h/ln	1714	1692	0	1659	1650	0	1753	1702	1572	1555	1791	1497
Q Serve(g_s), s	15.1	8.7	0.0	5.8	6.6	0.0	1.9	80.0	0.0	5.0	22.2	7.6
Cycle Q Clear(g_c), s	15.1	8.7	0.0	5.8	6.6	0.0	1.9	80.0	0.0	5.0	22.2	7.6
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	345	532		171	357		255	2723		109	2009	991
V/C Ratio(X)	1.02	0.41		0.75	0.43		0.17	1.05		0.92	0.45	0.20
Avail Cap(c_a), veh/h	345	706		239	594		276	2723		109	2009	991
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.4	57.0	0.0	70.2	62.6	0.0	20.1	35.0	0.0	70.4	19.3	9.9
Incr Delay (d2), s/veh	52.8	0.5	0.0	4.7	0.8	0.0	0.1	30.9	0.0	59.2	0.7	0.4
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(95%),veh/ln	13.9	6.6	0.0	4.5	4.9	0.0	1.4	50.7	0.0	9.3	14.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	120.3	57.5	0.0	74.9	63.4	0.0	20.2	65.9	0.0	129.6	20.1	10.3
LnGrp LOS	F	E		E	E		C	F		F	C	B
Approach Vol, veh/h		570	A		284	A		2893	A		1197	
Approach Delay, s/veh		96.2			68.6			65.2			27.6	
Approach LOS		F			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	30.6	7.7	90.2	19.6	23.2	11.9	86.0
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	4.5	7.0	6.0	* 6
Max Green Setting (Gmax), s	10.8	31.3	5.1	80.8	15.1	27.0	5.9	* 80
Max Q Clear Time (g_c+I1), s	7.8	10.7	3.9	24.2	17.1	8.6	7.0	82.0
Green Ext Time (p_c), s	0.0	1.1	0.0	3.1	0.0	0.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	59.8
HCM 6th LOS	E

Notes

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

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	5.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	66	1861	26	31	690
Future Vol, veh/h	14	66	2011	62	31	762
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	4	2	0	4	6
Mvmt Flow	17	82	3265	77	38	1237

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	4000	1672	0	0	3343	0
Stage 1	3305	-	-	-	-	-
Stage 2	695	-	-	-	-	-
Critical Hdwy	6.25	7.18	-	-	5.38	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.65	3.94	-	-	3.14	-
Pot Cap-1 Maneuver	~ 4	~ 71	-	-	~ 24	-
Stage 1	~ 8	-	-	-	-	-
Stage 2	449	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	~ 71	-	-	~ 24	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	~ 8	-	-	-	-	-
Stage 2	0	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	71	~ 24	-
HCM Lane V/C Ratio	-	-	-	1.149	1.597	-
HCM Control Delay (s)	-	-	-	254.7$	644.2	-
HCM Lane LOS	-	-	-	F	F	-
HCM 95th %tile Q(veh)	-	-	-	6.2	4.8	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	5	29	34	7	101	13	1668	93	54	699	107
Future Volume (veh/h)	148	6	29	96	8	165	13	1729	93	114	709	107
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		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	1144	1870	1633	1826	1604	1752	1900	1870	1841	1737	1856	1100
Adj Flow Rate, veh/h	170	7	33	110	9	190	15	2807	107	131	1151	123
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	51	2	18	5	20	10	0	2	4	11	3	54
Cap, veh/h	226	86	405	500	19	392	397	2458	93	131	1675	179
Arrive On Green	0.04	0.30	0.30	0.04	0.30	0.30	0.32	0.97	0.97	0.05	0.36	0.36
Sat Flow, veh/h	1090	285	1344	1739	62	1305	1810	5050	190	1654	4647	496
Grp Volume(v), veh/h	170	0	40	110	0	199	15	1881	1033	131	836	438
Grp Sat Flow(s),veh/h/ln	1090	0	1629	1739	0	1367	1810	1702	1836	1654	1689	1766
Q Serve(g_s), s	6.5	0.0	2.6	6.3	0.0	17.9	0.0	73.0	73.0	7.5	31.6	31.6
Cycle Q Clear(g_c), s	6.5	0.0	2.6	6.3	0.0	17.9	0.0	73.0	73.0	7.5	31.6	31.6
Prop In Lane	1.00		0.82	1.00		0.95	1.00		0.10	1.00		0.28
Lane Grp Cap(c), veh/h	226	0	491	500	0	410	397	1657	894	131	1217	637
V/C Ratio(X)	0.75	0.00	0.08	0.22	0.00	0.49	0.04	1.14	1.16	1.00	0.69	0.69
Avail Cap(c_a), veh/h	226	0	491	500	0	410	397	1657	894	131	1677	877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	0.0	37.5	34.8	0.0	43.0	31.0	2.0	2.0	44.1	40.8	40.8
Incr Delay (d2), s/veh	15.6	0.0	0.3	0.5	0.0	4.1	0.1	68.9	83.0	79.3	1.5	2.8
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(95%),veh/ln	9.2	0.0	2.0	5.3	0.0	10.8	0.6	25.4	32.1	10.3	19.0	20.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.8	0.0	37.9	35.3	0.0	47.1	31.1	70.9	85.0	123.4	42.3	43.6
LnGrp LOS	E	A	D	D	A	D	C	F	F	F	D	D
Approach Vol, veh/h		210			309			2929			1405	
Approach Delay, s/veh		61.3			42.9			75.7			50.2	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	50.2	29.9	60.1	10.0	50.0	11.0	79.0
Change Period (Y+Rc), s	3.5	5.0	6.0	* 6	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	6.3	45.2	6.0	* 75	6.5	45.0	7.5	73.0
Max Q Clear Time (g_c+I1), s	8.3	4.6	2.0	33.6	8.5	19.9	9.5	75.0
Green Ext Time (p_c), s	0.0	0.4	0.0	20.5	0.0	2.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	65.6
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

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

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	14	74	0	323	1631	0	847	0	0	0
Future Vol, veh/h	14	75	0	346	1733	0	916	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	45	2	9	6	2	8	2	2	2
Mvmt Flow	17	91	0	550	2098	0	1456	0	0	0

Major/Minor	Minor2	Major1			Major2			
Conflicting Flow All	1731	-	-	0	-	-	-	0
Stage 1	1456	-	-	-	-	-	-	-
Stage 2	275	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	79	0	0	-	0	0	-	0
Stage 1	181	0	0	-	0	0	-	0
Stage 2	747	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	79	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	79	-	-	-	-	-	-	-
Stage 1	181	-	-	-	-	-	-	-
Stage 2	747	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	62.6	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	79	-	-
HCM Lane V/C Ratio	-	0.215	-	-
HCM Control Delay (s)	-	62.6	0	-
HCM Lane LOS	-	F	A	-
HCM 95th %tile Q(veh)	-	0.7	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	661	1	150	64	265	0	0	477	27
Future Volume (veh/h)	0	0	0	698	1	150	68	284	0	0	509	27
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1870	1870	1322	1870	0	0	1870	1870
Adj Flow Rate, veh/h				934	0	0	85	466	0	0	835	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				8	2	2	39	2	0	0	2	2
Cap, veh/h				1029	0		216	1564	0	0	1744	
Arrive On Green				0.30	0.00	0.00	0.06	0.44	0.00	0.00	0.34	0.00
Sat Flow, veh/h				3393	0	1585	1259	3647	0	0	5443	0
Grp Volume(v), veh/h				934	0	0	85	466	0	0	835	0
Grp Sat Flow(s),veh/h/ln				1697	0	1585	1259	1777	0	0	1702	0
Q Serve(g_s), s				39.7	0.0	0.0	6.4	12.7	0.0	0.0	19.3	0.0
Cycle Q Clear(g_c), s				39.7	0.0	0.0	6.4	12.7	0.0	0.0	19.3	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				1029	0		216	1564	0	0	1744	
V/C Ratio(X)				0.91	0.00		0.39	0.30	0.00	0.00	0.48	
Avail Cap(c_a), veh/h				1640	0		302	1564	0	0	1744	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				50.2	0.0	0.0	29.9	27.1	0.0	0.0	38.9	0.0
Incr Delay (d2), s/veh				5.0	0.0	0.0	1.2	0.5	0.0	0.0	0.9	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				23.9	0.0	0.0	3.6	9.2	0.0	0.0	12.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				55.2	0.0	0.0	31.0	27.6	0.0	0.0	39.8	0.0
LnGrp LOS				E	A		C	C	A	A	D	
Approach Vol, veh/h					934	A		551			835	A
Approach Delay, s/veh					55.2			28.1			39.8	
Approach LOS					E			C			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.8	57.2		51.0		72.0
Change Period (Y+Rc), s	6.5	* 6		5.5		6.0
Max Green Setting (Gmax), s	18.5	* 42		72.5		66.0
Max Q Clear Time (g_c+I1), s	8.4	21.3		41.7		14.7
Green Ext Time (p_c), s	0.1	5.3		3.8		3.1

Intersection Summary	
HCM 6th Ctrl Delay	43.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	18.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	98	43	7	86	25	40	10	161	116	14	53	40
Future Vol, veh/h	105	45	7	86	26	40	10	161	116	14	53	41
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	7	2	2	2	5	5	2	2	3	13	5	22
Mvmt Flow	132	57	9	108	33	50	13	203	146	18	67	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	88	0	0	66	0	0	660	630	62	779	609	63
Stage 1	-	-	-	-	-	-	326	326	-	279	279	-
Stage 2	-	-	-	-	-	-	334	304	-	500	330	-
Critical Hdwy	4.17	-	-	4.12	-	-	7.12	6.52	6.23	7.23	6.55	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Follow-up Hdwy	2.263	-	-	2.218	-	-	3.518	4.018	3.327	3.617	4.045	3.498
Pot Cap-1 Maneuver	1477	-	-	1536	-	-	376	399	1000	300	406	948
Stage 1	-	-	-	-	-	-	687	648	-	704	674	-
Stage 2	-	-	-	-	-	-	680	663	-	533	640	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1470	-	-	1536	-	-	267	334	1000	118	340	943
Mov Cap-2 Maneuver	-	-	-	-	-	-	267	334	-	118	340	-
Stage 1	-	-	-	-	-	-	625	590	-	638	621	-
Stage 2	-	-	-	-	-	-	531	611	-	272	582	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.1	4.3	32.4	18.5
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	267	463	1470	-	-	1536	-	-	118	472
HCM Lane V/C Ratio	0.047	0.753	0.09	-	-	0.07	-	-	0.149	0.251
HCM Control Delay (s)	19.1	32.9	7.7	-	-	7.5	0	-	40.8	15.2
HCM Lane LOS	C	D	A	-	-	A	A	-	E	C
HCM 95th %tile Q(veh)	0.1	6.3	0.3	-	-	0.2	-	-	0.5	1

Intersection	
Int Delay, s/veh	5.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1927	0	0	721
Future Vol, veh/h	0	84	1938	139	0	793
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	90	3147	149	0	1288

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1648	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	~ 75	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	~ 75	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	266.7	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	75	-
HCM Lane V/C Ratio	-	-	1.204	-
HCM Control Delay (s)	-	-	266.7	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	6.9	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	27.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	1861	0	0	754	0
Future Vol, veh/h	0	0	0	15	0	87	0	1835	121	15	811	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	100	-	-	175	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	16	0	94	0	2979	130	16	1317	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2541	4458	659	3735	4393	1555	1317	0	0	3109	0	0
Stage 1	1349	1349	-	3044	3044	-	-	-	-	-	-	-
Stage 2	1192	3109	-	691	1349	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	20	1	406	~ 3	2	~ 87	521	-	-	33	-	-
Stage 1	156	217	-	~ 6	29	-	-	-	-	-	-	-
Stage 2	182	27	-	389	217	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	1	406	~ 2	1	~ 87	521	-	-	33	-	-
Mov Cap-2 Maneuver	-	1	-	~ 2	1	-	-	-	-	-	-	-
Stage 1	156	112	-	~ 6	29	-	-	-	-	-	-	-
Stage 2	-	27	-	200	112	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	$ 1117.3	0	2.3
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	521	-	-	-	-	2	87	33	-	-
HCM Lane V/C Ratio	-	-	-	-	-	8.065	1.075	0.489	-	-
HCM Control Delay (s)	0	-	-	0	$	6404.3	205.8	192	-	-
HCM Lane LOS	A	-	-	A	A	F	F	F	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	3.5	6.3	1.6	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	46	57	0	0	0
Future Vol, veh/h	43	39	54	8	10	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	45	62	9	11	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	71	0	-	0	204	67
Stage 1	-	-	-	-	67	-
Stage 2	-	-	-	-	137	-
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	1529	-	-	-	784	997
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1529	-	-	-	760	997
Mov Cap-2 Maneuver	-	-	-	-	760	-
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	890	-

Approach	EB	WB	SB
HCM Control Delay, s	3.8	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1529	-	-	-	760	997
HCM Lane V/C Ratio	0.03	-	-	-	0.014	0.014
HCM Control Delay (s)	7.4	0	-	-	9.8	8.7
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	127	0	0	62	0	0
Future Vol, veh/h	119	69	6	58	131	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	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	74	6	67	141	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	211	0	253	174
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	79	-
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	-	-	1360	-	736	869
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	944	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1360	-	732	869
Mov Cap-2 Maneuver	-	-	-	-	732	-
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	939	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	746	-	-	1360	-
HCM Lane V/C Ratio	0.213	-	-	0.005	-
HCM Control Delay (s)	11.1	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	240	76	317	283	147	30	751	228	112	1013	168
Future Volume (veh/h)	219	240	76	317	283	153	30	785	228	123	1074	178
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		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	1841	1870	1707	1870	1870	1856	1870	1826
Adj Flow Rate, veh/h	265	291	0	384	343	0	48	1248	0	196	1707	283
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	4	2	13	2	2	3	2	5
Cap, veh/h	310	691		417	728		94	2120		416	1963	993
Arrive On Green	0.09	0.19	0.00	0.12	0.21	0.00	0.03	0.42	0.00	0.10	0.37	0.37
Sat Flow, veh/h	3456	3647	0	3456	3589	0	1626	5106	1585	1767	3554	1547
Grp Volume(v), veh/h	265	291	0	384	343	0	48	1248	0	196	1707	283
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1728	1749	0	1626	1702	1585	1767	1777	1547
Q Serve(g_s), s	11.0	10.4	0.0	15.9	12.5	0.0	2.7	27.4	0.0	2.9	64.7	2.5
Cycle Q Clear(g_c), s	11.0	10.4	0.0	15.9	12.5	0.0	2.7	27.4	0.0	2.9	64.7	2.5
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	310	691		417	728		94	2120		416	1963	993
V/C Ratio(X)	0.85	0.42		0.92	0.47		0.51	0.59		0.47	0.87	0.28
Avail Cap(c_a), veh/h	341	691		417	728		106	2120		416	1963	993
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.1	51.2	0.0	63.1	50.4	0.0	37.0	32.8	0.0	47.9	40.8	9.5
Incr Delay (d2), s/veh	16.2	1.9	0.0	25.1	2.2	0.0	1.6	1.2	0.0	0.3	5.6	0.7
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(95%),veh/ln	9.2	8.2	0.0	12.9	9.4	0.0	1.9	16.7	0.0	10.6	39.5	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.2	53.1	0.0	88.2	52.6	0.0	38.6	34.0	0.0	48.2	46.4	10.2
LnGrp LOS	F	D		F	D		D	C		D	D	B
Approach Vol, veh/h		556	A		727	A		1296	A		2186	
Approach Delay, s/veh		66.5			71.4			34.2			41.9	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	35.2	8.5	86.3	20.0	37.2	28.6	66.2
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	7.0	* 7	6.0	* 6
Max Green Setting (Gmax), s	17.5	27.0	5.0	73.5	14.3	* 30	18.3	* 60
Max Q Clear Time (g_c+I1), s	17.9	12.4	4.7	66.7	13.0	14.5	4.9	29.4
Green Ext Time (p_c), s	0.0	1.3	0.0	4.1	0.0	1.6	0.1	6.1

Intersection Summary	
HCM 6th Ctrl Delay	47.2
HCM 6th LOS	D

Notes

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

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	20.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	55	1054	34	80	1339
Future Vol, veh/h	23	55	1091	45	80	1413
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	5	2
Mvmt Flow	28	67	1734	54	97	2246

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3079	895	0	0	1789	0
Stage 1	1762	-	-	-	-	-
Stage 2	1317	-	-	-	-	-
Critical Hdwy	6.29	7.14	-	-	5.4	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.67	3.92	-	-	3.15	-
Pot Cap-1 Maneuver	~ 15	244	-	-	155	-
Stage 1	82	-	-	-	-	-
Stage 2	210	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 6	244	-	-	155	-
Mov Cap-2 Maneuver	~ 6	-	-	-	-	-
Stage 1	82	-	-	-	-	-
Stage 2	79	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 846.7	0	2.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	6	244	155	-
HCM Lane V/C Ratio	-	-	4.64	0.273	0.625	-
HCM Control Delay (s)	-	-	$ 2811.1	25.2	60.7	-
HCM Lane LOS	-	-	F	D	F	-
HCM 95th %tile Q(veh)	-	-	4.9	1.1	3.4	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	24	64	61	10	63	29	1079	67	43	1420	254
Future Volume (veh/h)	155	26	64	127	11	100	29	1129	67	118	1440	254
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		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	1129	1411	1841	1841	1470	1811	1500	1870	1856	1781	1870	1337
Adj Flow Rate, veh/h	169	28	70	139	12	109	32	1740	73	129	2219	277
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	33	4	4	29	6	27	2	3	8	2	38
Cap, veh/h	124	43	107	196	15	136	357	3249	136	246	2181	267
Arrive On Green	0.05	0.12	0.12	0.05	0.12	0.12	0.43	1.00	1.00	0.06	0.47	0.47
Sat Flow, veh/h	1076	357	893	1753	125	1137	1428	5026	211	1697	4609	564
Grp Volume(v), veh/h	169	0	98	139	0	121	32	1178	635	129	1627	869
Grp Sat Flow(s),veh/h/ln	1076	0	1250	1753	0	1262	1428	1702	1832	1697	1702	1769
Q Serve(g_s), s	7.3	0.0	10.9	7.3	0.0	13.5	0.0	0.0	0.0	6.4	68.6	68.6
Cycle Q Clear(g_c), s	7.3	0.0	10.9	7.3	0.0	13.5	0.0	0.0	0.0	6.4	68.6	68.6
Prop In Lane	1.00		0.71	1.00		0.90	1.00		0.11	1.00		0.32
Lane Grp Cap(c), veh/h	124	0	150	196	0	152	357	2201	1185	246	1610	837
V/C Ratio(X)	1.36	0.00	0.65	0.71	0.00	0.80	0.09	0.54	0.54	0.52	1.01	1.04
Avail Cap(c_a), veh/h	124	0	388	196	0	392	357	2201	1185	285	1610	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.0	0.0	60.9	57.8	0.0	62.1	32.4	0.0	0.0	22.7	38.2	38.2
Incr Delay (d2), s/veh	205.1	0.0	9.8	14.1	0.0	18.2	0.2	0.9	1.7	3.7	24.9	41.6
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(95%),veh/ln	15.9	0.0	7.0	4.2	0.0	8.8	1.2	0.5	1.0	5.0	42.3	49.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	268.1	0.0	70.7	71.8	0.0	80.2	32.6	0.9	1.7	26.4	63.1	79.8
LnGrp LOS	F	A	E	E	A	F	C	A	A	C	F	F
Approach Vol, veh/h		267			260			1845			2625	
Approach Delay, s/veh		195.7			75.8			1.8			66.8	
Approach LOS		F			E			A			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	22.4	37.2	74.6	10.8	22.4	12.1	99.7
Change Period (Y+Rc), s	3.5	5.0	6.0	* 6	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	7.3	45.0	6.1	* 69	7.3	45.0	11.9	62.8
Max Q Clear Time (g_c+I1), s	9.3	12.9	2.0	70.6	9.3	15.5	8.4	2.0
Green Ext Time (p_c), s	0.0	1.1	0.0	0.0	0.0	1.4	0.2	40.3

Intersection Summary	
HCM 6th Ctrl Delay	50.2
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

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

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	11	94	0	386	961	0	1724	0	0	0
Future Vol, veh/h	11	98	0	413	1021	0	1815	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	37	2	9	5	2	4	2	2	2
Mvmt Flow	13	117	0	650	1223	0	2855	0	0	0

Major/Minor	Minor2	Major1			Major2			
Conflicting Flow All	3180	-	-	0	-	-	-	0
Stage 1	2855	-	-	-	-	-	-	-
Stage 2	325	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	~ 8	0	0	-	0	0	-	0
Stage 1	30	0	0	-	0	0	-	0
Stage 2	705	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	~ 8	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	~ 8	-	-	-	-	-	-	-
Stage 1	30	-	-	-	-	-	-	-
Stage 2	705	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, $	1196.2	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	8	-	-
HCM Lane V/C Ratio	-	1.647	-	-
HCM Control Delay (s)	$	1196.2	0	-
HCM Lane LOS	-	F	A	-
HCM 95th %tile Q(veh)	-	2.6	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1421	7	254	100	257	0	0	344	22
Future Volume (veh/h)	0	0	0	1496	7	254	108	276	0	0	360	22
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1841	1870	1870	1530	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1985	0	0	134	448	0	0	585	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				4	2	2	25	2	0	0	2	2
Cap, veh/h				2101	0		196	1004	0	0	771	
Arrive On Green				0.60	0.00	0.00	0.06	0.28	0.00	0.00	0.15	0.00
Sat Flow, veh/h				3506	0	1585	1457	3647	0	0	5443	0
Grp Volume(v), veh/h				1985	0	0	134	448	0	0	585	0
Grp Sat Flow(s),veh/h/ln				1753	0	1585	1457	1777	0	0	1702	0
Q Serve(g_s), s				50.9	0.0	0.0	6.3	10.1	0.0	0.0	10.7	0.0
Cycle Q Clear(g_c), s				50.9	0.0	0.0	6.3	10.1	0.0	0.0	10.7	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				2101	0		196	1004	0	0	771	
V/C Ratio(X)				0.94	0.00		0.68	0.45	0.00	0.00	0.76	
Avail Cap(c_a), veh/h				2197	0		196	1004	0	0	771	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				18.0	0.0	0.0	34.3	28.7	0.0	0.0	39.6	0.0
Incr Delay (d2), s/veh				9.1	0.0	0.0	9.3	1.4	0.0	0.0	6.9	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				26.4	0.0	0.0	5.4	7.6	0.0	0.0	8.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				27.1	0.0	0.0	43.6	30.1	0.0	0.0	46.5	0.0
LnGrp LOS				C	A		D	C	A	A	D	
Approach Vol, veh/h					1985	A		582			585	A
Approach Delay, s/veh					27.1			33.2			46.5	
Approach LOS					C			C			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.8	20.2		64.3		33.0
Change Period (Y+Rc), s	6.5	5.5		6.0		5.5
Max Green Setting (Gmax), s	6.3	14.7		61.0		27.5
Max Q Clear Time (g_c+I1), s	8.3	12.7		52.9		12.1
Green Ext Time (p_c), s	0.0	0.7		5.4		2.3

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	50	22	63	53	21	10	53	26	6	113	34
Future Vol, veh/h	48	52	22	63	55	21	10	53	26	6	113	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
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, %	8	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	63	27	77	67	26	12	64	32	7	137	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	93	0	0	90	0	0	518	440	77	475	440	80
Stage 1	-	-	-	-	-	-	193	193	-	234	234	-
Stage 2	-	-	-	-	-	-	325	247	-	241	206	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1464	-	-	1505	-	-	468	511	984	500	511	980
Stage 1	-	-	-	-	-	-	809	741	-	769	711	-
Stage 2	-	-	-	-	-	-	687	702	-	762	731	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1464	-	-	1505	-	-	322	464	984	403	464	980
Mov Cap-2 Maneuver	-	-	-	-	-	-	322	464	-	403	464	-
Stage 1	-	-	-	-	-	-	777	711	-	738	673	-
Stage 2	-	-	-	-	-	-	494	664	-	644	702	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3	3.4	13.1	15.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	322	562	1464	-	-	1505	-	-	403	532
HCM Lane V/C Ratio	0.038	0.171	0.04	-	-	0.051	-	-	0.018	0.341
HCM Control Delay (s)	16.6	12.7	7.6	-	-	7.5	0	-	14.1	15.2
HCM Lane LOS	C	B	A	-	-	A	A	-	B	C
HCM 95th %tile Q(veh)	0.1	0.6	0.1	-	-	0.2	-	-	0.1	1.5

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1109	0	0	1419
Future Vol, veh/h	0	69	1080	66	0	1493
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	74	1754	71	0	2424

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	913	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	237	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	237	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	237	-
HCM Lane V/C Ratio	-	-	0.313	-
HCM Control Delay (s)	-	-	27	-
HCM Lane LOS	-	-	D	-
HCM 95th %tile Q(veh)	-	-	1.3	-

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	1142	0	0	1545	0
Future Vol, veh/h	0	0	0	13	0	71	0	1121	61	25	1606	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	100	-	-	175	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	0	76	0	1820	66	27	2608	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3390	4548	1304	3211	4515	943	2608	0	0	1886	0	0
Stage 1	2662	2662	-	1853	1853	-	-	-	-	-	-	-
Stage 2	728	1886	-	1358	2662	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	5	1	151	~ 7	1	226	162	-	-	143	-	-
Stage 1	23	47	-	50	122	-	-	-	-	-	-	-
Stage 2	356	118	-	154	47	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	3	1	151	~ 6	1	226	162	-	-	143	-	-
Mov Cap-2 Maneuver	3	1	-	~ 6	1	-	-	-	-	-	-	-
Stage 1	23	38	-	50	122	-	-	-	-	-	-	-
Stage 2	236	118	-	125	38	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	295.5	0	0.4
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	162	-	-	-	-	6	226	143	-	-
HCM Lane V/C Ratio	-	-	-	-	-	2.33	0.338	0.188	-	-
HCM Control Delay (s)	0	-	-	0	$	1751.9	28.8	35.9	-	-
HCM Lane LOS	A	-	-	A	A	F	D	E	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	2.8	1.4	0.7	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	114	70	0	0	0
Future Vol, veh/h	17	108	68	5	13	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	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	124	78	5	14	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	83	0	-	0	241	81
Stage 1	-	-	-	-	81	-
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	1514	-	-	-	747	979
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	869	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1514	-	-	-	737	979
Mov Cap-2 Maneuver	-	-	-	-	737	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	869	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1514	-	-	-	737	979
HCM Lane V/C Ratio	0.012	-	-	-	0.019	0.011
HCM Control Delay (s)	7.4	0	-	-	10	8.7
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

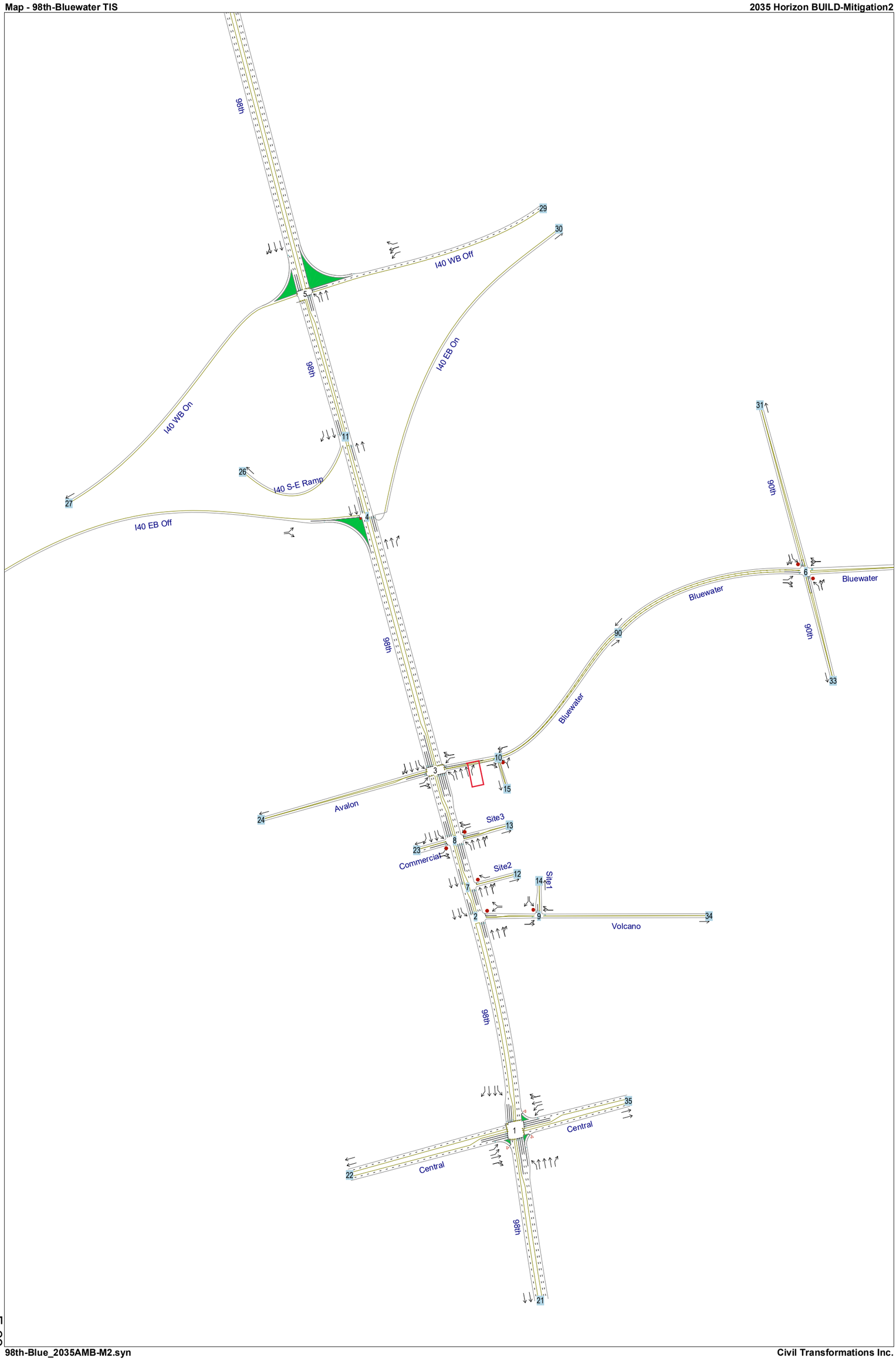
Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	114	0	0	97	0	0
Future Vol, veh/h	107	84	7	94	107	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	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	90	8	108	115	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	213	0	292	168
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	124	-
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	-	-	1357	-	699	876
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	902	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1357	-	695	876
Mov Cap-2 Maneuver	-	-	-	-	695	-
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	897	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	713	-	-	1357	-
HCM Lane V/C Ratio	0.184	-	-	0.006	-
HCM Control Delay (s)	11.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-


98th
29
30
I40 WB Off
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98th
I40 EB On
I40 WB On
11
26
I40 S-E Ramp
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4
I40 EB Off
31
90th
6
Bluewater
Bluewater
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33
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98th
Bluewater
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3
15
24
Avalon
Site3
13
23
8
Commercial
Site2
12
14
Site1
7
2
9
34
Volcano
98th
35
1
Central
22
Central
98th
21

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	175	33	103	124	135	27	1590	323	55	483	109
Future Volume (veh/h)	281	175	33	103	124	146	27	1736	323	61	550	118
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		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1781	1707	1796	1737	1796	1841	1870	1856	1633	1885	1767
Adj Flow Rate, veh/h	351	219	0	129	155	0	44	2849	0	100	903	194
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, %	3	8	13	7	11	7	4	2	3	18	1	9
Cap, veh/h	358	577		169	335		314	2783		180	2067	1020
Arrive On Green	0.10	0.17	0.00	0.05	0.10	0.00	0.06	0.54	0.00	0.09	0.58	0.58
Sat Flow, veh/h	3428	3474	0	3319	3387	0	1753	5106	1572	1555	3582	1497
Grp Volume(v), veh/h	351	219	0	129	155	0	44	2849	0	100	903	194
Grp Sat Flow(s),veh/h/ln	1714	1692	0	1659	1650	0	1753	1702	1572	1555	1791	1497
Q Serve(g_s), s	16.3	9.2	0.0	6.1	7.1	0.0	1.9	87.2	0.0	5.1	22.8	2.2
Cycle Q Clear(g_c), s	16.3	9.2	0.0	6.1	7.1	0.0	1.9	87.2	0.0	5.1	22.8	2.2
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	358	577		169	335		314	2783		180	2067	1020
V/C Ratio(X)	0.98	0.38		0.76	0.46		0.14	1.02		0.56	0.44	0.19
Avail Cap(c_a), veh/h	358	681		239	557		314	2783		180	2067	1020
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	71.5	58.8	0.0	75.0	67.8	0.0	20.3	36.4	0.0	67.9	19.1	2.7
Incr Delay (d2), s/veh	42.2	0.4	0.0	5.1	1.0	0.0	0.1	23.4	0.0	2.3	0.7	0.4
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(95%),veh/ln	14.0	7.0	0.0	4.8	5.3	0.0	1.4	51.4	0.0	7.1	14.4	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.7	59.3	0.0	80.0	68.8	0.0	20.4	59.8	0.0	70.2	19.8	3.1
LnGrp LOS	F	E		F	E		C	F		E	B	A
Approach Vol, veh/h		570	A		284	A		2893	A		1197	
Approach Delay, s/veh		92.8			73.9			59.2			21.3	
Approach LOS		F			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	34.3	14.7	98.3	23.7	23.2	19.9	93.2
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	7.0	* 7	6.0	* 6
Max Green Setting (Gmax), s	11.5	32.2	5.9	88.4	16.7	* 27	7.1	* 87
Max Q Clear Time (g_c+I1), s	8.1	11.2	3.9	24.8	18.3	9.1	7.1	89.2
Green Ext Time (p_c), s	0.0	1.1	0.0	3.1	0.0	0.7	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	54.8
HCM 6th LOS	D

Notes

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

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	5.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	66	1861	26	31	690
Future Vol, veh/h	14	66	2011	62	31	762
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	4	2	0	4	6
Mvmt Flow	17	82	3265	77	38	1237

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	4000	1672	0	0	3343	0
Stage 1	3305	-	-	-	-	-
Stage 2	695	-	-	-	-	-
Critical Hdwy	6.25	7.18	-	-	5.38	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.65	3.94	-	-	3.14	-
Pot Cap-1 Maneuver	~ 4	~ 71	-	-	~ 24	-
Stage 1	~ 8	-	-	-	-	-
Stage 2	449	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	~ 71	-	-	~ 24	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	~ 8	-	-	-	-	-
Stage 2	0	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	71	~ 24	-
HCM Lane V/C Ratio	-	-	-	1.149	1.597	-
HCM Control Delay (s)	-	-	-	254.7$	644.2	-
HCM Lane LOS	-	-	-	F	F	-
HCM 95th %tile Q(veh)	-	-	-	6.2	4.8	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	5	29	34	7	101	13	1668	93	54	699	107
Future Volume (veh/h)	148	6	29	96	8	165	13	1729	93	114	709	107
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		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	1144	1870	1633	1826	1604	1752	1900	1870	1841	1737	1856	1100
Adj Flow Rate, veh/h	170	7	33	110	9	190	15	2807	107	131	1151	123
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	51	2	18	5	20	10	0	2	4	11	3	54
Cap, veh/h	203	80	377	465	17	367	243	2630	803	131	2592	277
Arrive On Green	0.04	0.28	0.28	0.04	0.28	0.28	0.02	1.00	1.00	0.05	0.56	0.56
Sat Flow, veh/h	1090	285	1344	1739	62	1305	1810	5106	1560	1654	4647	496
Grp Volume(v), veh/h	170	0	40	110	0	199	15	2807	107	131	836	438
Grp Sat Flow(s),veh/h/ln	1090	0	1629	1739	0	1367	1810	1702	1560	1654	1689	1766
Q Serve(g_s), s	6.3	0.0	2.9	6.4	0.0	19.6	0.6	0.0	0.0	8.3	23.3	23.3
Cycle Q Clear(g_c), s	6.3	0.0	2.9	6.4	0.0	19.6	0.6	0.0	0.0	8.3	23.3	23.3
Prop In Lane	1.00		0.82	1.00		0.95	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	203	0	457	465	0	384	243	2630	803	131	1884	985
V/C Ratio(X)	0.84	0.00	0.09	0.24	0.00	0.52	0.06	1.07	0.13	1.00	0.44	0.44
Avail Cap(c_a), veh/h	203	0	457	465	0	384	305	2630	803	131	1884	985
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.3	0.0	42.4	39.7	0.0	48.4	19.0	0.0	0.0	51.2	20.8	20.8
Incr Delay (d2), s/veh	27.6	0.0	0.4	0.6	0.0	4.9	0.2	38.8	0.3	78.7	0.4	0.7
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(95%),veh/ln	11.0	0.0	2.2	6.1	0.0	11.7	0.5	15.1	0.1	12.9	14.0	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.8	0.0	42.8	40.3	0.0	53.3	19.2	38.8	0.3	129.9	21.2	21.5
LnGrp LOS	F	A	D	D	A	D	B	F	A	F	C	C
Approach Vol, veh/h		210			309			2929			1405	
Approach Delay, s/veh		78.5			48.7			37.3			31.4	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	49.9	5.0	95.2	9.8	50.0	11.8	88.4
Change Period (Y+Rc), s	3.5	5.0	3.5	6.0	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	6.4	44.9	6.9	83.8	6.3	45.0	8.3	82.4
Max Q Clear Time (g_c+I1), s	8.4	4.9	2.6	25.3	8.3	21.6	10.3	2.0
Green Ext Time (p_c), s	0.0	0.4	0.0	23.9	0.0	2.3	0.0	76.3

Intersection Summary	
HCM 6th Ctrl Delay	38.1
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	14	74	0	323	1631	0	847	0	0	0
Future Vol, veh/h	14	75	0	346	1733	0	916	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	45	2	9	6	2	8	2	2	2
Mvmt Flow	17	91	0	550	2098	0	1456	0	0	0

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	1731	-	-	0	-	-	-	0
Stage 1	1456	-	-	-	-	-	-	-
Stage 2	275	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	79	0	0	-	0	0	-	0
Stage 1	181	0	0	-	0	0	-	0
Stage 2	747	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	79	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	79	-	-	-	-	-	-	-
Stage 1	181	-	-	-	-	-	-	-
Stage 2	747	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	62.6	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	79	-	-
HCM Lane V/C Ratio	-	0.215	-	-
HCM Control Delay (s)	-	62.6	0	-
HCM Lane LOS	-	F	A	-
HCM 95th %tile Q(veh)	-	0.7	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	661	1	150	64	265	0	0	477	27
Future Volume (veh/h)	0	0	0	698	1	150	68	284	0	0	509	27
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1870	1870	1322	1870	0	0	1870	1870
Adj Flow Rate, veh/h				934	0	0	85	466	0	0	835	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				8	2	2	39	2	0	0	2	2
Cap, veh/h				1023	0		213	1555	0	0	1747	
Arrive On Green				0.30	0.00	0.00	0.05	0.44	0.00	0.00	0.34	0.00
Sat Flow, veh/h				3393	0	1585	1259	3647	0	0	5443	0
Grp Volume(v), veh/h				934	0	0	85	466	0	0	835	0
Grp Sat Flow(s),veh/h/ln				1697	0	1585	1259	1777	0	0	1702	0
Q Serve(g_s), s				42.4	0.0	0.0	6.8	13.6	0.0	0.0	20.6	0.0
Cycle Q Clear(g_c), s				42.4	0.0	0.0	6.8	13.6	0.0	0.0	20.6	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				1023	0		213	1555	0	0	1747	
V/C Ratio(X)				0.91	0.00		0.40	0.30	0.00	0.00	0.48	
Avail Cap(c_a), veh/h				1665	0		298	1555	0	0	1747	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				53.8	0.0	0.0	31.9	29.1	0.0	0.0	41.4	0.0
Incr Delay (d2), s/veh				5.1	0.0	0.0	1.2	0.5	0.0	0.0	0.9	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				25.5	0.0	0.0	3.8	9.8	0.0	0.0	13.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				58.9	0.0	0.0	33.1	29.6	0.0	0.0	42.3	0.0
LnGrp LOS				E	A		C	C	A	A	D	
Approach Vol, veh/h					934	A		551			835	A
Approach Delay, s/veh					58.9			30.2			42.3	
Approach LOS					E			C			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.3	60.7		53.8		76.0
Change Period (Y+Rc), s	6.5	* 6		5.5		6.0
Max Green Setting (Gmax), s	19.5	* 45		78.5		70.0
Max Q Clear Time (g_c+I1), s	8.8	22.6		44.4		15.6
Green Ext Time (p_c), s	0.1	5.4		3.8		3.1

Intersection Summary	
HCM 6th Ctrl Delay	46.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	18.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	98	43	7	86	25	40	10	161	116	14	53	40
Future Vol, veh/h	105	45	7	86	26	40	10	161	116	14	53	41
Conflicting Peds, #/hr	0	0	0	0	0	5	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	7	2	2	2	5	5	2	2	3	13	5	22
Mvmt Flow	132	57	9	108	33	50	13	203	146	18	67	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	88	0	0	66	0	0	660	630	62	779	609	63
Stage 1	-	-	-	-	-	-	326	326	-	279	279	-
Stage 2	-	-	-	-	-	-	334	304	-	500	330	-
Critical Hdwy	4.17	-	-	4.12	-	-	7.12	6.52	6.23	7.23	6.55	6.42
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.23	5.55	-
Follow-up Hdwy	2.263	-	-	2.218	-	-	3.518	4.018	3.327	3.617	4.045	3.498
Pot Cap-1 Maneuver	1477	-	-	1536	-	-	376	399	1000	300	406	948
Stage 1	-	-	-	-	-	-	687	648	-	704	674	-
Stage 2	-	-	-	-	-	-	680	663	-	533	640	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1470	-	-	1536	-	-	267	334	1000	118	340	943
Mov Cap-2 Maneuver	-	-	-	-	-	-	267	334	-	118	340	-
Stage 1	-	-	-	-	-	-	625	590	-	638	621	-
Stage 2	-	-	-	-	-	-	531	611	-	272	582	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.1	4.3	32.4	18.5
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	267	463	1470	-	-	1536	-	-	118	472
HCM Lane V/C Ratio	0.047	0.753	0.09	-	-	0.07	-	-	0.149	0.251
HCM Control Delay (s)	19.1	32.9	7.7	-	-	7.5	0	-	40.8	15.2
HCM Lane LOS	C	D	A	-	-	A	A	-	E	C
HCM 95th %tile Q(veh)	0.1	6.3	0.3	-	-	0.2	-	-	0.5	1

Intersection	
Int Delay, s/veh	5.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1927	0	0	721
Future Vol, veh/h	0	84	1938	139	0	793
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	90	3147	149	0	1288

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1648	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	~ 75	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	~ 75	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	266.7	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	75	-
HCM Lane V/C Ratio	-	-	1.204	-
HCM Control Delay (s)	-	-	266.7	-
HCM Lane LOS	-	-	F	-
HCM 95th %tile Q(veh)	-	-	6.9	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	27.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	1861	0	0	754	0
Future Vol, veh/h	0	0	0	15	0	87	0	1835	121	15	811	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	100	-	-	175	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	16	0	94	0	2979	130	16	1317	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2541	4458	659	3735	4393	1555	1317	0	0	3109	0	0
Stage 1	1349	1349	-	3044	3044	-	-	-	-	-	-	-
Stage 2	1192	3109	-	691	1349	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	20	1	406	~ 3	2	~ 87	521	-	-	33	-	-
Stage 1	156	217	-	~ 6	29	-	-	-	-	-	-	-
Stage 2	182	27	-	389	217	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	1	406	~ 2	1	~ 87	521	-	-	33	-	-
Mov Cap-2 Maneuver	-	1	-	~ 2	1	-	-	-	-	-	-	-
Stage 1	156	112	-	~ 6	29	-	-	-	-	-	-	-
Stage 2	-	27	-	200	112	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	$ 1117.3	0	2.3
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	521	-	-	-	-	2	87	33	-	-
HCM Lane V/C Ratio	-	-	-	-	-	8.065	1.075	0.489	-	-
HCM Control Delay (s)	0	-	-	0	$	6404.3	205.8	192	-	-
HCM Lane LOS	A	-	-	A	A	F	F	F	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	3.5	6.3	1.6	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	46	57	0	0	0
Future Vol, veh/h	43	39	54	8	10	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	45	62	9	11	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	71	0	-	0	204	67
Stage 1	-	-	-	-	67	-
Stage 2	-	-	-	-	137	-
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	1529	-	-	-	784	997
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1529	-	-	-	760	997
Mov Cap-2 Maneuver	-	-	-	-	760	-
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	890	-

Approach	EB	WB	SB
HCM Control Delay, s	3.8	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1529	-	-	-	760	997
HCM Lane V/C Ratio	0.03	-	-	-	0.014	0.014
HCM Control Delay (s)	7.4	0	-	-	9.8	8.7
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	127	0	0	62	0	0
Future Vol, veh/h	119	69	6	58	131	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	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	74	6	67	141	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	211	0	253	174
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	79	-
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	-	-	1360	-	736	869
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	944	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1360	-	732	869
Mov Cap-2 Maneuver	-	-	-	-	732	-
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	939	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	746	-	-	1360	-
HCM Lane V/C Ratio	0.213	-	-	0.005	-
HCM Control Delay (s)	11.1	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	240	76	317	283	147	30	751	228	112	1013	168
Future Volume (veh/h)	219	240	76	317	283	153	30	785	228	123	1074	178
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		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	1841	1870	1707	1870	1870	1856	1870	1826
Adj Flow Rate, veh/h	265	291	0	384	343	0	48	1248	0	196	1707	283
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	4	2	13	2	2	3	2	5
Cap, veh/h	341	685		412	747		164	2039		349	1787	930
Arrive On Green	0.10	0.19	0.00	0.12	0.21	0.00	0.03	0.40	0.00	0.24	1.00	1.00
Sat Flow, veh/h	3456	3647	0	3456	3589	0	1626	5106	1585	1767	3554	1547
Grp Volume(v), veh/h	265	291	0	384	343	0	48	1248	0	196	1707	283
Grp Sat Flow(s),veh/h/ln	1728	1777	0	1728	1749	0	1626	1702	1585	1767	1777	1547
Q Serve(g_s), s	10.5	10.1	0.0	15.4	12.0	0.0	2.6	27.2	0.0	1.3	0.0	0.0
Cycle Q Clear(g_c), s	10.5	10.1	0.0	15.4	12.0	0.0	2.6	27.2	0.0	1.3	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	341	685		412	747		164	2039		349	1787	930
V/C Ratio(X)	0.78	0.42		0.93	0.46		0.29	0.61		0.56	0.96	0.30
Avail Cap(c_a), veh/h	341	685		412	747		177	2039		368	1787	930
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.6	49.7	0.0	61.1	48.0	0.0	27.6	33.4	0.0	41.0	0.0	0.0
Incr Delay (d2), s/veh	10.0	1.9	0.0	27.5	2.0	0.0	0.4	1.4	0.0	0.9	13.1	0.8
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(95%),veh/ln	8.6	8.0	0.0	12.8	9.0	0.0	1.9	16.6	0.0	9.0	5.8	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.6	51.6	0.0	88.5	50.0	0.0	28.0	34.8	0.0	41.9	13.1	0.8
LnGrp LOS	E	D		F	D		C	C		D	B	A
Approach Vol, veh/h		556	A		727	A		1296	A		2186	
Approach Delay, s/veh		61.1			70.4			34.6			14.1	
Approach LOS		E			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.2	34.0	8.4	76.4	18.3	36.9	22.9	61.9
Change Period (Y+Rc), s	4.5	7.0	4.5	6.0	4.5	7.0	6.0	* 6
Max Green Setting (Gmax), s	16.7	27.0	5.0	69.3	13.8	29.9	18.4	* 56
Max Q Clear Time (g_c+I1), s	17.4	12.1	4.6	2.0	12.5	14.0	3.3	29.2
Green Ext Time (p_c), s	0.0	1.3	0.0	9.2	0.0	1.6	0.1	6.0

Intersection Summary	
HCM 6th Ctrl Delay	33.7
HCM 6th LOS	C

Notes

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

Unsignalized Delay for [NBR, EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	20.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	55	1054	34	80	1339
Future Vol, veh/h	23	55	1091	45	80	1413
Conflicting Peds, #/hr	0	0	0	0	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	60	0	-	-	80	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	5	2
Mvmt Flow	28	67	1734	54	97	2246

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	3079	895	0	0	1789	0
Stage 1	1762	-	-	-	-	-
Stage 2	1317	-	-	-	-	-
Critical Hdwy	6.29	7.14	-	-	5.4	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.67	3.92	-	-	3.15	-
Pot Cap-1 Maneuver	~ 15	244	-	-	155	-
Stage 1	82	-	-	-	-	-
Stage 2	210	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 6	244	-	-	155	-
Mov Cap-2 Maneuver	~ 6	-	-	-	-	-
Stage 1	82	-	-	-	-	-
Stage 2	79	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 846.7	0	2.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	6	244	155	-
HCM Lane V/C Ratio	-	-	4.64	0.273	0.625	-
HCM Control Delay (s)	-	-	$ 2811.1	25.2	60.7	-
HCM Lane LOS	-	-	F	D	F	-
HCM 95th %tile Q(veh)	-	-	4.9	1.1	3.4	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	24	64	61	10	63	29	1079	67	43	1420	254
Future Volume (veh/h)	155	26	64	127	11	100	29	1129	67	118	1440	254
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		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	1129	1411	1841	1841	1470	1811	1500	1870	1856	1781	1870	1337
Adj Flow Rate, veh/h	169	28	70	139	12	109	32	1740	73	129	2219	277
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	52	33	4	4	29	6	27	2	3	8	2	38
Cap, veh/h	119	41	102	188	15	137	374	3308	1019	246	2140	262
Arrive On Green	0.04	0.11	0.11	0.05	0.12	0.12	0.45	1.00	1.00	0.06	0.46	0.46
Sat Flow, veh/h	1076	357	893	1753	125	1137	1428	5106	1572	1697	4609	564
Grp Volume(v), veh/h	169	0	98	139	0	121	32	1740	73	129	1627	869
Grp Sat Flow(s),veh/h/ln	1076	0	1250	1753	0	1262	1428	1702	1572	1697	1702	1769
Q Serve(g_s), s	6.0	0.0	10.5	6.9	0.0	13.0	0.0	0.0	0.0	6.3	65.0	65.0
Cycle Q Clear(g_c), s	6.0	0.0	10.5	6.9	0.0	13.0	0.0	0.0	0.0	6.3	65.0	65.0
Prop In Lane	1.00		0.71	1.00		0.90	1.00		1.00	1.00		0.32
Lane Grp Cap(c), veh/h	119	0	143	188	0	153	374	3308	1019	246	1580	821
V/C Ratio(X)	1.42	0.00	0.68	0.74	0.00	0.79	0.09	0.53	0.07	0.52	1.03	1.06
Avail Cap(c_a), veh/h	119	0	394	188	0	406	374	3308	1019	275	1580	821
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.3	0.0	59.6	56.9	0.0	59.8	29.8	0.0	0.0	22.7	37.5	37.5
Incr Delay (d2), s/veh	232.3	0.0	11.7	17.1	0.0	17.6	0.2	0.6	0.1	3.7	30.5	48.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.8	0.0	6.9	4.5	0.0	8.6	1.1	0.3	0.1	4.9	42.4	49.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	294.5	0.0	71.2	74.1	0.0	77.4	30.0	0.6	0.1	26.3	68.0	85.5
LnGrp LOS	F	A	E	E	A	E	C	A	A	C	F	F
Approach Vol, veh/h		267			260			1845			2625	
Approach Delay, s/veh		212.6			75.6			1.1			71.7	
Approach LOS		F			E			A			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	21.0	37.6	71.0	9.5	21.9	11.9	96.7
Change Period (Y+Rc), s	3.5	5.0	6.0	* 6	3.5	5.0	3.5	6.0
Max Green Setting (Gmax), s	6.9	44.1	6.0	* 65	6.0	45.0	10.7	60.3
Max Q Clear Time (g_c+I1), s	8.9	12.5	2.0	67.0	8.0	15.0	8.3	2.0
Green Ext Time (p_c), s	0.0	1.1	0.0	0.0	0.0	1.4	0.1	39.3

Intersection Summary	
HCM 6th Ctrl Delay	53.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

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

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	11	94	0	386	961	0	1724	0	0	0
Future Vol, veh/h	11	98	0	413	1021	0	1815	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	-	Free	-	-	None	-	-
Storage Length	0	300	-	-	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	16974	-
Grade, %	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	37	2	9	5	2	4	2	2	2
Mvmt Flow	13	117	0	650	1223	0	2855	0	0	0

Major/Minor	Minor2		Major1			Major2		
Conflicting Flow All	3180	-	-	0	-	-	-	0
Stage 1	2855	-	-	-	-	-	-	-
Stage 2	325	-	-	-	-	-	-	-
Critical Hdwy	6.84	-	-	-	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	-	-	-	-	-	-	-
Pot Cap-1 Maneuver	~ 8	0	0	-	0	0	-	0
Stage 1	30	0	0	-	0	0	-	0
Stage 2	705	0	0	-	0	0	-	0
Platoon blocked, %				-			-	
Mov Cap-1 Maneuver	~ 8	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	~ 8	-	-	-	-	-	-	-
Stage 1	30	-	-	-	-	-	-	-
Stage 2	705	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, $	1196.2	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	EBLn1	EBLn2	SBT
Capacity (veh/h)	-	8	-	-
HCM Lane V/C Ratio	-	1.647	-	-
HCM Control Delay (s)	$	1196.2	0	-
HCM Lane LOS	-	F	A	-
HCM 95th %tile Q(veh)	-	2.6	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1421	7	254	100	257	0	0	344	22
Future Volume (veh/h)	0	0	0	1496	7	254	108	276	0	0	360	22
Initial Q (Qb), veh				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
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1841	1870	1870	1530	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1985	0	0	134	448	0	0	585	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				4	2	2	25	2	0	0	2	2
Cap, veh/h				2101	0		196	1004	0	0	771	
Arrive On Green				0.60	0.00	0.00	0.06	0.28	0.00	0.00	0.15	0.00
Sat Flow, veh/h				3506	0	1585	1457	3647	0	0	5443	0
Grp Volume(v), veh/h				1985	0	0	134	448	0	0	585	0
Grp Sat Flow(s),veh/h/ln				1753	0	1585	1457	1777	0	0	1702	0
Q Serve(g_s), s				50.9	0.0	0.0	6.3	10.1	0.0	0.0	10.7	0.0
Cycle Q Clear(g_c), s				50.9	0.0	0.0	6.3	10.1	0.0	0.0	10.7	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				2101	0		196	1004	0	0	771	
V/C Ratio(X)				0.94	0.00		0.68	0.45	0.00	0.00	0.76	
Avail Cap(c_a), veh/h				2197	0		196	1004	0	0	771	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				18.0	0.0	0.0	34.3	28.7	0.0	0.0	39.6	0.0
Incr Delay (d2), s/veh				9.1	0.0	0.0	9.3	1.4	0.0	0.0	6.9	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				26.4	0.0	0.0	5.4	7.6	0.0	0.0	8.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				27.1	0.0	0.0	43.6	30.1	0.0	0.0	46.5	0.0
LnGrp LOS				C	A		D	C	A	A	D	
Approach Vol, veh/h					1985	A		582			585	A
Approach Delay, s/veh					27.1			33.2			46.5	
Approach LOS					C			C			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.8	20.2		64.3		33.0
Change Period (Y+Rc), s	6.5	5.5		6.0		5.5
Max Green Setting (Gmax), s	6.3	14.7		61.0		27.5
Max Q Clear Time (g_c+I1), s	8.3	12.7		52.9		12.1
Green Ext Time (p_c), s	0.0	0.7		5.4		2.3

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	50	22	63	53	21	10	53	26	6	113	34
Future Vol, veh/h	48	52	22	63	55	21	10	53	26	6	113	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	90	-	-	-	-	-	100	-	-	35	-	-
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, %	8	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	63	27	77	67	26	12	64	32	7	137	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	93	0	0	90	0	0	518	440	77	475	440	80
Stage 1	-	-	-	-	-	-	193	193	-	234	234	-
Stage 2	-	-	-	-	-	-	325	247	-	241	206	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1464	-	-	1505	-	-	468	511	984	500	511	980
Stage 1	-	-	-	-	-	-	809	741	-	769	711	-
Stage 2	-	-	-	-	-	-	687	702	-	762	731	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1464	-	-	1505	-	-	322	464	984	403	464	980
Mov Cap-2 Maneuver	-	-	-	-	-	-	322	464	-	403	464	-
Stage 1	-	-	-	-	-	-	777	711	-	738	673	-
Stage 2	-	-	-	-	-	-	494	664	-	644	702	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3	3.4	13.1	15.2
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	322	562	1464	-	-	1505	-	-	403	532
HCM Lane V/C Ratio	0.038	0.171	0.04	-	-	0.051	-	-	0.018	0.341
HCM Control Delay (s)	16.6	12.7	7.6	-	-	7.5	0	-	14.1	15.2
HCM Lane LOS	C	B	A	-	-	A	A	-	B	C
HCM 95th %tile Q(veh)	0.1	0.6	0.1	-	-	0.2	-	-	0.1	1.5

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1109	0	0	1419
Future Vol, veh/h	0	69	1080	66	0	1493
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	74	1754	71	0	2424

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	913	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	237	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	237	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	237	-
HCM Lane V/C Ratio	-	-	0.313	-
HCM Control Delay (s)	-	-	27	-
HCM Lane LOS	-	-	D	-
HCM 95th %tile Q(veh)	-	-	1.3	-

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	1142	0	0	1545	0
Future Vol, veh/h	0	0	0	13	0	71	0	1121	61	25	1606	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	100	-	-	175	-	-	150	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	14	0	76	0	1820	66	27	2608	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3390	4548	1304	3211	4515	943	2608	0	0	1886	0	0
Stage 1	2662	2662	-	1853	1853	-	-	-	-	-	-	-
Stage 2	728	1886	-	1358	2662	-	-	-	-	-	-	-
Critical Hdwy	6.99	6.54	6.94	6.99	6.54	7.14	4.14	-	-	5.34	-	-
Critical Hdwy Stg 1	6.54	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.67	4.02	3.32	3.67	4.02	3.92	2.22	-	-	3.12	-	-
Pot Cap-1 Maneuver	5	1	151	~ 7	1	226	162	-	-	143	-	-
Stage 1	23	47	-	50	122	-	-	-	-	-	-	-
Stage 2	356	118	-	154	47	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	3	1	151	~ 6	1	226	162	-	-	143	-	-
Mov Cap-2 Maneuver	3	1	-	~ 6	1	-	-	-	-	-	-	-
Stage 1	23	38	-	50	122	-	-	-	-	-	-	-
Stage 2	236	118	-	125	38	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	295.5	0	0.4
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	162	-	-	-	-	6	226	143	-	-
HCM Lane V/C Ratio	-	-	-	-	-	2.33	0.338	0.188	-	-
HCM Control Delay (s)	0	-	-	0	$	1751.9	28.8	35.9	-	-
HCM Lane LOS	A	-	-	A	A	F	D	E	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	2.8	1.4	0.7	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	114	70	0	0	0
Future Vol, veh/h	17	108	68	5	13	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	-	-	-	-	0	50
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	124	78	5	14	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	83	0	-	0	241	81
Stage 1	-	-	-	-	81	-
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	1514	-	-	-	747	979
Stage 1	-	-	-	-	942	-
Stage 2	-	-	-	-	869	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1514	-	-	-	737	979
Mov Cap-2 Maneuver	-	-	-	-	737	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	869	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1514	-	-	-	737	979
HCM Lane V/C Ratio	0.012	-	-	-	0.019	0.011
HCM Control Delay (s)	7.4	0	-	-	10	8.7
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	114	0	0	97	0	0
Future Vol, veh/h	107	84	7	94	107	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	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	90	8	108	115	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	213	0	292	168
Stage 1	-	-	-	-	168	-
Stage 2	-	-	-	-	124	-
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	-	-	1357	-	699	876
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	902	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1357	-	695	876
Mov Cap-2 Maneuver	-	-	-	-	695	-
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	897	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	713	-	-	1357	-
HCM Lane V/C Ratio	0.184	-	-	0.006	-
HCM Control Delay (s)	11.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

APPENDIX F
Site Traffic Proportional Calculations

98th-Bluewater TIS	Proportion of 2035 Traffic Attributed to Site												
1: 98th & Central	**2035 Horizon BUILD**												
Lane Group	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**SUM**
Lane Group Flow (vph) - AM	323	201	38	118	143	168	41	2621	488	92	831	178	5242
Site Traffic Generation (AM)	29	0	0	0	0	11	0	146	0	6	67	9	268
Site Proportion (AM)													***5%***
Lane Group Flow (vph) - PM	252	276	87	365	325	176	45	1185	344	186	1622	269	5132
Site Traffic Generation (PM)	8	0	0	0	0	6	0	34	0	11	61	10	130
Site Proportion (PM)													***3%***

FORM DRWS: DRAINAGE REPORT/GRADING AND DRAINAGE PLAN / WATER & SANITARY SEWER AVAILABILITY
THIS FORM IS REQUIRED WITH THE DEVELOPMENT REVIEW BOARD APPLICATION FOR SUBDIVISIONS AND SITE PLANS.

PROJECT NAME: Preliminary / Final Plat for RS Bluewater Addition

AGIS MAP # K-09-Z

LEGAL DESCRIPTIONS: Tract 12 of Avalon Subdivision Unit 5 as shown and designated on the plat filed in the Bernalillo County Clerk's Office on May 22, 2014 as Book 2014C, Folio 46

X **DRAINAGE REPORT/GRADING AND DRAINAGE PLAN**

A drainage report/grading and drainage plan, as per the Drainage Ordinance, was submitted to the City of Albuquerque Planning Department, Hydrology Division (2nd /Ground Floor, Plaza del Sol) on 10/20/2021 (date).

CSI - Cartesian Surveys, Inc.	10/20/2021
Applicant/Agent	Date
Ernest Armijo	10/20/2021
Hydrology Division Representative	Date

NOTE: A GRADING AND DRAINAGE PLAN MUST BE APPROVED PRIOR TO DRB APPROVAL

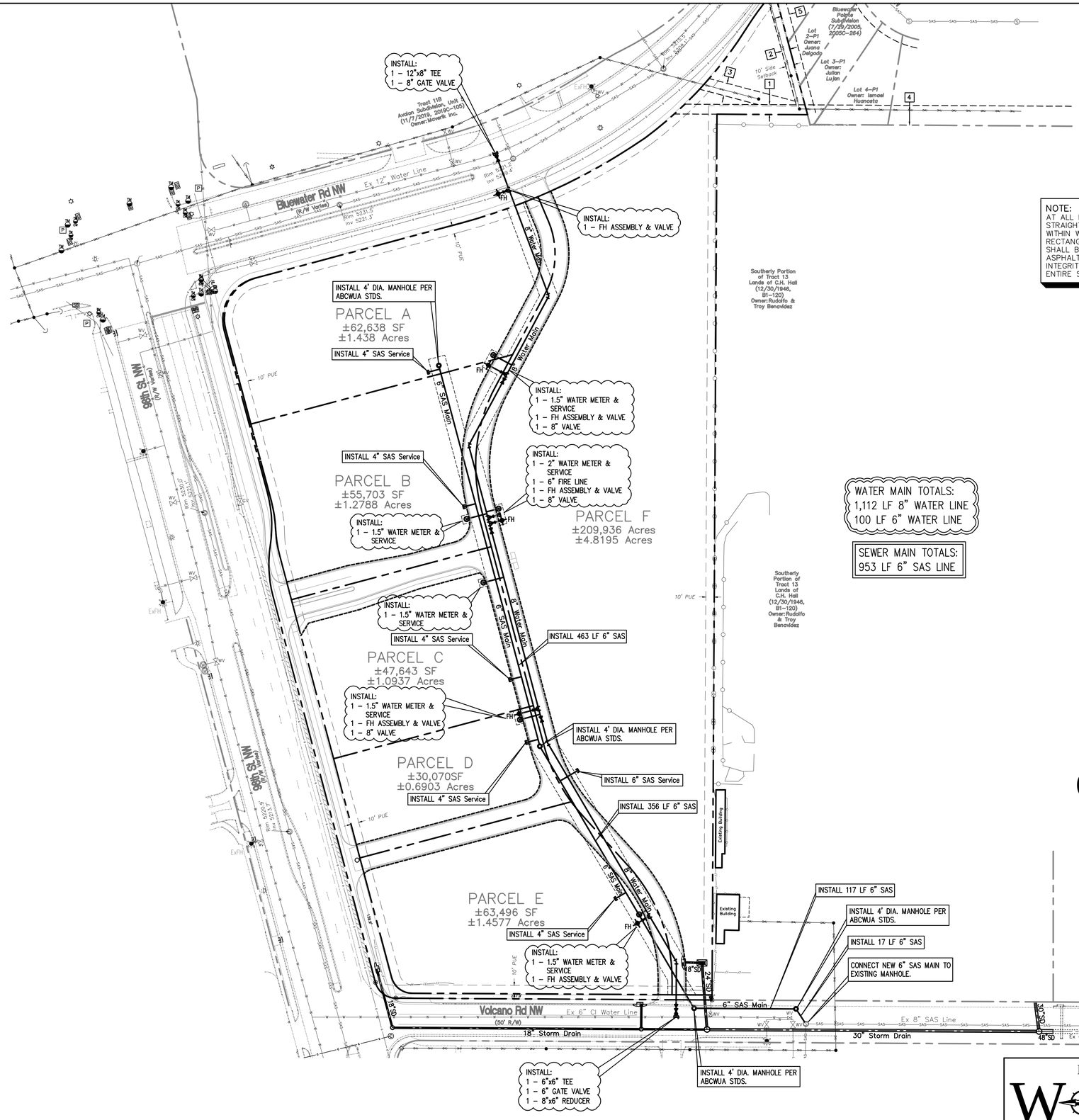
X **WATER AND SEWER AVAILABILITY STATEMENT**

A complete request for Water and Sanitary Sewer Availability was made for this project to the Water Authority (online: http://www.abcwua.org/Availability_Statements.aspx) on 10/20/2021 (date).

CSI - Cartesian Surveys, Inc.	10/20/2021
Applicant/Agent	Date
Chris Hunter	10/21/2021
ABCWUA Representative	Date

PROJECT # PR-2021-005864

Revised 2/7/19



WATER MAIN TOTALS:
1,112 LF 8" WATER LINE
100 LF 6" WATER LINE

SEWER MAIN TOTALS:
953 LF 6" SAS LINE

NOTE:
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NOT FOR CONSTRUCTION

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AS BUILT INFORMATION
CONTRACTOR
WORK STAKED BY
INSPECTED BY
ACCEPTANCE BY
FIELD VERIFICATION BY
DRAWINGS CORRECTED BY
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
A.C.S. MONUMENT "7-K9", Type 3
STANDARD A.C.S. BRASS TABLET
NEW MEXICO STATE PLANE COORDINATES
(CENTRAL ZONE-N.A.D. 1983)
N=1,482,904.725
E=1,496,061.706
PUB. EL=5140.082 NAVD 1988
GROUND TO GRID FACTOR=0.999681940
DELTA ALPHA ANGLE =-0°16'38.12"

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL
JEFFREY TODD WOOTEN
NEW MEXICO
16892
PROFESSIONAL ENGINEER
10/20/2021

NO.	DATE	REMARKS	BY

REVISIONS

DESIGN
DESIGNED BY: JTW DATE: October 2021
DRAWN BY: RG DATE: October 2021
DRAWN NAME: JOB NO.: 2021015
CHECKED BY: JTW DATE: October 2021

CITY OF ALBUQUERQUE
PUBLIC WORKS DIVISION
ENGINEERING GROUP

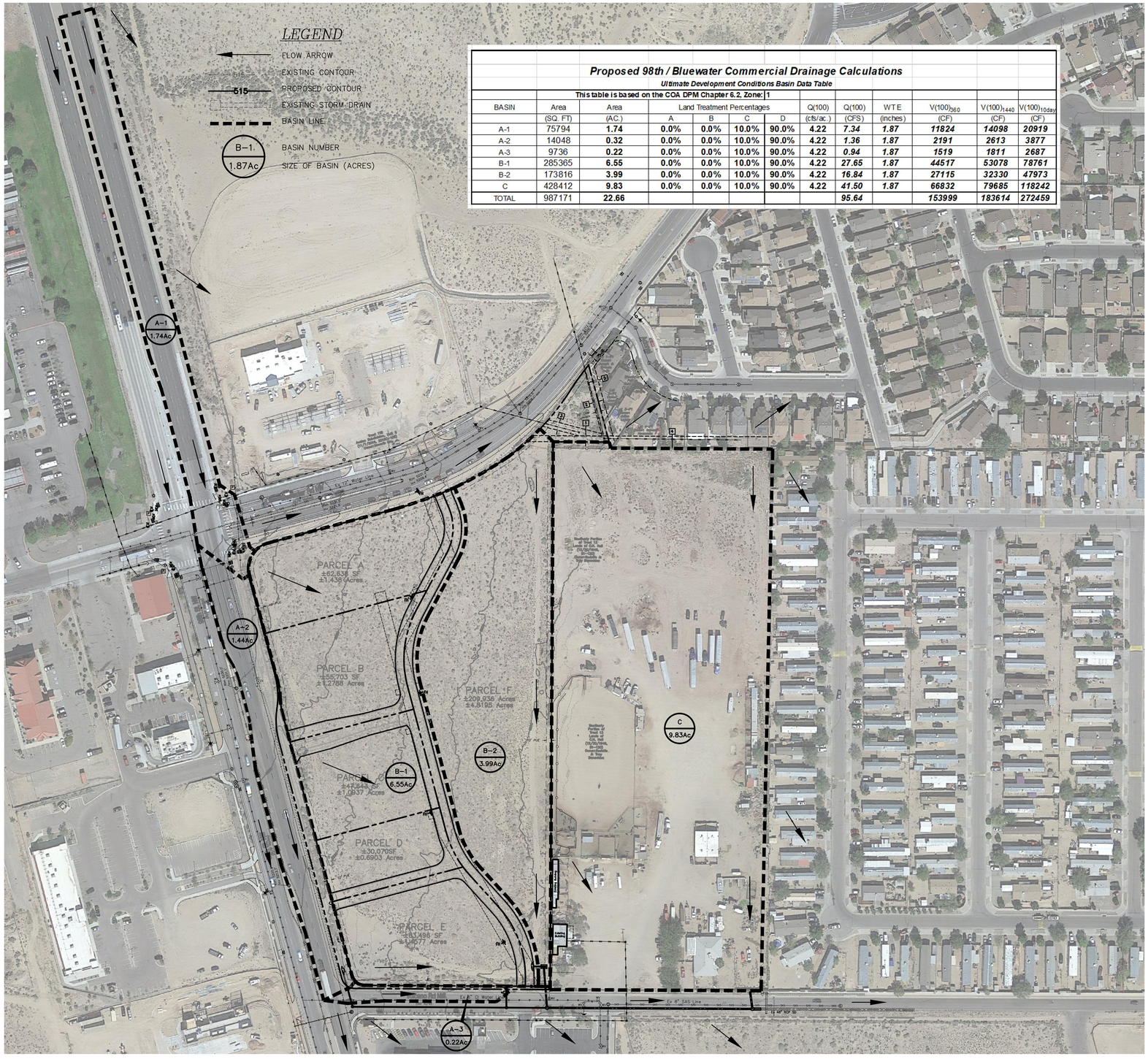
98th / Bluewater Commercial Development

OVERALL UTILITY PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	MO./DAY/YR.	MO./DAY/YR.

Wooten Engineering
PO Box 15814
Rio Rancho, N.M. 87174
Phone: (505) 980-3560

CITY PROJECT NO. ---
ZONE MAP NO. ---
SHEET # 2 of 4



Proposed 98th / Bluewater Commercial Drainage Calculations

Ultimate Development Conditions Basin Data Table

This table is based on the COA DPM Chapter 6.2, Zone: 1

BASIN	Area	Area	Land Treatment Percentages				Q(100)	Q(100)	WTE	$V(100)_{360}$	$V(100)_{1440}$	$V(100)_{10day}$
	(SQ. FT)	(AC.)	A	B	C	D	(cfs/ac.)	(CFS)	(inches)	(CF)	(CF)	(CF)
A-1	75794	**1.74**	**0.0%**	**0.0%**	**10.0%**	**90.0%**	**4.22**	***7.34***	***1.87***	***11824***	***14098***	***20919***
A-2	14048	**0.32**	**0.0%**	**0.0%**	**10.0%**	**90.0%**	**4.22**	***1.36***	***1.87***	***2191***	***2613***	***3877***
A-3	9736	**0.22**	**0.0%**	**0.0%**	**10.0%**	**90.0%**	**4.22**	***0.94***	***1.87***	***1519***	***1811***	***2687***
B-1	285365	**6.55**	**0.0%**	**0.0%**	**10.0%**	**90.0%**	**4.22**	***27.65***	***1.87***	***44517***	***53078***	***78761***
B-2	173816	**3.99**	**0.0%**	**0.0%**	**10.0%**	**90.0%**	**4.22**	***16.84***	***1.87***	***27115***	***32330***	***47973***
C	428412	**9.83**	**0.0%**	**0.0%**	**10.0%**	**90.0%**	**4.22**	***41.50***	***1.87***	***66832***	***79685***	***118242***
TOTAL	987171	**22.66**						***95.64***		***153999***	***183614***	***272459***

FIRM MAP 35001C0328J

Per FIRM Map 35001C0328J, dated November 4, 2016, the site is located outside of the 0.2% Annual Chance Floodplain.

N
W E
S

100' 50' 0 100'

SCALE: 1"=100'

DRAINAGE MANAGEMENT PLAN

INTRODUCTION

The purpose of this submittal is to provide a final drainage management plan for the 98th / Bluewater Commercial Project, located at the SEQ of 98th St and Bluewater Rd in Albuquerque, NM.. The site contains approximately 10.50 acres.

EXISTING HYDROLOGIC CONDITIONS

The site is currently vacant and drains via. surface flow from northwest to southeast. 98th St currently drains from north to south in an existing swale/bar ditch. Per the Basin Map this sheet, all of these Basins drain into Volcano Rd and then eastward to an existing cattle guard inlet which connects to an existing 48" Storm Drain pipe. Per the 2013 Amole Hubbell Drainage Master Plan, this area is defined as Basin TB204 and is allowed to discharge the site at a rate of 4.27 cfs/acre.

PROPOSED HYDROLOGIC CONDITIONS

As noted above, our site is allowed to discharge up to 4.27 cfs/acre into the downstream systems. This accounts for the developed flows from our site at a +/-90% pervious land treatment. Each of the three parcels will need to provide Water Quality ponding per the current COA DPM. Per the Drainage Calculations Table this sheet, all of the basins draining to the existing 48" Storm Drain in Volcano Rd will be at the rate of 4.22 cfs/acre, which is less than the allowable discharge rate of 4.27 cfs/acre. New Storm Drain systems will be designed in order to capture the flows as identified in the Drainage Calculations table.

CONCLUSION

This drainage management plan provides for grading and drainage elements which are capable of safely passing the 100 year storm, does not burden downstream systems, meet city requirements, and the intent of the 2013 Amole Hubbell Drainage Master Plan. The proposed improvements to the site should not have any negative impacts to facilities downstream. With this submittal, we are requesting Preliminary and Final Plat approval.

NOT FOR CONSTRUCTION

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AS BUILT INFORMATION

CONTRACTOR
WORK STAKED BY
INSPECTED BY
ACCEPTANCE BY
FIELD VERIFICATION BY
DRAWINGS CORRECTED BY

MICRO-FILM INFORMATION

RECORDED BY DATE
NO.

BENCH MARKS

A.C.S. MONUMENT "7-K9", Type 3
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(CENTRAL ZONE-N.A.D. 1983)
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PUB. EL=5140.082 NAVD 1988
GROUND TO GRID FACTOR=0.999681940
DELTA ALPHA ANGLE = -0°16'38.12"

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

JEFFREY TODD WOOTEN
NEW MEXICO
16892
PROFESSIONAL ENGINEER
10/20/2021

NO.	DATE	REMARKS	BY

REVISIONS

DESIGN

DESIGNED BY: JTW — DATE: October 2021
DRAWN BY: RG — DATE: October 2021
DRAWN NAME: — JOB NO.: 2021015
CHECKED BY: JTW — DATE: October 2021

CITY OF ALBUQUERQUE
PUBLIC WORKS DIVISION
ENGINEERING GROUP

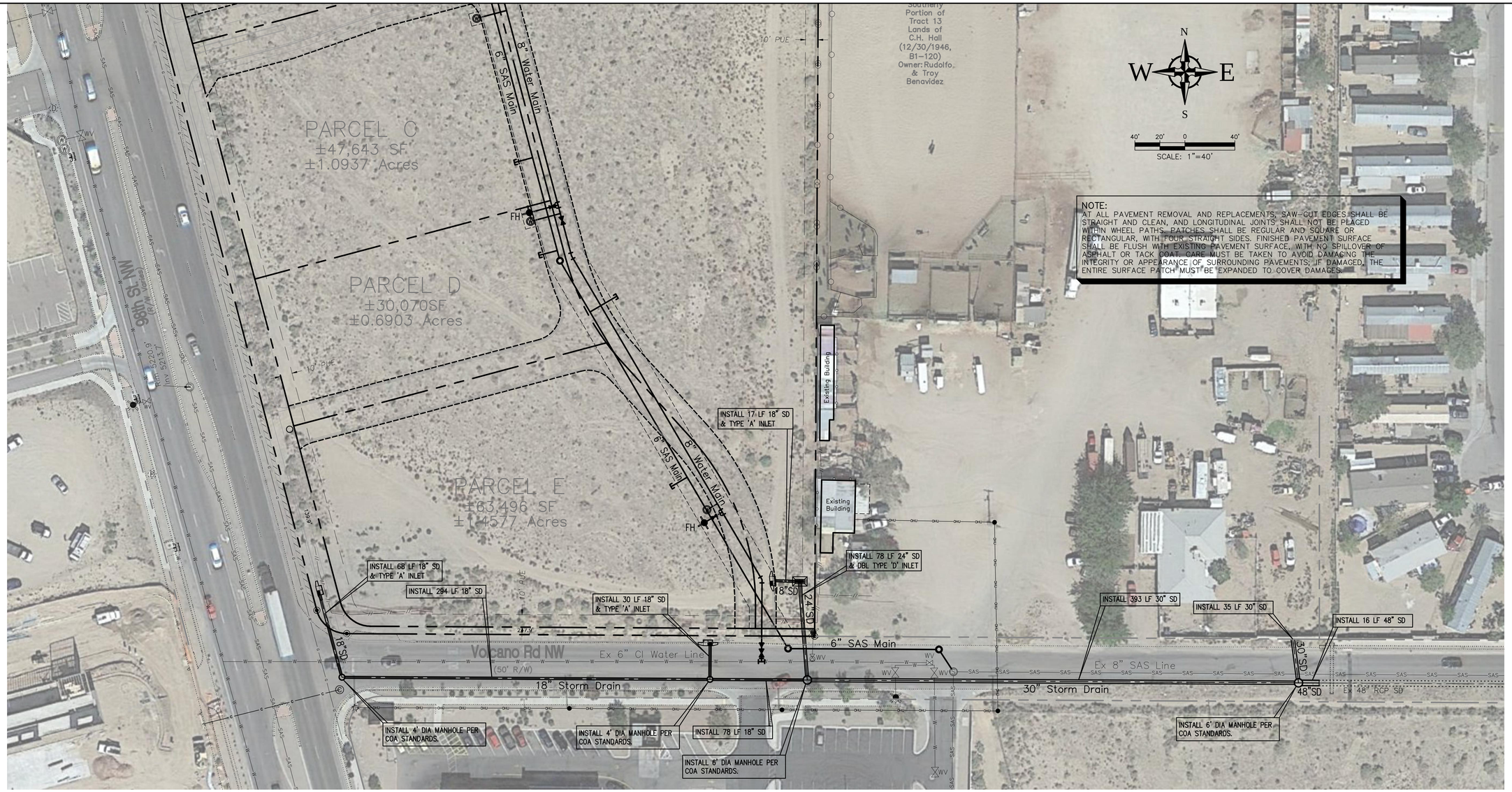
98th / Bluewater Commercial Development

CONCEPTUAL DRAINAGE MANAGEMENT PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	MO./DAY/YR.	MO./DAY/YR.

CITY PROJECT NO.	ZONE MAP NO.	SHEET #
---	---	3 of 4

N
W E
S
Wooten Engineering
PO Box 15814
Rio Rancho, N.M. 87174
Phone: (505) 980-3560



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Wooten Engineering
PO Box 15814
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Phone: (505) 980-3560

AS BUILT INFORMATION

CONTRACTOR	
WORK STAKED BY	
INSPECTOR'S ACCEPTANCE BY	
FIELD VERIFICATION BY	
DRAWINGS CORRECTED BY	
MICRO-FILM INFORMATION	
RECORDED BY	DATE
NO.	

BENCH MARKS

A.C.S. MONUMENT "7-K9": Type 3	
STANDARD A.C.S. BRASS TABLET	
NEW MEXICO STATE PLANE COORDINATES (CENTRAL ZONE-N.A.D. 1983)	
N=1,482,904.725	
E=1,496,061.706	
PUB. EL=5140.082 NAVD 1988	
GROUND TO GRID FACTOR=0.999681940	
DELTA ALPHA ANGLE =-0°16'38.12"	

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

JEFFREY TODD WOOTEN
NEW MEXICO
16892
LICENSED PROFESSIONAL ENGINEER
10/20/2021

NO.	DATE	REMARKS	BY

REVISIONS

DESIGN

DESIGNED BY: JTW	DATE: October 2021
DRAWN BY: RG	DATE: October 2021
DRAWN NAME:	JOB NO.: 2021015
CHECKED BY: JTW	DATE: October 2021

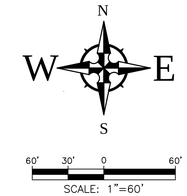
CITY OF ALBUQUERQUE
PUBLIC WORKS DIVISION
ENGINEERING GROUP

98th / Bluewater Commercial Development

OVERALL STORM DRAIN PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	MO./DAY/YR.	MO./DAY/YR.

CITY PROJECT NO.	ZONE MAP NO.	SHEET #
---	---	4 of 4



FIRE 1 PLAN NOTES:

- Buildings shall have approved Address Numbers placed in a position plainly legible from 98th St. The numbers must be 24" tall with 4" wide letters if the building is more than 200' away from the roadway.
- Fire Lanes shall have an approved driving surface capable of supporting the imposed load of Fire Apparatus weighing at least 75,000 pounds.
- Fire Lanes grades shall not exceed 10% in any direction.

CAUTION:

ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

AS BUILT INFORMATION

CONTRACTOR	
WORK STAKED BY	
INSPECTOR'S ACCEPTANCE BY	
FIELD VERIFICATION BY	
DRAWINGS CORRECTED BY	

MICRO-FILM INFORMATION

RECORDED BY	DATE
NO.	

BENCH MARKS

A.C.S. MONUMENT "7-K9", Type 3
STANDARD A.C.S. BRASS TABLET
NEW MEXICO STATE PLANE COORDINATES
(CENTRAL ZONE-N.A.D. 1983)
N=1,482,904.725
E=1,496,061.706
PUB. EL=5140.082 NAVD 1988
GROUND TO GRID FACTOR=0.999681940
DELTA ALPHA ANGLE = -0°16'38.12"

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

JEFFREY TODD WOOTEN
NEW MEXICO
16892
LICENSED PROFESSIONAL ENGINEER
10/18/2021

REVISIONS

NO.	DATE	REMARKS	BY

DESIGN

DESIGNED BY: JTW	DATE: October 2021
DRAWN BY: RG	DATE: October 2021
DRAWN NAME:	JOB NO.: 2021015
CHECKED BY: JTW	DATE: October 2021

CITY OF ALBUQUERQUE
PUBLIC WORKS DIVISION
ENGINEERING GROUP

98th / Bluewater Commercial Development

F1 – FIRE 1 PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	MO./DAY/YR.	MO./DAY/YR.

CITY PROJECT NO.	ZONE MAP NO.	SHEET #
---	---	1 of 1

Wooten Engineering
PO Box 15814
Rio Rancho, N.M. 87174
Phone: (505) 980-3560

CSI-Cartesian Surveys Inc.
PO Box 44414, Rio Rancho, NM 87174
896-3050 Fax 891-0244

October 22, 2021

Development Review Board
City of Albuquerque

Re: Sketch Plat Review for Proposed Subdivision of Tract 12 of Avalon Subdivision, Unit 5

Members of the Board:

Cartesian Surveys is acting as an agent for Red Sky Holdings and requests a sketch plat review to create eight (8) new tracts from one (1) existing tract by subdivision of Tract 12 of Avalon Subdivision, Unit 5 at Bluewater Road NW and 98th Street NW. The property is currently zoned as NR-BP, this plat intends to dedicated additional ROW to 98th Street NW and Volcano Road NW and to grant an access and water/sewer utility easement as shown on attached plat.

ABCWUA

1. Availability Statement #190521 has expired.
2. Request an availability/serviceability statement online at the following link: http://www.abcwua.org/Availability_Statements.aspx. Requests shall include fire marshal requirements. An executed statement must be obtained prior to approval.

Noted, an availably statement was requested with an updated request on October 20, 2021 which included the Fire1 Plan. DRWS was provided in the meantime

3. This project is within the adopted service area.
4. Pro Rata:
    a. Pro rata is not owed for this property.

Noted

5. Utility Plan:
    a. Provide a utility plan that indicates the location of proposed services.
    b. Show existing public water and public sewer mains and any associated easements on the utility plan.

Noted, services are shown as collected in the field.

    c. Coordinate with NM 811 to field locate and survey the existing public water and sewer infrastructure. If existing infrastructure is not within the existing easements, dedicate additional easement to provide the minimum widths over the actual pipe locations.

Noted, we collected field evidence after spotting was conducted for 811 ticket number 21MY060486.

6. Infrastructure List:
    a. Improvements are anticipated to be required for this project. Upon issuance of the Availability Statement, include the public infrastructure items in the infrastructure list.

Noted, see attached infrastructure list

Code Enforcement

1. NR-BP has no minimum lot standards.
2. Lot width minimum is 100' (all proposed lots meets min. width)

Noted, lot widths remain similar to at sketch. Minimum is approximately 244 ft x 121.6 ft Tract D.

Hydrology

• Hydrology will need to approve a Grading & Drainage Plan prior to approval of Preliminary Plat or Site Plan for Subdivision.
• This site will have to a hear to the Amole-Hubbell Drainage Plan dated 2013. This site has an allowable discharge rate of 4.27 cfs/ac.
• Drainage from this site may have to extend the storm sewer down Volcano Rd to the east about 450 feet to the existing storm sewer. This will depend if the roadway can handle the drainage from this site.

Noted, see attached grading and drainage plan.

• Add a Cross Lot Drainage Easement note specifying the beneficiary and maintenance agreement.

Noted, private cross lot drainage easement 7 has been added to the plat.

• The infrastructure list will be needed for Preliminary Plat.

Noted, see attached infrastructure list.

Parks and Recreation

98th St NW requires street trees upon applicable development.

Noted.

Transportation

1. Provide roadway cross-sections for all surrounding roadways showing required sidewalk, curb, and any additional lanes on 98th Street.

Noted, see attached site sketch and plans.

2. The internal road network shall include sidewalk requirements for private roadways per the DPM, based on the number of lots.

Noted.

3. A traffic study shall be reviewed and approved prior to sign-off on the plat. Any traffic study recommendations shall be placed onto the infrastructure list.

Noted, see attached traffic impact study.

4. All proposed on-site and off-site roadway infrastructure shall be placed onto an infrastructure list.

Noted, see attached infrastructure list.

5. The full access off of 98th Street should be studied for safety purposes, particularly with regard to left-in access due to lack of available capacity for queuing.

Noted…

6. Meet minimum radius standards for the roadway centerline per the DPM requirements.

Noted.

7. Apply necessary throat lengths per the DPM requirements. Some of the driveways on the site plan are shown too close to the private accessway entrance off of the public right-of-way.

Noted, throat lengths should now be satisfactory, please see site plan attached to confirm.

Planning

Plat must have City Surveyor signature, surveyor signature and property owner signature

Noted, see attached plat for approval signature, surveyor signature and letter of authorization for property owner endorsement of future owner signature.

See new project number assigned to this case

Noted, see attached plat for revised project number PR-2021-005864

The site appears to have a previously approved IP Master Plan. Anything specifically stated in that plan will apply in addition to the provisions of the IDO.

Noted.

Thank you,
Ryan J. Mulhall

OFFICIAL PUBLIC NOTIFICATION FORM
FOR MAILED OR ELECTRONIC MAIL NOTICE
CITY OF ALBUQUERQUE PLANNING DEPARTMENT

PART I - PROCESS	
Use Table 6-1-1 in the Integrated Development Ordinance (IDO) to answer the following:	
Application Type:	Major Preliminary Plat
Decision-making Body:	Development Review Board (DRB)
Pre-Application meeting required:	☒ Yes ☐ No
Neighborhood meeting required:	☐ Yes ☒ No
Mailed Notice required:	☒ Yes ☐ No
Electronic Mail required:	☒ Yes ☐ No
Is this a Site Plan Application:	☐ Yes ☒ No ***Note**: if yes, see second page*
PART II – DETAILS OF REQUEST	
Address of property listed in application:	Southeast corner of 98th Street NW and Bluewater Road NW
Name of property owner:	Majec, LLC
Name of applicant:	CSI - Cartesian Surveys, Inc.
Date, time, and place of public meeting or hearing, if applicable:	November 17, 2021 at approximately 9AM
	by zoom meeting, with link posted at http://www.cabq.gov/planning/boards-comissions
Address, phone number, or website for additional information:	
	Please call (505) 896-3050 or email cartesianryan@gmail.com
PART III - ATTACHMENTS REQUIRED WITH THIS NOTICE	
☒ Zone Atlas page indicating subject property.	
☒ Drawings, elevations, or other illustrations of this request.	
☐ Summary of pre-submittal neighborhood meeting, if applicable.	
☒ Summary of request, including explanations of deviations, variances, or waivers.	
IMPORTANT: PUBLIC NOTICE MUST BE MADE IN A TIMELY MANNER PURSUANT TO SUBSECTION 14-16-6-4(K) OF THE INTEGRATED DEVELOPMENT ORDINANCE (IDO). PROOF OF NOTICE WITH ALL REQUIRED ATTACHMENTS MUST BE PRESENTED UPON APPLICATION.	

I certify that the information I have included here and sent in the required notice was complete, true, and accurate to the extent of my knowledge.

Ryan J Mitchell (Applicant signature) 10/20/2021 (Date)

***Note**: Providing incomplete information may require re-sending public notice. Providing false or misleading information is a violation of the IDO pursuant to IDO Subsection 14-16-6-9(B)(3) and may lead to a denial of your application.*

PART IV – ATTACHMENTS REQUIRED FOR SITE PLAN APPLICATIONS ONLY
Provide a site plan that shows, at a minimum, the following:
☐ a. Location of proposed buildings and landscape areas.
☐ b. Access and circulation for vehicles and pedestrians.
☐ c. Maximum height of any proposed structures, with building elevations.
☐ d. For residential development: Maximum number of proposed dwelling units.
☐ e. For non-residential development: ☐ Total gross floor area of proposed project. ☐ Gross floor area for each proposed use.

Gmail

Ryan Mulhall <cartesianryan@gmail.com>

BLUEWATER RD NW Public Notice Inquiry

Carmona, Dalaina L. <dlcarmona@cabq.gov>
To: "cartesianryan@gmail.com" <cartesianryan@gmail.com>

Mon, Oct 4, 2021 at 4:29 PM

Dear Applicant:

Please find the neighborhood contact information listed below. Please make certain to read the information further down in this e-mail as it will help answer other questions you may have.

Association Name	First Name	Last Name	Email	Address Line 1	City	State	Zip	Mobile Phone	Phone
Avalon NA	Lucy	Anchondo	avalon3a@yahoo.com	601 Stern Drive NW	Albuquerque	NM	87121		5058396601
Avalon NA	Samantha	Pina	ava99secretary@gmail.com	423 Elohim Court NW	Albuquerque	NM	87121	5053633455	
South West Alliance of Neighborhoods (SWAN Coalition)	Luis	Hernandez Jr.	luis@wccdg.org	5921 Central Avenue NW	Albuquerque	NM	87105		
South West Alliance of Neighborhoods (SWAN Coalition)	Jerry	Gallegos	jgallegoswccdg@gmail.com	5921 Central Avenue NW	Albuquerque	NM	87105	5053855809	5058362976
Westside Coalition of Neighborhood Associations	Elizabeth	Haley	ekhaley@comcast.net	6005 Chaparral Circle NW	Albuquerque	NM	87114	5054074381	
Westside Coalition of Neighborhood Associations	Rene	Horvath	aboard111@gmail.com	5515 Palomino Drive NW	Albuquerque	NM	87120		5058982114

PLEASE NOTE: The ONC does not have any jurisdiction over any other aspect of your application beyond this neighborhood contact information. We can't answer questions about sign postings, pre-construction meetings, permit status, site plans, buffers, or project plans, so we encourage you to contact the Planning Department at: 505-924-3857 Option #1, e-mail: devhelp@cabq.gov, or visit: https://www.cabq.gov/planning/online-planning-permitting-applications with those types of questions.

You will need to e-mail each of the listed contacts and let them know that you are applying for an approval from the Planning Department for your project. Please use this online link to find the required forms you will need to submit. https://www.cabq.gov/planning/urban-design-development/public-notice. Once you have e-mailed the listed contacts in each neighborhood, you will need to attach a copy of those e-mails AND a copy of this e-mail from the ONC to your application and submit it to the Planning Department for approval.

If your application requires you to offer a neighborhood meeting, you can click on this link to find required forms to use in your e-mail to the neighborhood association(s):

http://www.cabq.gov/planning/urban-design-development/neighborhood-meeting-requirement-in-the-integrated-development-ordinance

If your application requires a pre-application or pre-construction meeting, please plan on utilizing virtual platforms to the greatest extent possible and adhere to all current Public Health Orders and recommendations. The health and safety of the community is paramount.

If you have questions about what type of notification is required for your particular project or meetings that might be required, please click on the link below to see a table of different types of projects and what notification is required for each:

https://ido.abc-zone.com/integrated-development-ordinance-ido?document=1&outline-name=6-1%20Procedures%20Summary%20Table

Thanks,

Dalaina L. Carmona

Senior Administrative Assistant

Office of Neighborhood Coordination

Council Services Department

1 Civic Plaza NW, Suite 9087, 9th Floor

Albuquerque, NM 87102

505-768-3334

dlcarmona@cabq.gov or ONC@cabq.gov

Website: www.cabq.gov/neighborhoods

Confidentiality Notice: This e-mail, including all attachments is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited unless specifically provided under the New Mexico Inspection of Public Records Act. If you are not the intended recipient, please contact the sender and destroy all copies of this message.

From: webmaster=cabq.gov@mailgun.org [mailto:webmaster=cabq.gov@mailgun.org] **On Behalf Of** webmaster@cabq.gov
Sent: Monday, October 04, 2021 12:59 PM
To: Office of Neighborhood Coordination <cartesianryan@gmail.com>
Cc: Office of Neighborhood Coordination <onc@cabq.gov>
Subject: Public Notice Inquiry Sheet Submission

Public Notice Inquiry For:

Development Review Board

If you selected "Other" in the question above, please describe what you are seeking a Public Notice Inquiry for below:

Contact Name

Ryan J. Mulhall

Telephone Number

5058963050

Email Address

cartesianryan@gmail.com

Company Name

CSI - Cartesian Surveys, Inc.

Company Address

PO Box 44414

City

Rio Rancho

State

NM

ZIP

87174

Legal description of the subject site for this project:

TRACT NUMBERED TWELVE (12), PLAT OF TRACTS 1 THROUGH 12, OF AVALON SUBDIVISION UNIT 5, ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT OF SAID SUBDIVISION, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO, ON MAY 22, 2014, IN PLAT BOOK 2014C, FOLIO 46 AS DOCUMENT NO. 2014040949.

Physical address of subject site:

BLUEWATER RD NW

Subject site cross streets:

98th Street and Bluewater

Other subject site identifiers:

This site is located on the following zone atlas page:

K-9-Z

IDOZoneAtlasPage_K-09-Z_marked.pdf
490K

[Note: Items with an asterisk (*) are required.]

Public Notice of a Proposed Project in the City of Albuquerque for Decisions Requiring a Meeting or Hearing Mailed/Emailed to a Neighborhood Association

Date of Notice*: October 20, 2021

This notice of an application for a proposed project is provided as required by Integrated Development Ordinance (IDO) **Subsection 14-16-6-4(K) Public Notice** to:

Neighborhood Association (NA)*: Avalon Neighborhood Association

Name of NA Representative*: Lucy Anchondo // Samantha Pina

Email Address* or Mailing Address* of NA Representative[1]: avalon3a@yahoo.com // ava99secretary@gmail.com

Information Required by IDO Subsection 14-16-6-4(K)(1)(a)

1. Subject Property Address* Southeast corner of 98th Street and Bluewater Road NW

   Location Description Vacant parcel known as Tract 12, Avalon Subdivison, Unit 5
2. Property Owner* Majec, LLC
3. Agent/Applicant* *[if applicable]* CSI - Cartesian Surveys, Inc.
4. Application(s) Type* per IDO Table 6-1-1 *[mark all that apply]*

   - ☐ Conditional Use Approval
   - ☐ Permit _____ (Carport or Wall/Fence – Major)
   - ☐ Site Plan
   - ☒ Subdivision _____ (Minor or Major)
   - ☐ Vacation _____ (Easement/Private Way or Public Right-of-way)
   - ☐ Variance
   - ☐ Waiver
   - ☐ Other: _____

   Summary of project/request[2]*:

   Requesting DRB review of a Preliminary Plat for Major Subdivision of an existing tract into six new tracts, granting of easements and additional right-of-way

[1] Pursuant to IDO Subsection 14-16-6-4(K)(5)(a), email is sufficient if on file with the Office of Neighborhood Coordination. If no email address is on file for a particular NA representative, notice must be mailed to the mailing address on file for that representative.

[2] Attach additional information, as needed to explain the project/request.

[Note: Items with an asterisk (*) are required.]

5. This application will be decided at a public meeting or hearing by*:

   ☐ Zoning Hearing Examiner (ZHE) ☒ Development Review Board (DRB)

   ☐ Landmarks Commission (LC) ☐ Environmental Planning Commission (EPC)

   Date/Time*: November 17, 2021 at 9AM MST

   Location*[3]: Zoom meeting (hearing link info available at the URL below)

   Agenda/meeting materials: http://www.cabq.gov/planning/boards-commissions

   To contact staff, email devhelp@cabq.gov or call the Planning Department at 505-924-3860.

6. Where more information about the project can be found*[4]:
   Please call (505) 896-3050 or email cartesianryan@gmail.com

Information Required for Mail/Email Notice by IDO Subsection 6-4(K)(1)(b):

1. Zone Atlas Page(s)*[5] K-09-Z
2. Architectural drawings, elevations of the proposed building(s) or other illustrations of the proposed application, as relevant*: Attached to notice or provided via website noted above
3. The following exceptions to IDO standards have been requested for this project*:

   ☐ Deviation(s) ☐ Variance(s) ☐ Waiver(s)

   Explanation*:

   _____

   _____

   _____

4. A Pre-submittal Neighborhood Meeting was required by Table 6-1-1: ☐ Yes ☒ No

   Summary of the Pre-submittal Neighborhood Meeting, if one occurred:

   _____

   _____

   _____

   _____

   _____

   _____

[3] Physical address or Zoom link
[4] Address (mailing or email), phone number, or website to be provided by the applicant
[5] Available online here: *http://data.cabq.gov/business/zoneatlas/*

[Note: Items with an asterisk (*) are required.]

5. ***For Site Plan Applications only****, attach site plan showing, at a minimum:
   - ☐ a. Location of proposed buildings and landscape areas.*
   - ☐ b. Access and circulation for vehicles and pedestrians.*
   - ☐ c. Maximum height of any proposed structures, with building elevations.*
   - ☐ d. **For residential development***: Maximum number of proposed dwelling units.
   - ☐ e. **For non-residential development***:
     - ☐ Total gross floor area of proposed project.
     - ☐ Gross floor area for each proposed use.

Additional Information *[Optional]***:**

From the IDO Zoning Map[6]:

1. Area of Property *[typically in acres]* 11.0954 acres
2. IDO Zone District NR-BP
3. Overlay Zone(s) *[if applicable]* _____
4. Center or Corridor Area *[if applicable]* _____

Current Land Use(s) *[vacant, if none]* Vacant

_____

NOTE: Pursuant to IDO Subsection 14-16-6-4(L), property owners within 330 feet and Neighborhood Associations within 660 feet may request a post-submittal facilitated meeting. If requested at least 15 calendar days before the public meeting/hearing date noted above, the facilitated meeting will be required. To request a facilitated meeting regarding this project, contact the Planning Department at devhelp@cabq.gov or 505-924-3955.

Useful Links

Integrated Development Ordinance (IDO):
https://ido.abc-zone.com/

IDO Interactive Map
https://tinyurl.com/IDOzoningmap

Cc: Westside Coaliton of Neighborhood Associatons *[Other Neighborhood Associations, if any]*

South West Alliance of Neighborhoods (SWAN Coalition)

[6] Available here: https://tinurl.com/idozoningmap

Gmail

Ryan Mulhall <cartesianryan@gmail.com>

Avalon NA - Notice of Preliminary Plat application for planned Major Subdivision for Tract 12, Avalon Sub. Unit 5

Ryan Mulhall <cartesianryan@gmail.com> Thu, Oct 21, 2021 at 6:04 PM
To: avalon3a@yahoo.com, ava99secretary@gmail.com

Good afternoon Avalon Neighborhood Association representatives,

We intend to submit, on behalf of our client, RS Bluewater LLC, a preliminary plat application to the City of Albuquerque. The application requests review, at a public hearing by the Development Review Board (DRB), of our proposed major subdivision for six proposed lots created from the existing Tract 12 of Avalon Subdivision, Unit 5. The property is a large parcel located on the southeast corner of 98th Street NW and Bluewater Road NW.

Attached is the preliminary plat and proposed site plan of the proposed subdivision, a zone atlas page highlighting the location of the property, and the city-required notice forms to summarize the basic information of our submission. You'll see the lots created are remaining large to accommodate anticipated development as a business park.

No action is necessary on your part, but as the property is nearby to your neighborhood we are required to notify you of our intent to submit for preliminary plat review with the city, and your right to request information as we make our submission to the city to be heard by the DRB.

If you have any questions regarding the planned subdivision please let us know.

Thank you,
Ryan Mulhall
--

CSI - Cartesian Surveys, Inc.

PO Box 44414

Rio Rancho NM 87174

(p)505-896-3050

(f)505-891-0244

www.cartesiansurveys.com

Email: cartesianryan@gmail.com

5 attachments

CABQ-Official_pub_notice_form-PR-2021-005864_Rev.pdf
291K

Avalon_PR-2021-005864_Emailed-Notice-PublicHearing.pdf
198K

IDOZoneAtlasPage_K-09-Z_marked.pdf
490K

Prelim Plat Tr A-F, RS Bluewater Addition Plat (Signed)_10-20-21.pdf
5492K

C1-Overall Site Plan.pdf
460K

[Note: Items with an asterisk (*) are required.]

Public Notice of a Proposed Project in the City of Albuquerque for Decisions Requiring a Meeting or Hearing Mailed/Emailed to a Neighborhood Association

Date of Notice*: October 20, 2021

This notice of an application for a proposed project is provided as required by Integrated Development Ordinance (IDO) **Subsection 14-16-6-4(K) Public Notice** to:

Neighborhood Association (NA)*: South West Alliance of Neighborhoods (SWAN Coalition)

Name of NA Representative*: Luis Hernandez Jr. // Jerry Gallegos

Email Address* or Mailing Address* of NA Representative[1]: luis@wccdg.org // jgallegoswccdg@gmail.com

Information Required by IDO Subsection 14-16-6-4(K)(1)(a)

1. Subject Property Address* Southeast corner of 98th Street and Bluewater Road NW

   Location Description Vacant parcel known as Tract 12, Avalon Subdivison, Unit 5
2. Property Owner* Majec, LLC
3. Agent/Applicant* *[if applicable]* CSI - Cartesian Surveys, Inc.
4. Application(s) Type* per IDO Table 6-1-1 *[mark all that apply]*

   - ☐ Conditional Use Approval
   - ☐ Permit _____ (Carport or Wall/Fence – Major)
   - ☐ Site Plan
   - ☒ Subdivision _____ (Minor or Major)
   - ☐ Vacation _____ (Easement/Private Way or Public Right-of-way)
   - ☐ Variance
   - ☐ Waiver
   - ☐ Other: _____

   Summary of project/request[2]*:

   Requesting DRB review of a Preliminary Plat for Major Subdivision of an existing tract into six new tracts, granting of easements and additional right-of-way

[1] Pursuant to IDO Subsection 14-16-6-4(K)(5)(a), email is sufficient if on file with the Office of Neighborhood Coordination. If no email address is on file for a particular NA representative, notice must be mailed to the mailing address on file for that representative.

[2] Attach additional information, as needed to explain the project/request.

[Note: Items with an asterisk (*) are required.]

5. This application will be decided at a public meeting or hearing by*:

   ☐ Zoning Hearing Examiner (ZHE) ☒ Development Review Board (DRB)

   ☐ Landmarks Commission (LC) ☐ Environmental Planning Commission (EPC)

   Date/Time*: November 17, 2021 at 9AM MST

   Location*[3]: Zoom meeting (hearing link info available at the URL below)

   Agenda/meeting materials: http://www.cabq.gov/planning/boards-commissions

   To contact staff, email devhelp@cabq.gov or call the Planning Department at 505-924-3860.

6. Where more information about the project can be found*[4]:
   Please call (505) 896-3050 or email cartesianryan@gmail.com

Information Required for Mail/Email Notice by IDO Subsection 6-4(K)(1)(b):

1. Zone Atlas Page(s)*[5] K-09-Z
2. Architectural drawings, elevations of the proposed building(s) or other illustrations of the proposed application, as relevant*: Attached to notice or provided via website noted above
3. The following exceptions to IDO standards have been requested for this project*:

   ☐ Deviation(s) ☐ Variance(s) ☐ Waiver(s)

   Explanation*:

   _____

   _____

   _____

4. A Pre-submittal Neighborhood Meeting was required by Table 6-1-1: ☐ Yes ☒ No

   Summary of the Pre-submittal Neighborhood Meeting, if one occurred:

   _____

   _____

   _____

   _____

   _____

   _____

[3] Physical address or Zoom link
[4] Address (mailing or email), phone number, or website to be provided by the applicant
[5] Available online here: *http://data.cabq.gov/business/zoneatlas/*

[Note: Items with an asterisk (*) are required.]

5. ***For Site Plan Applications only****, attach site plan showing, at a minimum:
   - ☐ a. Location of proposed buildings and landscape areas.*
   - ☐ b. Access and circulation for vehicles and pedestrians.*
   - ☐ c. Maximum height of any proposed structures, with building elevations.*
   - ☐ d. **For residential development***: Maximum number of proposed dwelling units.
   - ☐ e. **For non-residential development***:
     - ☐ Total gross floor area of proposed project.
     - ☐ Gross floor area for each proposed use.

Additional Information *[Optional]***:**

From the IDO Zoning Map[6]:

1. Area of Property *[typically in acres]* 11.0954 acres
2. IDO Zone District NR-BP
3. Overlay Zone(s) *[if applicable]* _____
4. Center or Corridor Area *[if applicable]* _____

Current Land Use(s) *[vacant, if none]* Vacant

NOTE: Pursuant to IDO Subsection 14-16-6-4(L), property owners within 330 feet and Neighborhood Associations within 660 feet may request a post-submittal facilitated meeting. If requested at least 15 calendar days before the public meeting/hearing date noted above, the facilitated meeting will be required. To request a facilitated meeting regarding this project, contact the Planning Department at devhelp@cabq.gov or 505-924-3955.

Useful Links

Integrated Development Ordinance (IDO):
https://ido.abc-zone.com/

IDO Interactive Map
https://tinyurl.com/IDOzoningmap

Cc: Avalon Neighborhood Associaton *[Other Neighborhood Associations, if any]*

South West Alliance of Neighborhoods (SWAN Coalition)

[6] Available here: https://tinurl.com/idozoningmap

Gmail

Ryan Mulhall <cartesianryan@gmail.com>

SWAN Coalition - Notice of Preliminary Plat application for planned Major Subdivision for Tract 12, Avalon Sub. Unit 5

Ryan Mulhall <cartesianryan@gmail.com> Thu, Oct 21, 2021 at 6:05 PM
To: luis@wccdg.org, jgallegoswccdg@gmail.com

Good afternoon South West Alliance of Neighborhoods representatives,

We intend to submit, on behalf of our client, RS Bluewater LLC, a preliminary plat application to the City of Albuquerque. The application requests review, at a public hearing by the Development Review Board (DRB), of our proposed major subdivision for six proposed lots created from the existing Tract 12 of Avalon Subdivision, Unit 5. The property is a large parcel located on the southeast corner of 98th Street NW and Bluewater Road NW.

Attached is the preliminary plat and proposed site plan of the proposed subdivision, a zone atlas page highlighting the location of the property, and the city-required notice forms to summarize the basic information of our submission. You'll see the lots created are remaining large to accommodate anticipated development as a business park.

No action is necessary on your part, but as the property is nearby to your neighborhood we are required to notify you of our intent to submit for preliminary plat review with the city, and your right to request information as we make our submission to the city to be heard by the DRB.

If you have any questions regarding the planned subdivision please let us know.

Thank you,
Ryan Mulhall
--

CSI - Cartesian Surveys, Inc.

PO Box 44414

Rio Rancho NM 87174

(p)505-896-3050

(f)505-891-0244

www.cartesiansurveys.com

Email: cartesianryan@gmail.com

5 attachments

CABQ-Official_pub_notice_form-PR-2021-005864_Rev.pdf
291K

C1-Overall Site Plan.pdf
460K

SWAN_Coal_PR-2021-005864_Emailed-Notice-PublicHearing.pdf
202K

IDOZoneAtlasPage_K-09-Z_marked.pdf
490K

Prelim Plat Tr A-F, RS Bluewater Addition Plat (Signed)_10-20-21.pdf
5492K

[Note: Items with an asterisk (*) are required.]

Public Notice of a Proposed Project in the City of Albuquerque for Decisions Requiring a Meeting or Hearing Mailed/Emailed to a Neighborhood Association

Date of Notice*: October 20, 2021

This notice of an application for a proposed project is provided as required by Integrated Development Ordinance (IDO) **Subsection 14-16-6-4(K) Public Notice** to:

Neighborhood Association (NA)*: Westside Coaltion of Neighborhood Associations

Name of NA Representative*: Elizabeth Haley // Rene Hovath

Email Address* or Mailing Address* of NA Representative[1]: ekhaley@comcast.net // aboard111@gmail.com

Information Required by IDO Subsection 14-16-6-4(K)(1)(a)

1. Subject Property Address* Southeast corner of 98th Street and Bluewater Road NW

   Location Description Vacant parcel known as Tract 12, Avalon Subdivison, Unit 5
2. Property Owner* Majec, LLC
3. Agent/Applicant* *[if applicable]* CSI - Cartesian Surveys, Inc.
4. Application(s) Type* per IDO Table 6-1-1 *[mark all that apply]*

   - ☐ Conditional Use Approval
   - ☐ Permit _____ (Carport or Wall/Fence – Major)
   - ☐ Site Plan
   - ☒ Subdivision _____ (Minor or Major)
   - ☐ Vacation _____ (Easement/Private Way or Public Right-of-way)
   - ☐ Variance
   - ☐ Waiver
   - ☐ Other: _____

   Summary of project/request[2]*:

   Requesting DRB review of a Preliminary Plat for Major Subdivision of an existing tract into six new tracts, granting of easements and additional right-of-way

[1] Pursuant to IDO Subsection 14-16-6-4(K)(5)(a), email is sufficient if on file with the Office of Neighborhood Coordination. If no email address is on file for a particular NA representative, notice must be mailed to the mailing address on file for that representative.

[2] Attach additional information, as needed to explain the project/request.

[Note: Items with an asterisk (*) are required.]

5. This application will be decided at a public meeting or hearing by*:

   ☐ Zoning Hearing Examiner (ZHE) ☒ Development Review Board (DRB)

   ☐ Landmarks Commission (LC) ☐ Environmental Planning Commission (EPC)

   Date/Time*: November 17, 2021 at 9AM MST

   Location*[3]: Zoom meeting (hearing link info available at the URL below)

   Agenda/meeting materials: http://www.cabq.gov/planning/boards-commissions

   To contact staff, email devhelp@cabq.gov or call the Planning Department at 505-924-3860.

6. Where more information about the project can be found*[4]:
   Please call (505) 896-3050 or email cartesianryan@gmail.com

Information Required for Mail/Email Notice by IDO Subsection 6-4(K)(1)(b):

1. Zone Atlas Page(s)*[5] K-09-Z
2. Architectural drawings, elevations of the proposed building(s) or other illustrations of the proposed application, as relevant*: Attached to notice or provided via website noted above
3. The following exceptions to IDO standards have been requested for this project*:

   ☐ Deviation(s) ☐ Variance(s) ☐ Waiver(s)

   Explanation*:

   _____

   _____

   _____

4. A Pre-submittal Neighborhood Meeting was required by Table 6-1-1: ☐ Yes ☒ No

   Summary of the Pre-submittal Neighborhood Meeting, if one occurred:

   _____

   _____

   _____

   _____

   _____

   _____

[3] Physical address or Zoom link
[4] Address (mailing or email), phone number, or website to be provided by the applicant
[5] Available online here: *http://data.cabq.gov/business/zoneatlas/*

[Note: Items with an asterisk (*) are required.]

5. ***For Site Plan Applications only****, attach site plan showing, at a minimum:
   - ☐ a. Location of proposed buildings and landscape areas.*
   - ☐ b. Access and circulation for vehicles and pedestrians.*
   - ☐ c. Maximum height of any proposed structures, with building elevations.*
   - ☐ d. **For residential development***: Maximum number of proposed dwelling units.
   - ☐ e. **For non-residential development***:
     - ☐ Total gross floor area of proposed project.
     - ☐ Gross floor area for each proposed use.

Additional Information *[Optional]***:**

From the IDO Zoning Map[6]:

1. Area of Property *[typically in acres]* 11.0954 acres
2. IDO Zone District NR-BP
3. Overlay Zone(s) *[if applicable]* _____
4. Center or Corridor Area *[if applicable]* _____

Current Land Use(s) *[vacant, if none]* Vacant

NOTE: Pursuant to IDO Subsection 14-16-6-4(L), property owners within 330 feet and Neighborhood Associations within 660 feet may request a post-submittal facilitated meeting. If requested at least 15 calendar days before the public meeting/hearing date noted above, the facilitated meeting will be required. To request a facilitated meeting regarding this project, contact the Planning Department at devhelp@cabq.gov or 505-924-3955.

Useful Links

Integrated Development Ordinance (IDO):
https://ido.abc-zone.com/

IDO Interactive Map
https://tinyurl.com/IDOzoningmap

Cc: Avalon Neighborhood Associaton *[Other Neighborhood Associations, if any]*

South West Alliance of Neighborhoods (SWAN Coalition)

[6] Available here: https://tinurl.com/idozoningmap

Gmail

Ryan Mulhall <cartesianryan@gmail.com>

Westside Coal. of NAs - Notice of Preliminary Plat application for planned Major Subdivision for Tract 12, Avalon Sub. Unit 5

Ryan Mulhall <cartesianryan@gmail.com> Thu, Oct 21, 2021 at 6:04 PM
To: ekhaley@comcast.net, aboard111@gmail.com

Good afternoon Westside Coalition of Neighborhood Associations representatives,

We intend to submit, on behalf of our client, RS Bluewater LLC, a preliminary plat application to the City of Albuquerque. The application requests review, at a public hearing by the Development Review Board (DRB), of our proposed major subdivision for six proposed lots created from the existing Tract 12 of Avalon Subdivision, Unit 5. The property is a large parcel located on the southeast corner of 98th Street NW and Bluewater Road NW.

Attached is the preliminary plat and proposed site plan of the proposed subdivision, a zone atlas page highlighting the location of the property, and the city-required notice forms to summarize the basic information of our submission. You'll see the lots created are remaining large to accommodate anticipated development as a business park.

No action is necessary on your part, but as the property is nearby to your neighborhood we are required to notify you of our intent to submit for preliminary plat review with the city, and your right to request information as we make our submission to the city to be heard by the DRB.

If you have any questions regarding the planned subdivision please let us know.

Thank you,
Ryan Mulhall
--

CSI - Cartesian Surveys, Inc.

PO Box 44414

Rio Rancho NM 87174

(p)505-896-3050

(f)505-891-0244

www.cartesiansurveys.com

Email: cartesianryan@gmail.com

5 attachments

CABQ-Official_pub_notice_form-PR-2021-005864_Rev.pdf
291K

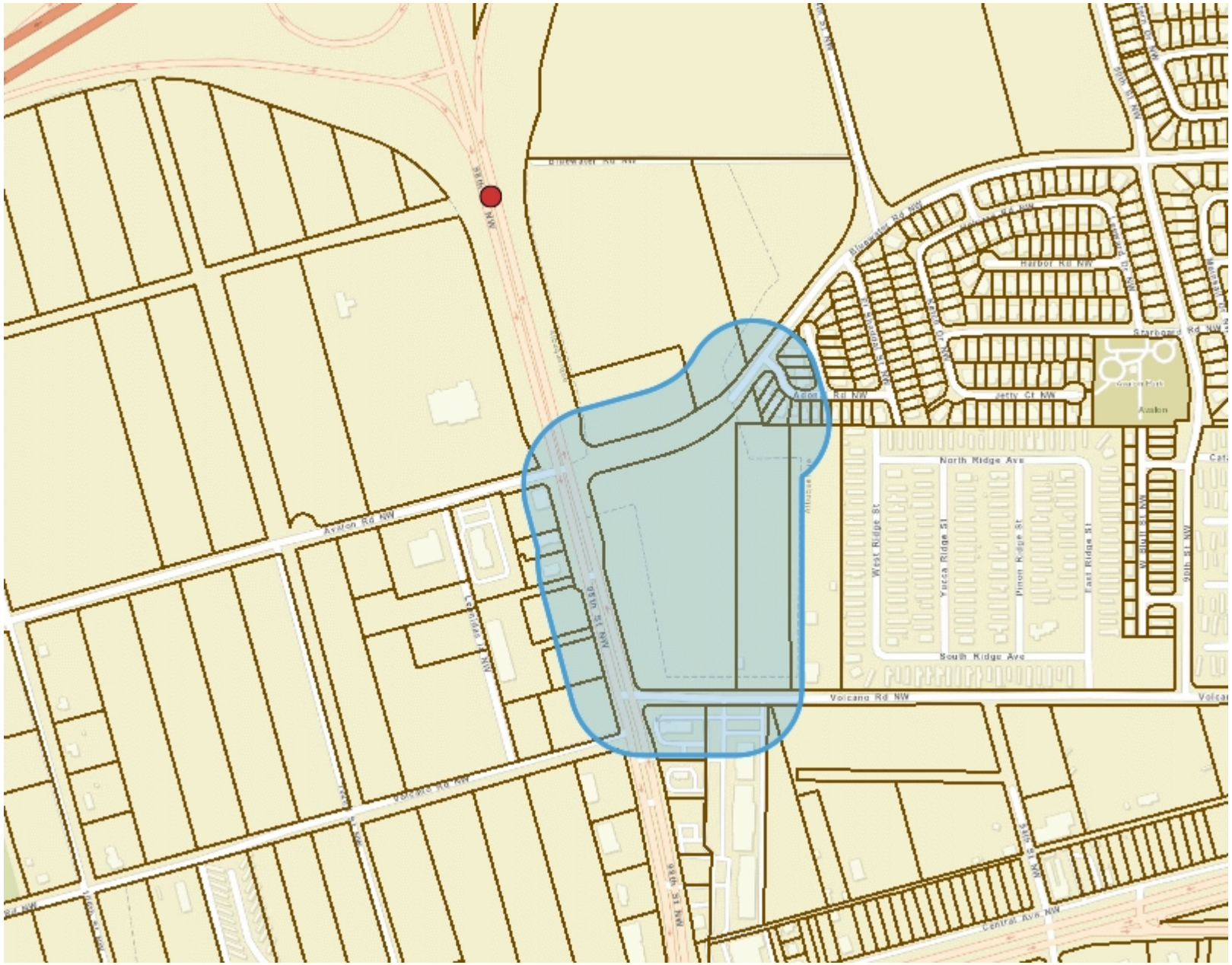
C1-Overall Site Plan.pdf
460K

Westside_Coal_PR-2021-005864_Emailed-Notice-PublicHearing.pdf
202K

IDOZoneAtlasPage_K-09-Z_marked.pdf
490K

Prelim Plat Tr A-F, RS Bluewater Addition Plat (Signed)_10-20-21.pdf
5492K

Bluewater and 98th St



Legend

- Bernalillo County Parcels

Notes

Buffer: 260 Ft.
ROW 98th: 160 Ft.

1,156 0 578 1,156 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
10/18/2021 © City of Albuquerque

1: 6,936

The City of Albuquerque ("City") provides the data on this website as a service to the public. The City makes no warranty, representation, or guaranty as to the content, accuracy, timeliness, or completeness of any of the data provided at this website. Please visit http://www.cabq.gov/abq-data/abq-data-disclaimer-1 for more information.
THIS MAP IS NOT TO BE USED FOR NAVIGATION

CORDOVA CHRISTOPHER S
9604 ADONAI RD NW
ALBUQUERQUE NM 87109

PINA SAMANTHA G
423 ELOHIM CT NW
ALBUQUERQUE NM 87121

NASSER ALKARIM A
415 ELOHIM CT NW
ALBUQUERQUE NM 87121

TRUJILLO IRENE A
9608 ADONAI RD NW
ALBUQUERQUE NM 87121

9521-9525 CENTRAL PROPERTY LLC
11750 HOLLY AVE NE
ALBUQUERQUE NM 87122-1582

DIAMOND SHAMROCK STATIONS INC
PO BOX 690110
SAN ANTONIO TX 78269-0110

HOLGUIN ANAHI
9600 ADONAI RD NW
ALBUQUERQUE NM 87121-2576

ATCITTY THOMAS E II
419 ELOHIM CT NW
ALBUQUERQUE NM 87121

ROMERO ELIAS
9520 ADONAI RD NW
ALBUQUERQUE NM 87121

ALARCON JOSEPH J & LAURA E ORTEGA
427 ELOHIM CT NW
ALBUQUERQUE NM 87121

CHAVEZ JOSEPH & MARY
5805 CORNELL
LUBBOCK TX 79416

HUANOSTA ISMAEL
9612 ADONAI RD NW
ALBUQUERQUE NM 87121

BENAVIDEZ BENJAMIN JR &
BENAVIDEZ BENJAMIN CHARLES III &
BENAVIDEZ GINA D
9701 VOLCANO RD NW
ALBUQUERQUE NM 87121-7618

98TH RETAIL LLC
5600 EUBANK BLVD NE 200
ALBUQUERQUE NM 87111-1518

AVE INC
PO BOX 114
LEWISVILLE TX 75067-0114

98TH & I-40 LAND LLC
6300 RIVERSIDE PLAZA LN NW SUITE 200
ALBUQUERQUE NM 87120-2617

LUJAN JULIAN
PO BOX 12981
ALBUQUERQUE NM 87195-0981

DELGADO JUANA
9620 ADONAI RD NW
ALBUQUERQUE NM 87121

SOLIS JOSEPH & BRENDA M
9624 ADONAI RD NW
ALBUQUERQUE NM 87121

BENAVIDEZ RUDOLFO & BENAVIDEZ TROY
9705 VOLCANO RD NW
ALBUQUERQUE NM 87121

MAJEC LLC C/O BUENO FOODS INC
ATTN: KEN GENCO
PO BOX 3168
CORRALES NM 87048

AZOD LTD
6801 N MESA ST SUITE B200
EL PASO TX 79912-4460

AIGP REALTY LLC
648 RIVIERA DR
BOYNTON BEACH FL 33435-6153

AIGP REALTY LLC
648 RIVIERA DR
BOYNTON BEACH FL 33435-6153

AIGP REALTY LLC
648 RIVIERA DR
BOYNTON BEACH FL 33435-6153

KRANIA LLC
5321 MENAUL BLVD NE
ALBUQUERQUE NM 87110-3113

KRANIA LLC
5321 MENAUL BLVD NE
ALBUQUERQUE NM 87110-3113

CWPS CORP
222 E 5TH ST
TUCSON AZ 85705-8412

MAVERIK INC
185 S STATE ST SUITE 800
SALT LAKE CITY UT 84111-1538

98TH & I-40 LAND LLC
6300 RIVERSIDE PLAZA LN NW SUITE 200
ALBUQUERQUE NM 87120-2617

Christopher S. Cordova
9604 Adonai Rd NW
Albuquerque, NM 87109

Elias Romero
9520 Adonai Rd NW
Albuquerque, NM 87121

Ave Inc.
P.O. Box 114
Lewisville, TX 75067-0114

AIGP Realty LLC
648 Riviera Dr
Boynton Beach, FL 33435-6153

Samantha G. Pina
423 Elohim Ct NW
Albuquerque, NM 87121

Thomas E. Atcitty II
419 Elohim Ct NW
Albuquerque, NM 87121

98th and I-40 Land LLC
6300 Riverside Plaza Ln NW Suite 200
Albuquerque, NM 87120-2617

CSI - Cartesian Surveys Inc.
P.O. Box 44414
Rio Rancho, NM 87174

Alkarim A. Nasser
415 Elohim Ct NW
Albuquerque, NM 87121

Joseph J. Alarcon and Laura E Ortega
427 Elohim Ct NW
Albuquerque, NM 87121

Julian Lujan
P.O. Box 12981
Albuquerque, NM 87195-0981

ania LLC
21 Menaul Blvd NE
buquerque, NM 87110-3113

Irene A. Trujillo
9608 Adonai Rd NW
Albuquerque, NM 87121

Joseph and Mary Chavez
5805 Cornell
Lubbock, TX 79416

Juana Delgado
9620 Adonai Rd NW
Albuquerque, NM 87121

Azod Ltd
6801 N Mesa St Suite B200
El Paso, TX 79912-4460

9521-9525 Central Property LLC
11750 Holly Ave NE
Albuquerque, NM 87122-1582

Ismael Huanosta
9612 Adonai Rd NW
Alb...

Joseph + Brenda M Solis
9624 Adonai Rd NW

CWPS Corp
222 E5th St.
Tucson, AZ 85705-8412

Diamond Shamrock Stations Inc.
P.O. Box 690110
San Antonio, TX 78269-0110

Benavidez Family (Ben Jr., Ben Charles III, Gina D.)
9701 Volcano Rd NW
Albuquerque, NM 87121-7618

Rudolfo and Troy Benavidez
9705 Volcano Rd NW
Albuquerque, NM 87121

Anahi Holguin
9600 Adonai Rd NW
Albuquerque, NM 87121-2576

98th Retail LLC
5600 Eubank Blvd NE 200
Albuquerque, NM 87...

Majec: LLC C/O Bueno Foods Inc Attn: Ken Genco
PO Box 3168
Corrales, NM 87048

Maverik Inc.
185 S. State St. Suite 800
Salt Lake City, UT 84111-1538

[Note: Items with an asterisk (*) are required.]

Public Notice of a Proposed Project in the City of Albuquerque for Decisions Requiring a Meeting or Hearing Mailed to a Property Owner

Date of Notice*: October 22, 2021

This notice of an application for a proposed project is provided as required by Integrated Development Ordinance (IDO) **Subsection 14-16-6-4(K) Public Notice** to:

Property Owner within 100 feet*: _____

Mailing Address*: _____

Project Information Required by IDO Subsection 14-16-6-4(K)(1)(a)

1. Subject Property Address* Southeast corner of 98th Street and Bluewater Road NW

   Location Description Vacant parcel known as Tract 12, Avalon Subdivision, Unit 5
2. Property Owner* Majec, LLC
3. Agent/Applicant* *[if applicable]* CSI - Cartesian Surveys, Inc.
4. Application(s) Type* per IDO Table 6-1-1 *[mark all that apply]*

   ☐ Conditional Use Approval
   ☐ Permit _____ (Carport or Wall/Fence – Major)
   ☐ Site Plan
   ☒ Subdivision Major Preliminary Plat (Minor or Major)
   ☐ Vacation _____ (Easement/Private Way or Public Right-of-way)
   ☐ Variance
   ☐ Waiver
   ☐ Other: _____

   Summary of project/request[1]*:

   Requesting DRB review of a Preliminary Plat for Major Subdivision of an existing tract into six new tracts, granting of easements and additional right-of-way
5. This application will be decided at a public meeting or hearing by*:

   ☐ Zoning Hearing Examiner (ZHE) ☒ Development Review Board (DRB)

   ☐ Landmarks Commission (LC) ☐ Environmental Planning Commission (EPC)

[1] Attach additional information, as needed to explain the project/request.

[Note: Items with an asterisk (*) are required.]

Date/Time*: November 17, 2021 at 9AM MST

Location*[2]: Zoom meeting (hearing info avialble at the URL below)

Agenda/meeting materials: http://www.cabq.gov/planning/boards-commissions

To contact staff, email devhelp@cabq.gov or call the Planning Department at 505-924-3860.

6. Where more information about the project can be found*[3]:
   Please call (505) 896-3050 or email cartesianryan@gmail.com

Project Information Required for Mail/Email Notice by IDO Subsection 6-4(K)(1)(b):

1. Zone Atlas Page(s)*[4] K-09-Z
2. Architectural drawings, elevations of the proposed building(s) or other illustrations of the proposed application, as relevant*: Attached to notice or provided via website noted above
3. The following exceptions to IDO standards have been requested for this project*:

   ☐ Deviation(s) ☐ Variance(s) ☐ Waiver(s)

   Explanation*:

   _____

   _____

   _____

4. A Pre-submittal Neighborhood Meeting was required by Table 6-1-1: ☐ Yes ☒ No

   Summary of the Pre-submittal Neighborhood Meeting, if one occurred:

   _____

   _____

   _____

   _____

   _____

   _____

5. ***For Site Plan Applications only****, attach site plan showing, at a minimum:

   ☐ a. Location of proposed buildings and landscape areas.*

   ☐ b. Access and circulation for vehicles and pedestrians.*

   ☐ c. Maximum height of any proposed structures, with building elevations.*

[2] Physical address or Zoom link

[3] Address (mailing or email), phone number, or website to be provided by the applicant

[4] Available online here: *http://data.cabq.gov/business/zoneatlas/*

- ☐ d. **For residential development***: Maximum number of proposed dwelling units.
- ☐ e. **For non-residential development***:
  - ☐ Total gross floor area of proposed project.
  - ☐ Gross floor area for each proposed use.

Additional Information:

From the IDO Zoning Map[5]:

1. Area of Property *[typically in acres]* 11.0954 acres
2. IDO Zone District NR-BP
3. Overlay Zone(s) *[if applicable]* _____
4. Center or Corridor Area *[if applicable]* _____

Current Land Use(s) *[vacant, if none]* Vacant

_____

NOTE: Pursuant to IDO Subsection 14-16-6-4(L), property owners within 330 feet and Neighborhood Associations within 660 feet may request a post-submittal facilitated meeting. If requested at least 15 calendar days before the public meeting/hearing date noted above, the facilitated meeting will be required. To request a facilitated meeting regarding this project, contact the Planning Department at devhelp@cabq.gov or 505-924-3955.

Useful Links

Integrated Development Ordinance (IDO):
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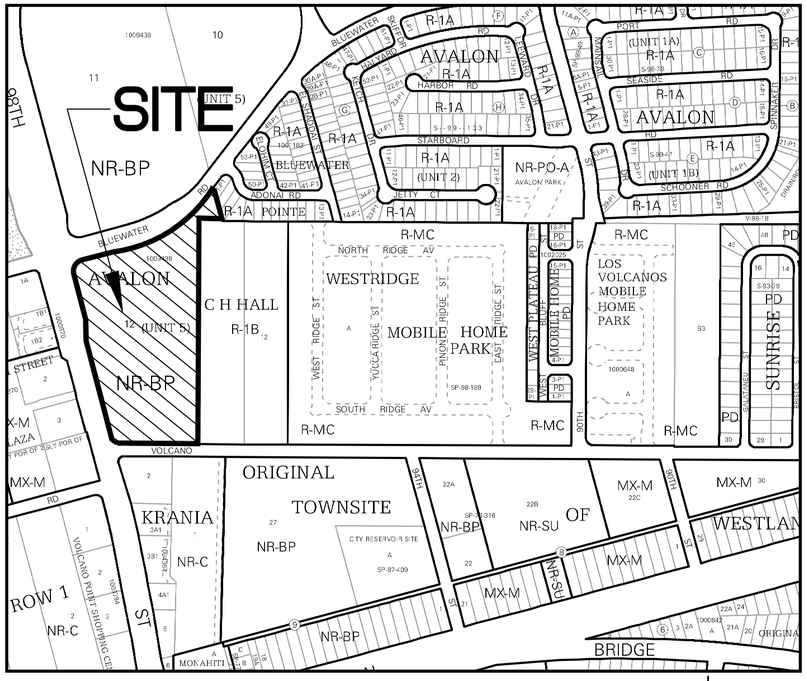
IDO Interactive Map
https://tinyurl.com/IDOzoningmap

[5] Available here: https://tinurl.com/idozoningmap



Vicinity Map - Zone Atlas K-09-Z

N.T.S.

Documents

1. TITLE COMMITMENT PROVIDED BY OLD REPUBLIC NATIONAL TITLE, HAVING FILE NO. 2008521 AND AN EFFECTIVE DATE OF SEPTEMBER 25, 2020.
2. PLAT OF AVALON SUBDIVISION UNIT 5 FILED IN THE BERNALILLO COUNTY CLERK'S OFFICE ON MAY 22, 2014, IN BOOK 2014C, PAGE 46.
3. QUITCLAIM DEED FOR SUBJECT PROPERTY TO MAJEC, LLC, FILED MAY 27, 2014, AS DOCUMENT 2014041461.
4. DEED FOR SUBJECT PROPERTY TO RS BLUEWATER, LLC, FILED _____ _____, 20___, AS DOCUMENT 20_____.

Free Consent and Dedication

THE SUBDIVISION SHOWN AND DESCRIBED HEREON IS WITH THE FREE CONSENT AND IN ACCORDANCE WITH THE DESIRES OF THE UNDERSIGNED OWNER(S) THEREOF AND GRANT ALL EASEMENTS AS SHOWN HEREON. EXISTING AND/OR GRANTED PUBLIC UTILITY EASEMENTS (P.U.E) AS SHOWN HEREON, UNLESS NOTED OTHERWISE, ARE FOR THE COMMON AND JOINT USE OF GAS, ELECTRICAL POWER AND COMMUNICATION SERVICES FOR BURIED AND/OR OVERHEAD DISTRIBUTION LINES, CONDUIT AND PIPES FOR UNDERGROUND UTILITIES. SAID UTILITY COMPANIES HAVE THE RIGHT OF INGRESS/EGRESS FOR CONSTRUCTION OF, MAINTENANCE OF AND REPLACEMENT OF SAID UTILITIES INCLUDING THE RIGHT TO TRIM INTERFERING TREES AND SHRUBS WITHIN SAID P.U.E.. SAID OWNERS CERTIFY THAT THIS SUBDIVISION IS THEIR FREE ACT AND DEED.

SAID OWNERS DO HEREBY DEDICATE ADDITIONAL PUBLIC RIGHT OF WAY AS SHOWN HEREON IN 98TH STREET N.W. AND VOLCANO ROAD N.W. TO THE CITY OF ALBUQUERQUE IN FEE SIMPLE.

Kevin Mattson
Kevin Mattson (Oct 20, 2021 09:28 CDT)

Oct 20, 2021

KEVIN MATTSON, MANAGER — DATE
RS BLUEWATER, LLC A TEXAS LIMITED LIABILITY COMPANY

STATE OF
} SS
COUNTY OF

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON _____, 20__
BY: KEVIN MATTSON, MANAGER, RS BLUEWATER, LLC

By: _____
NOTARY PUBLIC

MY COMMISSION EXPIRES _____

Indexing Information

Section 21, Township 10 North, Range 2 East, N.M.P.M.
as Projected onto the Town of Atrisco Grant
Subdivision: Avalon Subdivision, Unit 5
Owner: RS Bluewater, LLC
UPC #: 100905706518130705

Purpose of Plat

1. SUBDIVIDE AS SHOWN HEREON.
2. GRANT EASEMENTS AS SHOWN HEREON.
3. DEDICATE ADDITIONAL RIGHT-OF-WAY AS SHOWN HEREON.

Subdivision Data

GROSS ACREAGE	11.0954 ACRES
ZONE ATLAS PAGE NO.	K-9-Z
NUMBER OF EXISTING TRACTS	1
NUMBER OF LOTS CREATED	6
MILES OF FULL-WIDTH STREETS	0.0000 MILES
MILES OF HALF-WIDTH STREETS	0.0000 MILES
RIGHT-OF-WAY DEDICATION TO THE CITY OF ALBUQUERQUE	0.3174 ACRES
DATE OF SURVEY	MAY 2021

Notes

1. FIELD SURVEY PERFORMED IN MAY 2021.
2. ALL DISTANCES ARE GROUND DISTANCES: US SURVEY FOOT.
3. THE BASIS OF BEARINGS REFERENCES NEW MEXICO STATE PLANE COORDINATES (NAD 83-CENTRAL ZONE).

Legal Description

TRACT NUMBERED TWELVE (12), PLAT OF TRACTS 1 THROUGH 12, OF AVALON SUBDIVISION UNIT 5, ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT OF SAID SUBDIVISION, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO, ON MAY 22, 2014, IN PLAT BOOK 2014C, FOLIO 46 AS DOCUMENT NO. 2014040949.

Solar Collection Note

NO PROPERTY WITHIN THE AREA OF REQUESTED FINAL ACTION SHALL AT ANY TIME BE SUBJECT TO A DEED RESTRICTION, COVENANT, OR BUILDING AGREEMENT PROHIBITING SOLAR COLLECTORS FROM BEING INSTALLED ON BUILDINGS OR ERECTED ON THE LOTS OR PARCELS WITHIN THE AREA OF PROPOSED PLAT, THE FOREGOING REQUIREMENT SHALL BE A CONDITION TO APPROVAL OF THIS PLAT.

Treasurer's Certificate

THIS IS TO CERTIFY THAT THE TAXES ARE CURRENT AND PAID ON UPC #: 100905706518130705

_____
_____
_____

PROPERTY OWNER OF RECORD

_____

BERNALILLO COUNTY TREASURER'S OFFICE

_____

Preliminary Plat for Tracts A thru F, RS Bluewater Addition

Being Comprised of Tract 12, Avalon Subdivision, Unit 5

City of Albuquerque
Bernalillo County, New Mexico
October 2021

Project Number: PR-2021-005864
Application Number: SD-2021-00

Plat Approvals:

_____
PNM Electric Services

_____
Qwest Corp. d/b/a CenturyLink QC

_____
New Mexico Gas Company

_____
Comcast

City Approvals:

Loren N. Risenhoover P.S. — 10/18/2021
City Surveyor

_____
Traffic Engineer

_____
ABCWUA

_____
Parks and Recreation Department

_____
Code Enforcement

_____
AMAFCA

_____
City Engineer

_____
DRB Chairperson, Planning Department

Surveyor's Certificate

I, WILL PLOTNER JR., A REGISTERED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT THIS PLAT AND DESCRIPTION WERE PREPARED BY ME OR UNDER MY SUPERVISION, SHOWS ALL EASEMENTS AS SHOWN ON THE PLAT OF RECORD OR MADE KNOWN TO ME BY THE OWNERS AND/OR PROPRIETORS OF THE SUBDIVISION SHOWN HEREON, THE UTILITY COMPANIES OR OTHER INTERESTED PARTIES AND MEETS THE MINIMUM REQUIREMENTS FOR MONUMENTATION AND SURVEYS FOR THE CITY OF ALBUQUERQUE AND FURTHER MEETS THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

_____
Will Plotner Jr. — Date
N.M.R.P.S. No. 14271

WILL W. PLOTNER, JR. NEW MEXICO No. 14271 REGISTERED PROFESSIONAL SURVEYOR

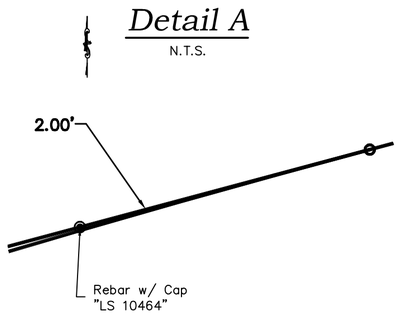
CSI-CARTESIAN SURVEYS INC.
P.O. BOX 44414 RIO RANCHO, N.M. 87174
Phone (505) 896 - 3050 Fax (505) 891 - 0244
wplotnerjr@gmail.com

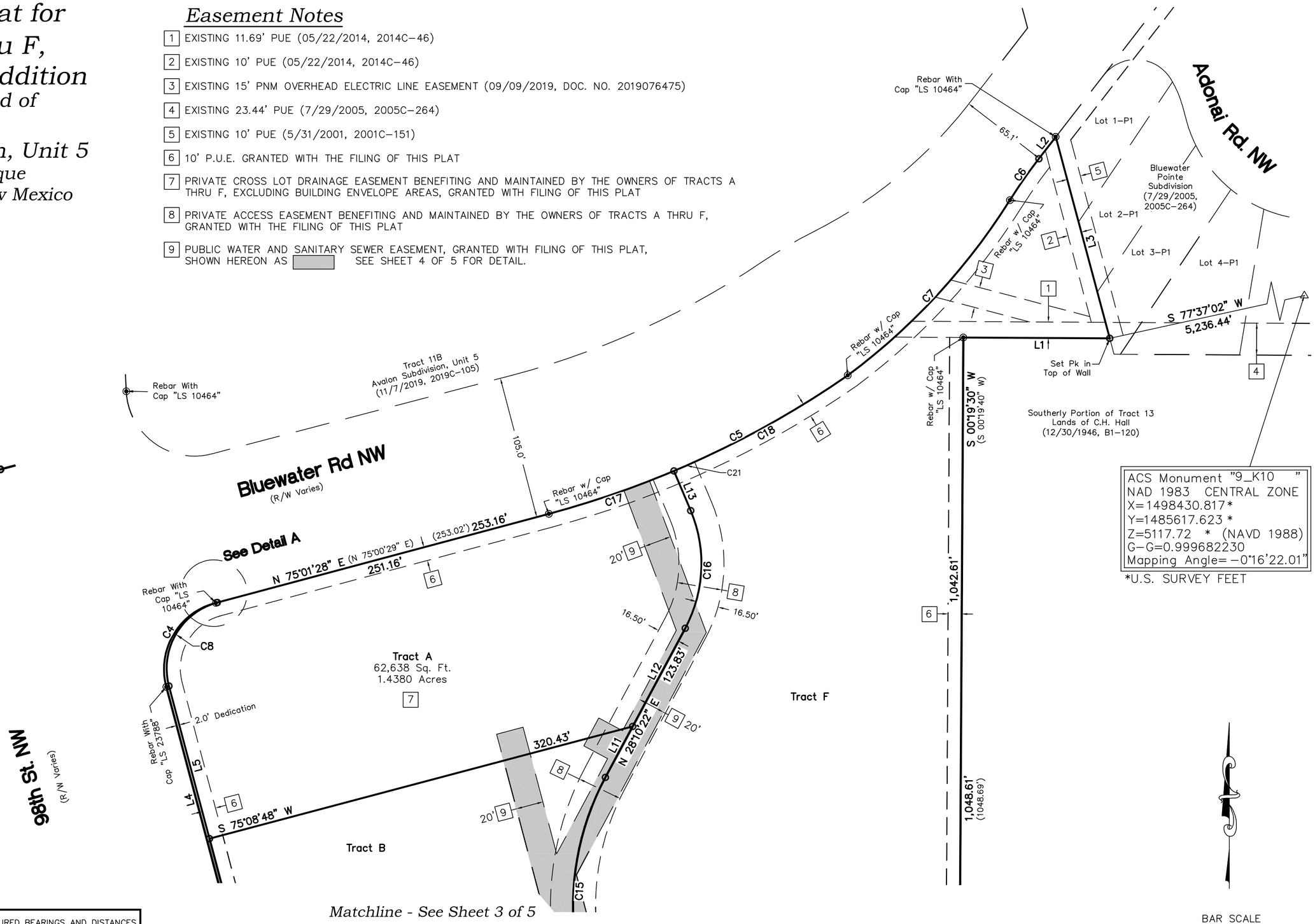
Preliminary Plat for Tracts A thru F, RS Bluewater Addition

Being Comprised of
Tract 12,
Avalon Subdivision, Unit 5
City of Albuquerque
Bernalillo County, New Mexico
October 2021

Easement Notes

1. EXISTING 11.69' PUE (05/22/2014, 2014C-46)
2. EXISTING 10' PUE (05/22/2014, 2014C-46)
3. EXISTING 15' PNM OVERHEAD ELECTRIC LINE EASEMENT (09/09/2019, DOC. NO. 2019076475)
4. EXISTING 23.44' PUE (7/29/2005, 2005C-264)
5. EXISTING 10' PUE (5/31/2001, 2001C-151)
6. 10' P.U.E. GRANTED WITH THE FILING OF THIS PLAT
7. PRIVATE CROSS LOT DRAINAGE EASEMENT BENEFITING AND MAINTAINED BY THE OWNERS OF TRACTS A THRU F, EXCLUDING BUILDING ENVELOPE AREAS, GRANTED WITH FILING OF THIS PLAT
8. PRIVATE ACCESS EASEMENT BENEFITING AND MAINTAINED BY THE OWNERS OF TRACTS A THRU F, GRANTED WITH THE FILING OF THIS PLAT
9. PUBLIC WATER AND SANITARY SEWER EASEMENT, GRANTED WITH FILING OF THIS PLAT, SHOWN HEREON AS [ ] SEE SHEET 4 OF 5 FOR DETAIL.





ACS Monument "9_K10 "
NAD 1983 CENTRAL ZONE
X=1498430.817*
Y=1485617.623 *
Z=5117.72 * (NAVD 1988)
G-G=0.999682230
Mapping Angle= -0°16'22.01"
*U.S. SURVEY FEET

BAR SCALE
0 50' 100'
SCALE: 1" = 50'

Legend

N 90°00'00" E	MEASURED BEARINGS AND DISTANCES
(N 90°00'00" E)	RECORD BEARINGS AND DISTANCES PER PLAT (5/22/2014, 2014C-46)
◉	FOUND REBAR WITH CAP "LS 10464" UNLESS OTHERWISE NOTED
○	SET 1/2" REBAR WITH CAP "LS 18374" UNLESS OTHERWISE NOTED

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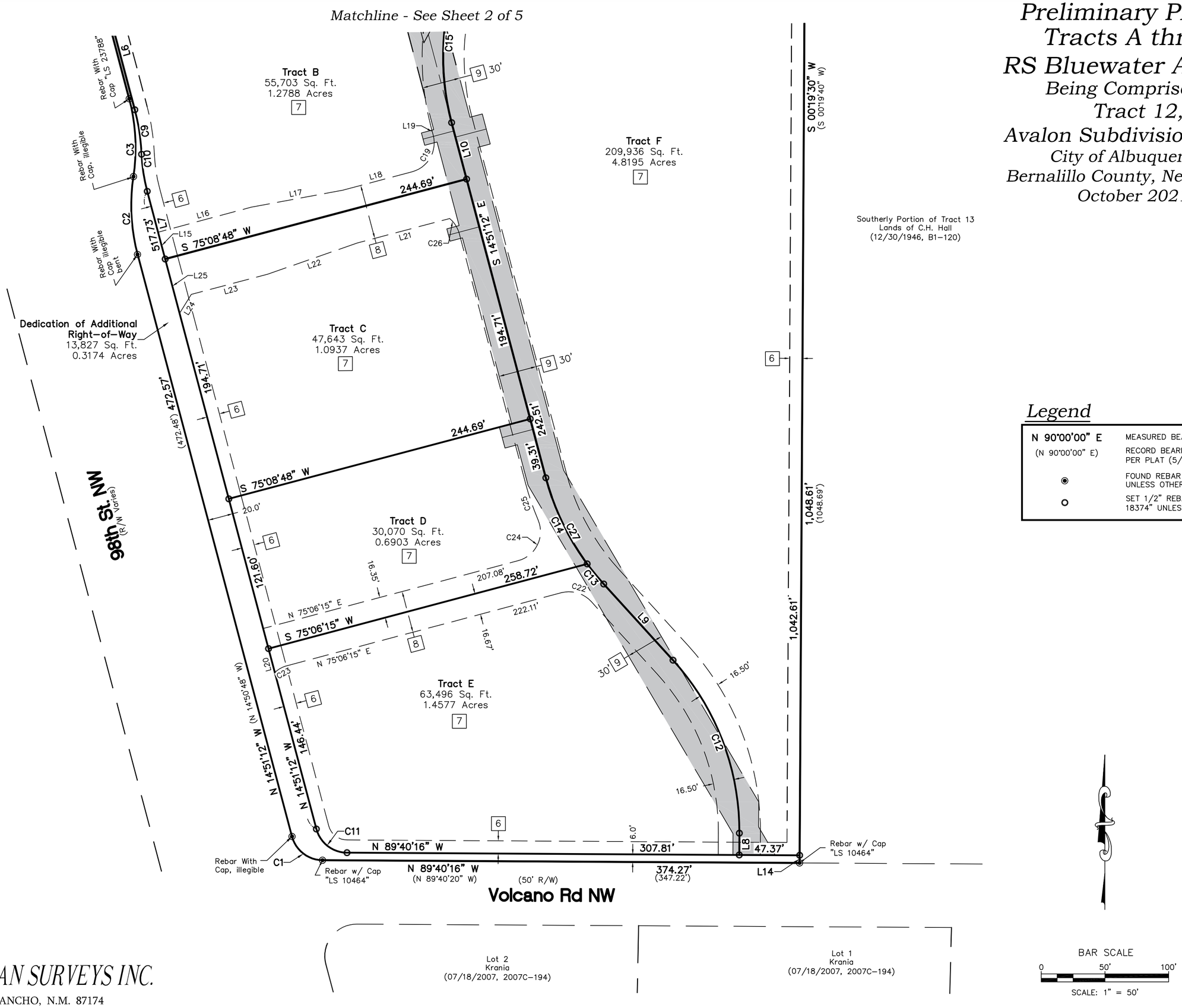

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8. INTENTIONALLY OMITTED ON THIS SHEET
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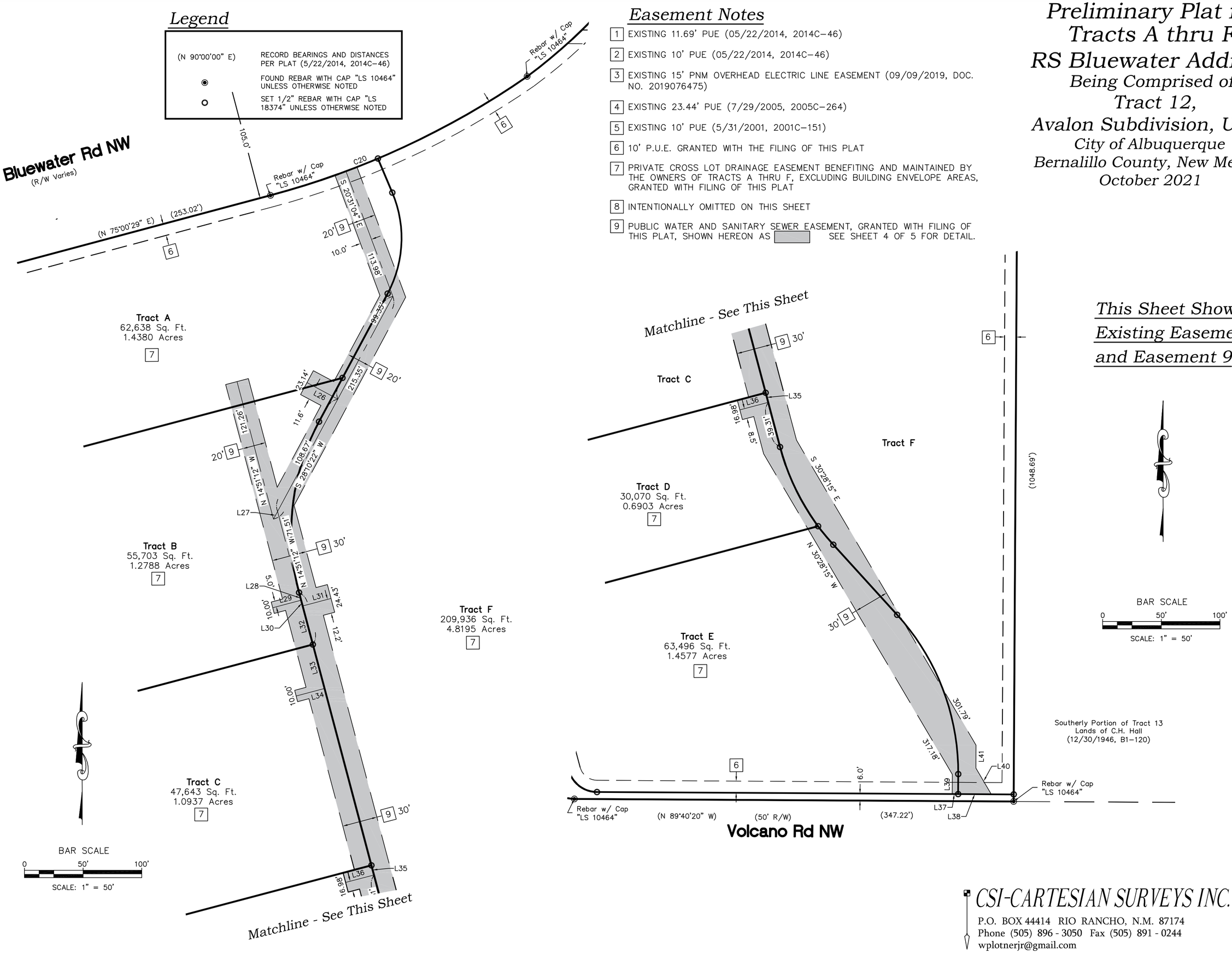
This Sheet Shows Existing Easements, and Easement 9



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Being Comprised of Tract 12, Avalon Subdivision, Unit 5

City of Albuquerque
Bernalillo County, New Mexico
October 2021

Line Table		
Line #	Direction	Length (ft)
L1	N 89°41'17" W (N 89°40'20" W)	107.16' (107.16')
L2	N 37°46'38" E (N 37°47'32" E)	20.21' (20.17')
L3	S 14°59'23" E (S 14°58'20" E)	152.61' (152.60')
L4	N 14°52'32" W (N 14°50'48" W)	199.92' (200.00')
L5	N 14°52'32" W	115.58'
L6	S 14°52'32" E	93.94'
L7	S 14°51'12" E	54.98'
L8	S 00°19'44" W	17.09'
L9	S 42°18'11" E	80.82'
L10	S 14°51'12" E	45.83'
L11	S 28°10'22" W	42.33'
L12	S 28°10'22" W	81.50'
L13	S 22°52'15" E	31.55'
L14	S 00°19'30" W	6.00'
L15	S 14°51'12" E	21.76'
L16	N 74°58'01" E	75.56'
L17	N 79°27'31" E	73.15'
L18	N 75°08'48" E	56.18'
L19	N 14°51'12" W	5.83'
L20	N 14°51'12" W	19.36'

Line Table		
Line #	Direction	Length (ft)
L21	N 75°08'48" E	75.04'
L22	N 70°49'38" E	74.43'
L23	N 75°08'48" E	61.99'
L24	N 31°53'50" E	17.42'
L25	S 14°51'12" E	44.04'
L26	S 61°49'38" E	29.77'
L27	S 28°10'22" W	7.33'
L28	N 14°51'12" W	6.76'
L29	N 75°08'48" E	25.00'
L30	S 14°51'12" E	5.04'
L31	S 75°08'48" W	25.00'
L32	S 14°51'12" E	34.04'
L33	S 14°51'12" E	38.77'
L34	N 75°08'48" E	25.00'
L35	N 14°51'12" W	8.49'
L36	N 75°08'48" E	25.00'
L37	S 89°40'16" E	5.00'
L38	S 89°40'16" E	28.25'
L39	N 00°19'44" E	16.72'
L40	S 30°28'15" E	25.88'

Line Table		
Line #	Direction	Length (ft)
L41	S 00°19'44" W	19.53'

Curve Table					
Curve #	Length	Radius	Delta	Chord Length	Chord Direction
C1	32.65' (32.65')	25.00' (25.00')	74°49'05"	30.38'	N 52°15'44" W
C2	61.62' (61.67')	150.00' (150.00')	23°32'13"	61.19'	N 03°05'05" W
C3	61.68' (61.67')	150.00' (150.00')	23°33'34"	61.24'	N 03°05'45" W
C4	78.45' (78.42')	50.00' (50.00')	89°54'00"	70.65'	N 30°04'28" E
C5	242.19' (242.19')	703.00' (703.00')	19°44'20"	240.99'	N 65°09'18" E
C6	37.10' (37.10')	380.20' (380.20')	5°35'27"	37.09'	N 34°58'39" E
C7	175.75' (175.75')	475.00' (475.00')	21°11'58"	174.75'	N 42°46'55" E
C8	78.45'	50.00'	89°54'00"	70.65'	S 30°04'28" W
C9	35.36'	163.50'	12°23'27"	35.29'	N 08°40'48" W
C10	29.47'	136.50'	12°22'07"	29.41'	S 08°40'08" E
C11	32.65'	25.00'	74°49'05"	30.38'	S 52°15'44" E
C12	148.81'	200.00'	42°37'55"	145.40'	N 20°59'14" W
C13	20.44'	200.00'	5°51'22"	20.43'	S 39°22'30" E
C14	75.38'	200.00'	21°35'37"	74.93'	S 25°39'00" E
C15	150.19'	200.00'	43°01'34"	146.69'	S 06°39'35" W
C16	89.09'	100.00'	51°02'38"	86.17'	N 02°39'04" E
C17	96.87'	703.00'	7°53'43"	96.80'	N 71°04'36" E
C18	145.32'	703.00'	11°50'37"	145.06'	N 61°12'26" E
C19	36.91'	23.50'	90°00'00"	33.23'	N 30°08'48" E
C20	29.31'	576.35'	2°54'50"	29.31'	N 68°28'29" E

Curve Table					
Curve #	Length	Radius	Delta	Chord Length	Chord Direction
C21	16.50'	703.00'	1°20'42"	16.50'	N 66°27'24" E
C22	25.66'	23.50'	62°33'00"	24.40'	N 73°34'41" W
C23	11.71'	21.10'	31°47'07"	11.56'	S 61°39'18" W
C24	40.23'	23.50'	98°05'43"	35.50'	N 26°05'57" E
C25	30.59'	216.50'	8°05'43"	30.56'	S 18°54'03" E
C26	14.38'	23.50'	35°03'45"	14.16'	N 32°23'04" W
C27	95.82'	200.00'	27°27'00"	94.90'	S 28°34'41" E

Public Utility Easements

PUBLIC UTILITY EASEMENTS shown on this plat are granted for the common and joint use of:

A. Public Service Company of New Mexico ("PNM"), a New Mexico corporation, (PNM Electric) for installation, maintenance, and service of overhead and underground electrical lines, transformers, and other equipment and related facilities reasonably necessary to provide electrical services.

B. New Mexico Gas Company for installation, maintenance, and service of natural gas lines, valves and other equipment and facilities reasonably necessary to provide natural gas services.

C. Qwest Corporation d/b/a CenturyLink QC for the installation, maintenance, and service of such lines, cable, and other related equipment and facilities reasonably necessary to provide communication services.

D. Cable TV for the installation, maintenance, and service of such lines, cable, and other related equipment and facilities reasonably necessary to provide Cable services.

Included, is the right to build, rebuild, construct, reconstruct, locate, relocate, change, remove, replace, modify, renew, operate and maintain facilities for purposes described above, together with free access to, from, and over said easements, with the right and privilege of going upon, over and across adjoining lands of Grantor for the purposes set forth herein and with the right to utilize the right of way and easement to extend services to customers of Grantee, including sufficient working area space for electric transformers, with the right and privilege to trim and remove trees, shrubs or bushes which interfere with the purposes set forth herein. No building, sign, pool (aboveground or subsurface), hot tub, concrete or wood pool decking, or other structure shall be erected or constructed on said easements, nor shall any well be drilled or operated thereon. Property owners shall be solely responsible for correcting any violations of National Electrical Safety Code by construction of pools, decking, or any structures adjacent to or near easements shown on this plat.
Easements for electric transformer/switchgears, as installed, shall extend ten (10) feet in front of transformer/switchgear doors and five (5) feet on each side.

Disclaimer
In approving this plat, Public Service Company of New Mexico (PNM) and New Mexico Gas Company (NMGC) did not conduct a Title Search of the properties shown hereon. Consequently, PNM and NMGC do not waive or release any easement or easement rights which may have been granted by prior plat, replat or other document and which are not shown on this plat.

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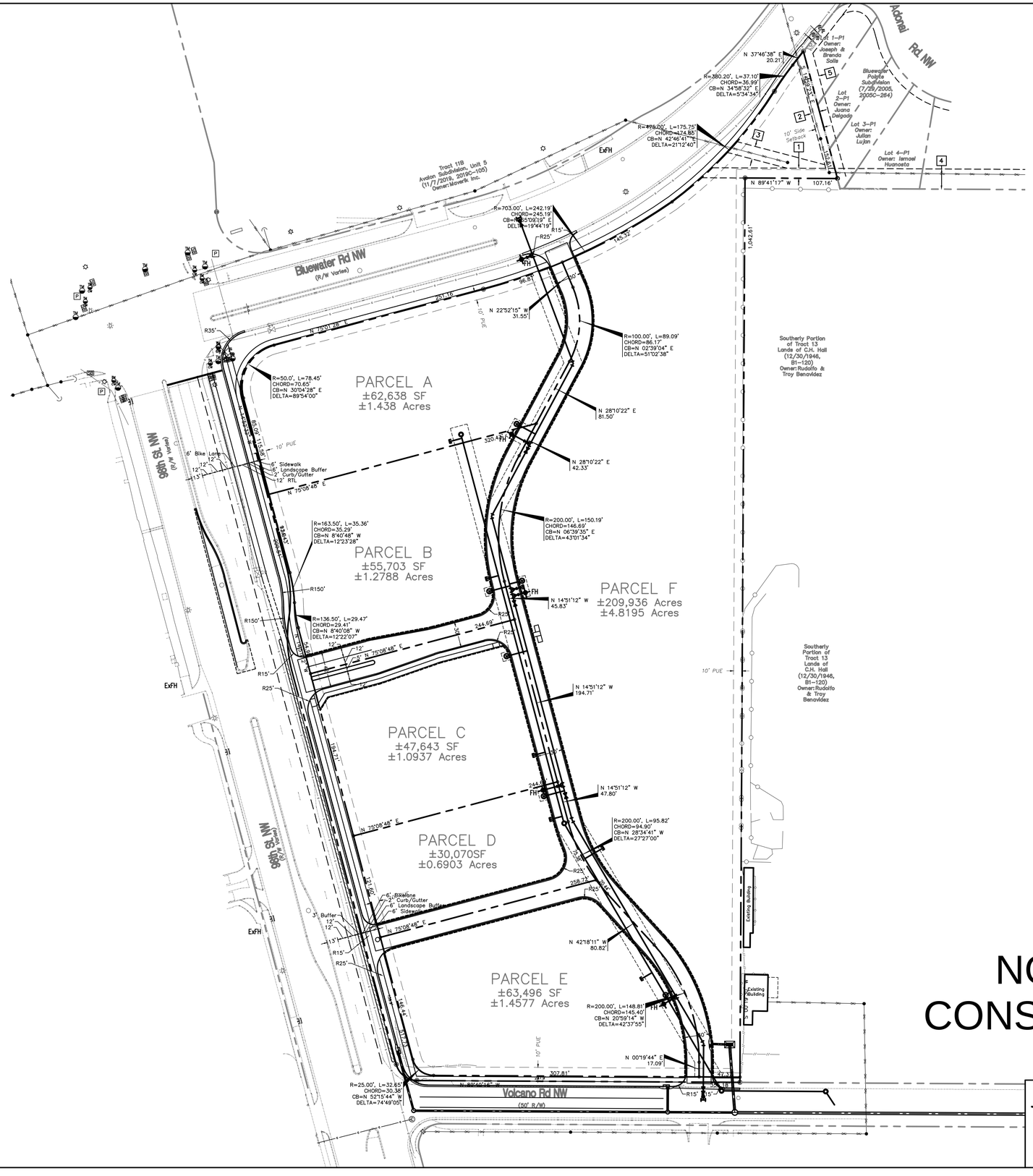

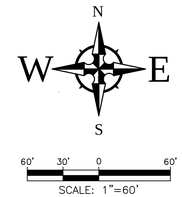

NOTE:
AT ALL PAVEMENT REMOVAL AND REPLACEMENTS, SAW-CUT EDGES SHALL BE STRAIGHT AND CLEAN, AND LONGITUDINAL JOINTS SHALL NOT BE PLACED WITHIN WHEEL PATHS. PATCHES SHALL BE REGULAR AND SQUARE OR RECTANGULAR, WITH FOUR STRAIGHT SIDES. FINISHED PAVEMENT SURFACE SHALL BE FLUSH WITH EXISTING PAVEMENT SURFACE, WITH NO SPILLOVER OF ASPHALT OR TACK COAT. CARE MUST BE TAKEN TO AVOID DAMAGING THE INTEGRITY OR APPEARANCE OF SURROUNDING PAVEMENTS; IF DAMAGED, THE ENTIRE SURFACE PATCH MUST BE EXPANDED TO COVER DAMAGES.

NOT FOR CONSTRUCTION

CAUTION:
ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

AS BUILT INFORMATION
CONTRACTOR
WORK STAKED BY
INSPECTOR BY
ACCEPTANCE BY
FIELD VERIFICATION BY
DRAWINGS CORRECTED BY
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
A.C.S. MONUMENT "7-K9", Type 3
STANDARD A.C.S. BRASS TABLET
NEW MEXICO STATE PLANE COORDINATES
(CENTRAL ZONE-N.A.D. 1983)
N=1,482,904.725
E=1,496,061.706
PUB. EL=5140.082 NAVD 1988
GROUND TO GRID FACTOR=0.999681940
DELTA ALPHA ANGLE = -0°16'38.12"

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL
JEFFREY TODD WOOTEN
NEW MEXICO
16892
PROFESSIONAL ENGINEER
10/20/2021

NO.	DATE	REMARKS	BY

REVISIONS

DESIGN
DESIGNED BY: JTW DATE: October 2021
DRAWN BY: RG DATE: October 2021
DRAWN NAME: JOB NO.: 2021015
CHECKED BY: JTW DATE: October 2021

CITY OF ALBUQUERQUE
PUBLIC WORKS DIVISION
ENGINEERING GROUP

98th / Bluewater Commercial Development

OVERALL SITE PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	MO./DAY/YR.	MO./DAY/YR.

CITY PROJECT NO. ---
ZONE MAP NO. — —
SHEET # 1 of 4

Wooten Engineering
PO Box 15814
Rio Rancho, N.M. 87174
Phone: (505) 980-3560

Site Sketch for Tracts A-F, Avalon Subdivision, Unit 5

Being Comprised of

Tract 12, Avalon Subdivision, Unit 5

City of Albuquerque

Bernalillo County, New Mexico

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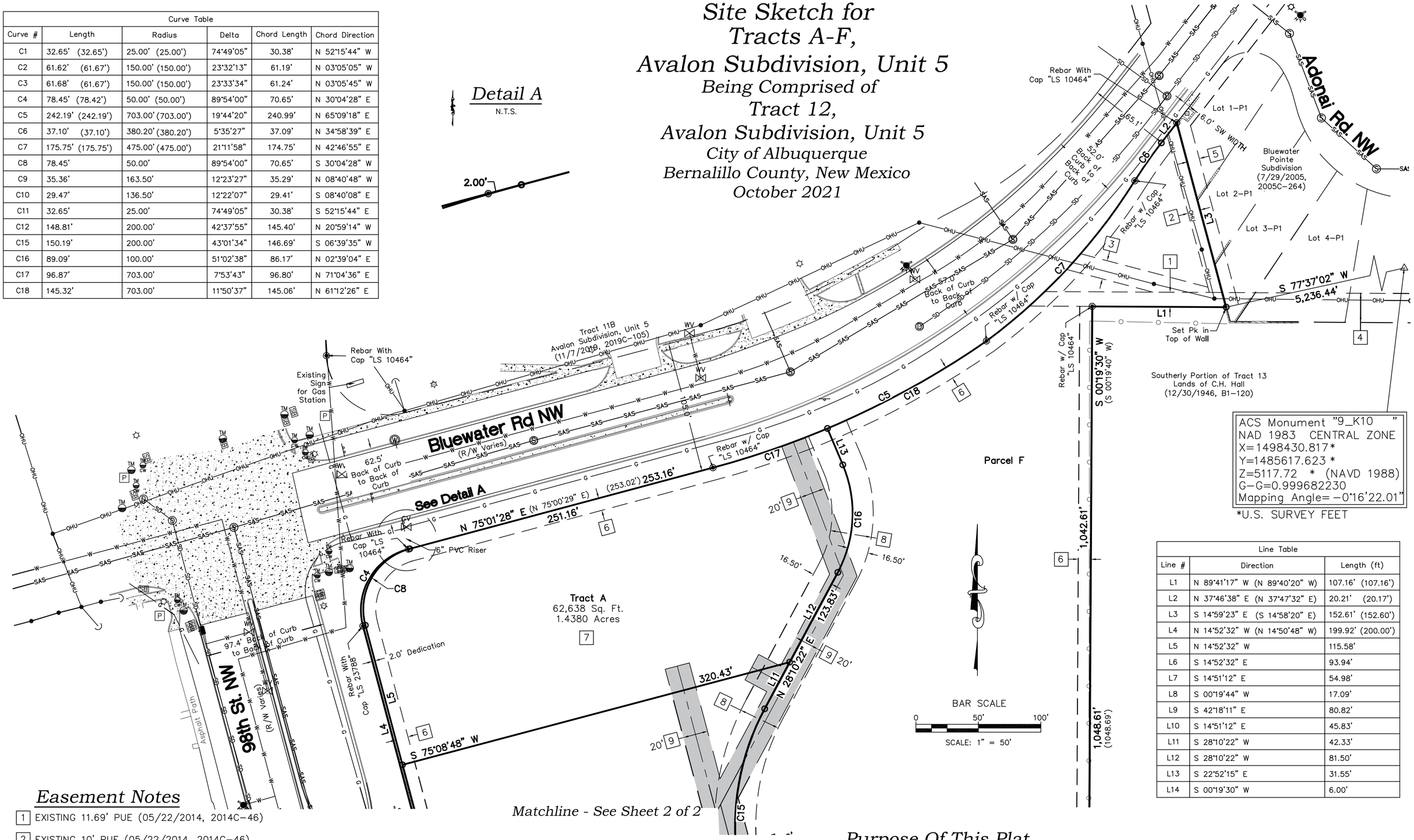

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9. PUBLIC WATER AND SANITARY SEWER EASEMENT, GRANTED WITH FILING OF THIS PLAT, SHOWN HEREON AS

Purpose Of This Plat

TO SUBDIVIDE 1 EXISTING TRACT INTO 6 NEW TRACTS, GRANT EASEMENTS AND DEDICATE RIGHT OF WAY SHOWN AS

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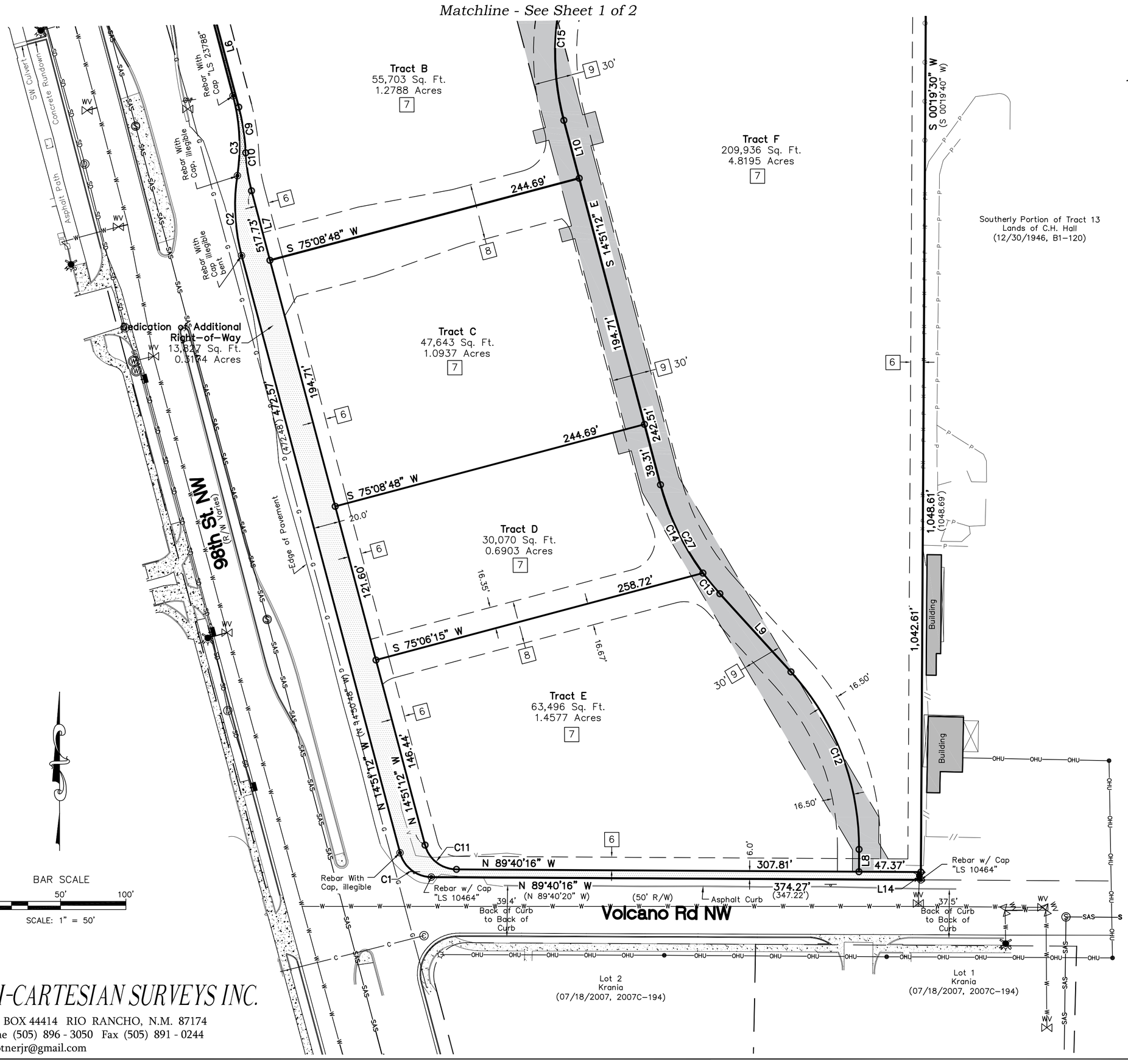

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	FOUND REBAR WITH CAP "LS 10464" UNLESS OTHERWISE NOTED
	SET 1/2" REBAR WITH CAP "LS 18374" UNLESS OTHERWISE NOTED
	COVERED AREA
	CONCRETE
	UTILITY PEDESTAL
	BLOCK WALL
	METAL FENCE
	WIRE FENCE
	WOOD FENCE
	PIPE FENCE
	VINYL FENCE
	CHAINLINK FENCE
	OVERHEAD UTILITY LINE
	UTILITY POLE
	ANCHOR
	PULL BOX
	LIGHT POLE
	TRANSFORMER
	SIGNAL BOX
	TRAFFIC MAST
	CROSSWALK MAST
	CABLE MANHOLE
	WATER VALVE
	WATER METER
	FIRE HYDRANT
	SANITARY SEWER MANHOLE
	STORM DRAIN MANHOLE
	STORM DRAIN INLET
	SIGN
	GAS VALVE
	UNDERGROUND GAS UTILITY LINE
	UNDERGROUND WATER UTILITY LINE
	UNDERGROUND SANITARY SEWER LINE
	UNDERGROUND CABLE UTILITY LINE
	UNDERGROUND STORM DRAIN UTILITY LINE

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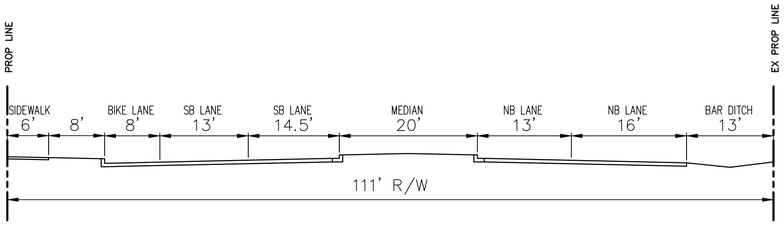
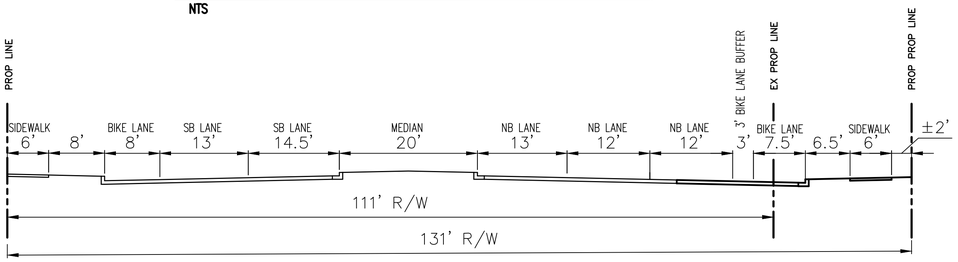


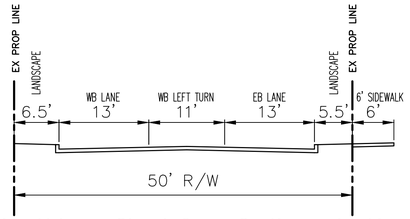
Existing 98th Street Cross Section Looking North

NTS



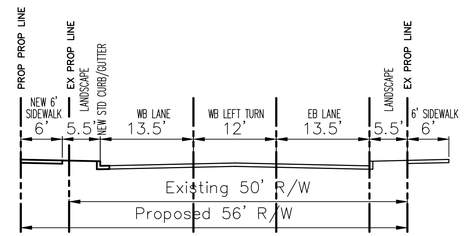
Proposed 98th Street Cross Section Looking North

NTS



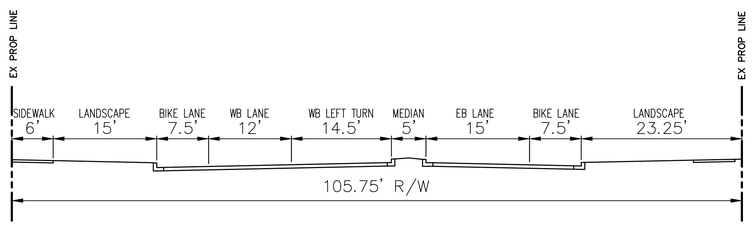
Existing Volcano Street Cross Section – Looking East

NTS



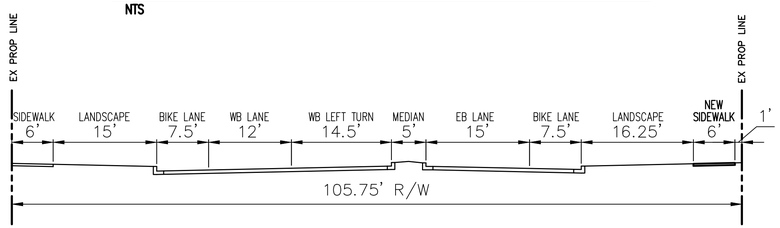
Proposed Volcano Street Cross Section – Looking East

NTS



Existing Bluewater Street Cross Section – Looking East

NTS



Proposed Bluewater Street Cross Section – Looking East

NTS

98TH / BLUEWATER COMMERCIAL CROSS–SECTIONS

Wooten Engineering
PO Box 15814
Rio Rancho, N.M. 87174
Phone: (505) 980-3560

CSI-Cartesian Surveys Inc.
PO Box 44414, Rio Rancho, NM 87174
896-3050 Fax 891-0244

October 22, 2021

Development Review Board
City of Albuquerque

Re: Sensitive Site Analysis for Proposed Preliminary Plat Subdivision of Tract 12 of Avalon Subdivision, Unit 5

Members of the Board:

Cartesian Surveys is acting as an agent for Red Sky Holdings and requests a sketch plat review to create eight (8) new tracts from one (1) existing tract by subdivision of Tract 12 of Avalon Subdivision, Unit 5 at Bluewater Road NW and 98th Street NW. The property is currently zoned as NR-BP, this plat intends to dedicated additional ROW to 98th Street NW and Volcano Road NW and to grant an access and water/sewer utility easement as shown on attached plat.

Floodplains and flood hazard areas: N/A, within Zone X of FEMA classification

Steep Slopes: N/A, relatively level ground

Unstable Soils: N/A

Wetlands: N/A

Arroyos: N/A

Irrigation Facilities: N/A

Escarpment / Rock Outcroppings: N/A

Large Stands of mature trees: N/A

Archeological sites: See attached archeological certificate.

Thank you for your time and consideration.
Ryan J. Mulhall

Current DRC
Project Number:_____

FIGURE 12

Date Submitted: 10/22/2021
Date Site Plan Approved:_____
Date Preliminary Plat Approved:_____
Date Preliminary Plat Expires:_____
DRB Project No.:_____
DRB Application No.:_____

INFRASTRUCTURE LIST

(Rev. 9-20-05)

EXHIBIT "A"

TO SUBDIVISION IMPROVEMENTS AGREEMENT

DEVELOPMENT REVIEW BOARD (D.R.B.) REQUIRED INFRASTRUCTURE LIST

RS BLUEWATER ADDITION, TRACTS A - F

PROPOSED NAME OF PLAT AND/OR SITE DEVELOPMENT PLAN

Avalon Subdivision, Unit 5, Tract 12

EXISTING LEGAL DESCRIPTION PRIOR TO PLATTING ACTION

Following is a summary of PUBLIC/PRIVATE Infrastructure required to be constructed or financially guaranteed for the above development. This Listing is not necessarily a complete listing. During the SIA process and/or in the review of the construction drawings, if the DRC Chair determines that appurtenant items and/or unforeseen items have not been included in the infrastructure listing, the DRC Chair may include those items in the listing and related financial guarantee. Likewise, if the DRC Chair determines that appurtenant or non-essential items can be deleted from the listing, those items may be deleted as well as the related portions of the financial guarantees. All such revisions require approval by the DRC Chair, the User Department and agent/owner. If such approvals are obtained, these revisions to the listing will be incorporated administratively. In addition, any unforeseen items which arise during construction which are necessary to complete the project and which normally are the Subdivider's responsibility will be required as a condition of project acceptance and close out by the City.

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
		12' Wide	3rd Northbound Lane	98th Street	Volcano Rd	Bluewater Rd	/	/	/
		6' Wide	North Bound Bike Lane	98th Street	Volcano Rd	Bluewater Rd	/	/	/
		12' Wide	Northbound Right Turn / Deceleration Lane	SEC 98th / Bluewater			/	/	/
		12' Wide	Southbound Left Turn Lane	98th St - Main Driveway at Existing Median			/	/	/
		6' Wide	Concrete Sidewalks along 98th, Blue-water, and Volcano Frontages				/	/	/
		N /A	ADA Ramps at 98th/Bluewater, 98th/ Volcano Intersections & Project Driveways				/	/	/
		N/A	New Standard Curb/Gutter	Volcano Road	98th St	SE Property Corner	/	/	/
		N/A	Modifications to Ex. 98th/Bluewater Inter-section to accommodate 3rd NB Lane				/	/	/
		6" Dia	Sanitary Sewer Main	Volcano Rd	Existing Manhole in Volcano Rd	Site	/	/	/

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
		6" Dia	Sanitary Sewer Main	Inside Development to Serve all Lots			/	/	/
		8" Dia	Water Main	Inside Development to Serve all Lots	Ex 6" Main in Volcano Rd	Ex 12" Main in Bluewater Rd	/	/	/
		Misc	Storm Drain Pipes and Manholes to serve the Subject Site	Volcano Rd	Ex 48" SD in Volcano Rd	Northeast Corner of 98th/Volcano	/	/	/
		Misc	Internal Shared Roadways and Sidewalks within Access Easements				/	/	/
							/	/	/
							/	/	/
							/	/	/
							/	/	/
							/	/	/
							/	/	/

The items listed below are on the CCIP and approved for Impact Fee credits. Signatures from the Impact Fee Administrator and the City User Department is required prior to DRB approval of this listing. The Items listed below are subject to the standard SIA requirements.

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification: Private Inspector	Private P.E.	City Cnst Engineer
							/	/	/
							/	/	/
							/	/	/

Approval of Creditable Items: _____

Impact Fee Admistrator Signature Date

Approval of Creditable Items: _____

City User Dept. Signature Date

NOTES

If the site is located in a floodplain, then the financial guarantee will not be released until the LOMR is approved by FEMA.

Street lights per City rquirements.

1 _____

2 _____

AGENT / OWNER

JEFFREY T. WOOTEN
NAME (print)

WOOTEN ENGINEERING
Firm

10/22/2021
SIGNATURE - date

DEVELOPMENT REVIEW BOARD MEMBER APPROVALS

DRB CHAIR - date	PARKS & RECREATION - date
TRANSPORTATION DEVELOPMENT - date	AMAFCA - date
UTILITY DEVELOPMENT - date	CODE ENFORCEMENT - date
CITY ENGINEER - date	_____ - date

DESIGN REVIEW COMMITTEE REVISIONS

REVISION	DATE	DRC CHAIR	USER DEPARTMENT	AGENT /OWNER

(rev. 9-20-05)