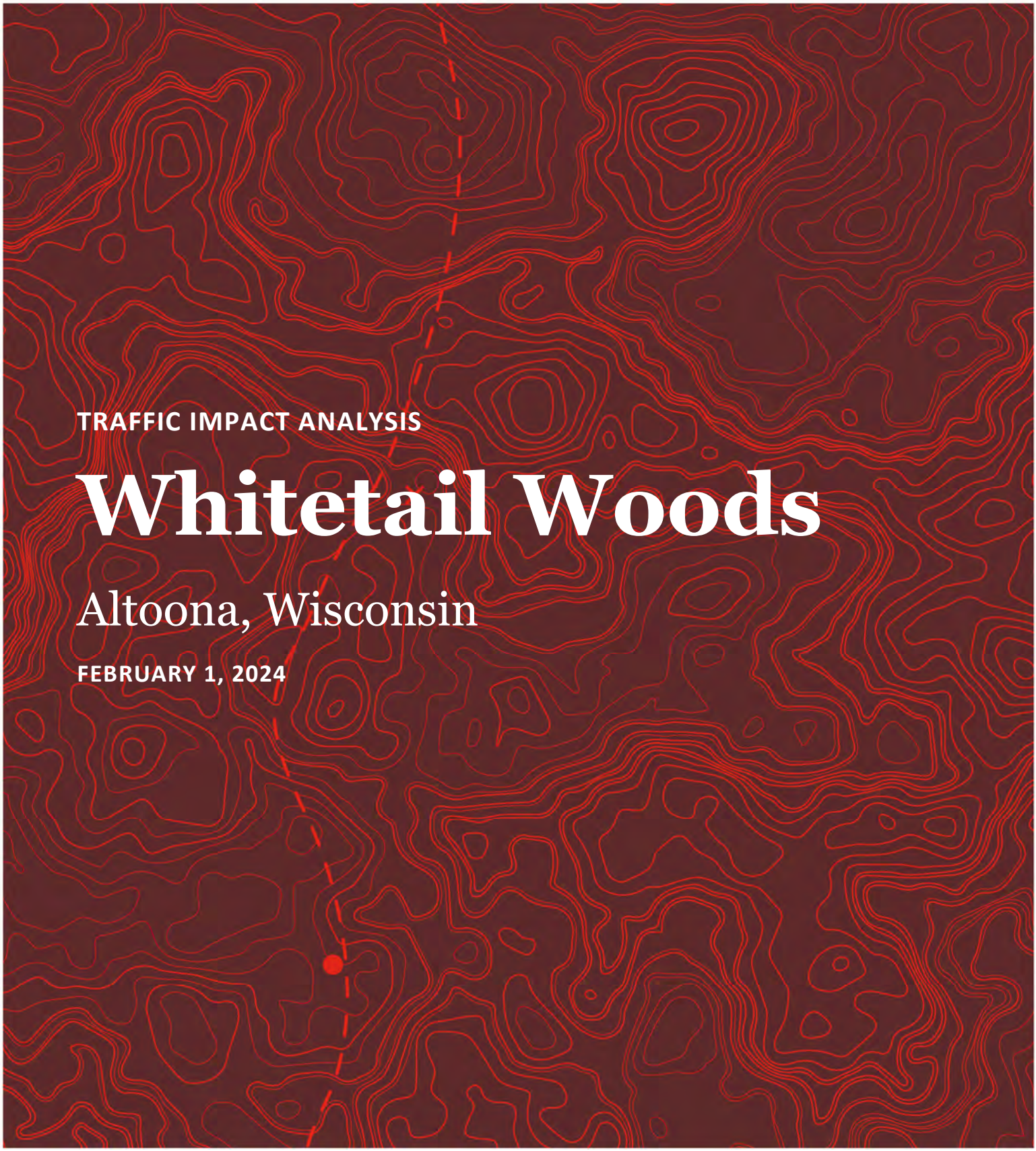

TRAFFIC IMPACT ANALYSIS

Whitetail Woods

Altoona, Wisconsin

FEBRUARY 1, 2024

PREPARED FOR:

Eau Claire County Highway Department

Eau Claire, Wisconsin

PREPARED BY: Westwood

Westwood

Traffic Impact Analysis for

Whitetail Woods

Altoona, Wisconsin

Prepared For:

Eau Claire County Highway Department
5061 US Highway 53
Eau Claire, WI 54701
Phone: (715)-839-2952

Prepared By:

Camie Ferrier, P.E., PTOE
Brandi Swanson
Westwood Professional Services
1 Systems Drive
Appleton, WI 54914
(920) 830-6324

"I certify that this Traffic Impact Analysis has been prepared by me or under my immediate supervision and that I have experience and training in the field of traffic and transportation engineering."

Camie R Ferrier

2/1/2024

Wisconsin Professional Engineering License 39980-006 Exp: 07/31/2024

TIA Certification #: SE15-804-228

Project Number: R3001356.03
Date: 2/1/2024

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Figures

Tables

Appendices

1.0 Executive Summary

Westwood Professional Services, Inc. (Westwood) has been retained by Eau Claire County Highway Department to prepare a Traffic Impact Analysis (TIA) for the Whitetail Woods project. The Whitetail Woods project includes 65 single family house dwelling units, 116 single-family attached dwelling units, and 312 multifamily low-rise dwelling units that are proposed for development on approximately 66 acres located in Altoona, Wisconsin. Full buildout and occupancy of this project is expected to occur in the Year 2026.

This TIA will contain investigations of the potential impacts of the current development plan on the existing and planned roadway infrastructure and develop recommendations for mitigating the identified impacts, if applicable.

This TIA contains the following analyses at the study intersections:

- Trip Generation, Distribution, and Assignment
- Traffic Forecast
- Intersection Level of Service Analysis
- Safety Analysis

These analyses will be performed within the following scenarios:

1. Year 2023 Existing Conditions
2. Year 2026 Background (No-Build) Conditions
3. Year 2026 Project Buildout Conditions without Mitigation

This TIA addresses anticipated future conditions at the following **four (4)** public street intersections:

1. County KB & County SS Bridge - North Intersection (Intersection #1)
2. County KB & County SS Bridge – South Intersection (Intersection #2)
3. County KB & East Shore Drive (Intersection #3)
4. County S & Elco Road (Intersection #4)

This study also addresses sight distances at **two (2)** proposed intersections:

1. County SS/Nine Mile Creek Road & Briarcliffe Drive (Intersection #100)
2. County SS/Nine Mile Creek Road & Trails End Drive (Intersection #200)

The proposed Whitetail Woods project is anticipated to generate a total of 3,901 daily weekday trip ends, including 255 primary AM peak hour trips and 334 primary PM peak hour trips on an average weekday upon full buildout.

All intersections are anticipated to operate with acceptable LOS in the AM and PM peak hours.

The existing geometry is anticipated to have adequate storage for Year 2026 Full Buildout Condition Scenario for the calculated queues.

The proposed intersections of where the proposed Briarcliffe Dr & Trails End Drive meet CTH SS/Nine Mile Creek Rd were analyzed for sight distance. Sight distance for the passenger vehicle and combination truck for the left turn from Briarcliffe Drive may not have enough sight distance to the west due to the existing horizontal curve and trees and should be verified by the design staff. In addition, the sight distance may also be impacted by trees to the east and should also be verified by the design staff. Sight distance for the passenger car and combination truck for the right turn from Briarcliffe Drive may not have enough sight distance to the east due to existing trees and should be verified by the design staff. The left turn from major street scenario has ample sight distance.

The three scenarios for sight distance at the proposed intersection of Trails End Drive and CTH SS/Nine Mile Creek Road appear to have ample sight distance.

2.0 Introduction

Westwood Professional Services, Inc. (Westwood) has been retained by Eau Claire County Highway Department to prepare a Traffic Impact Analysis (TIA) for the Whitetail Woods project. The Whitetail Woods project includes 65 single family house dwelling units, 116 single-family attached dwelling units, and 312 multifamily low-rise dwelling units that are proposed for development on approximately 66 acres located in Altoona, Wisconsin. Full buildout and occupancy of this project is expected to occur in the Year 2026.

This TIA will contain investigations of the potential impacts of the current development plan on the existing and planned roadway infrastructure.

This TIA contains the following analyses at the study intersections:

- Trip Generation, Distribution, and Assignment
- Traffic Forecast
- Intersection Level of Service Analysis
- Safety Analysis

These analyses will be performed within the following scenarios:

1. Year 2023 Existing Conditions
2. Year 2026 Background (No-Build) Conditions
3. Year 2026 Project Buildout Conditions without Mitigation

Project information and dwelling unit count calculations for the Whitetail Woods project is provided in **Appendix F**.

3.0 Existing Conditions

This section of the report details existing conditions in the immediate vicinity of the project site.

3.1 Existing Land Use

The Whitetail Woods project is generally bounded by existing single family residential developments. The project is bounded by County SS (9 Mile Creek Road), E Shore Drive and Red Pine Drive. The location of the Whitetail Woods project is shown in **Figure 1**.

3.2 Regional Access

Primary regional access between Altoona and the proposed Whitetail Woods project is provided to and from U.S. Route 12 (US-12) and U.S. Route 53 (US-53). Site access is provided along arterial street connections such as County KB and County SS to the regional facility.

3.3 Parcel Access

Access to the parcel is through four locations:

1. Two proposed intersections along County SS
    (1) at the proposed extension of Briarcliffe Drive
    (2) at a proposed intersection across from Julius Drive
2. a connection to an existing roadway, Oak Crest Drive.
3. Connection at the existing intersection of Briarcliffe Drive and Red Pine Drive.

3.4 Study Area Intersections

This TIA addresses anticipated future conditions at the following **four (4)** public street intersections:

1. County KB & County SS Bridge - North Intersection (Intersection #1)
2. County KB & County SS Bridge – South Intersection (Intersection #2)
3. County KB & East Shore Drive (Intersection #3)
4. County S & Elco Road (Intersection #4)

This study also addresses sight distances at **two (2)** proposed intersections:

1. County SS/Nine Mile Creek Road & Briarcliffe Drive (Intersection #100)
2. County SS/Nine Mile Creek Road & Trails End Drive (Intersection #200)

The locations of each of these study intersections are depicted in **Figure 1**.

3.5 Existing Lane Configuration and Traffic Control

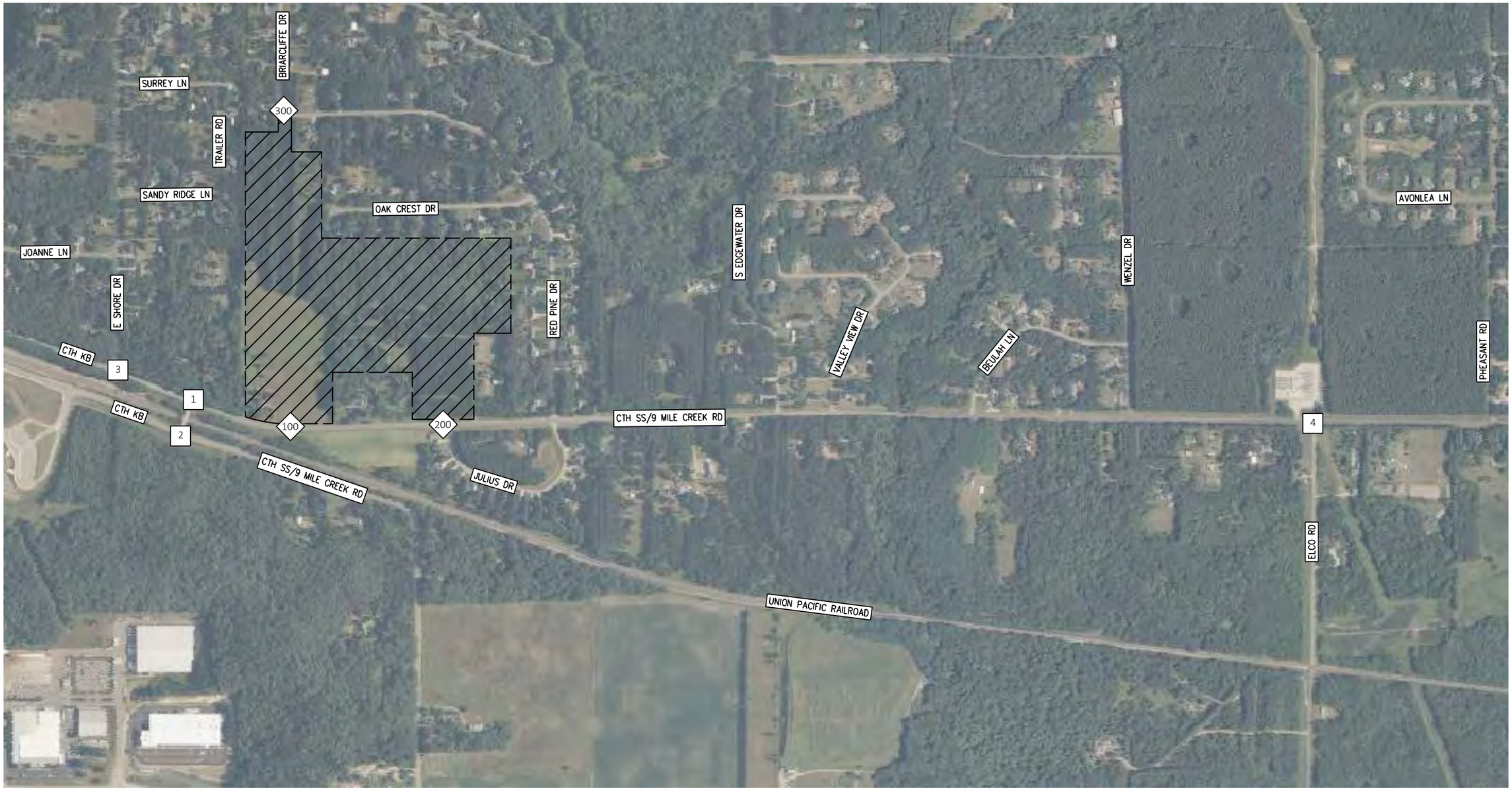
Existing lane configurations and traffic control at the existing study intersections and future access intersections are depicted in **Figure 2**.

3.6 Existing Turning Movements

Existing AM and PM peak hour vehicular turning movement data were collected for the public street intersections identified in **Section 3.4**. The date and location of each count is summarized in **Table 1**. A summary of the peak hour count data at the study intersections is provided in **Figure 3**. The peak hour count data sheets are provided in **Appendix A**.

Table 1 – Peak Hour Turning Movement Count Dates

Intersection	Count Date
County KB & County SS Bridge - North Intersection (Intersection #1)	November 30, 2023
County KB & County SS Bridge – South Intersection (Intersection #2)	
County KB & East Shore Drive (Intersection #3)	
County S & Elco Road (Intersection #4)	



SCALE = 1 IN:750 FT

LEGEND

X	STUDY INTERSECTION IDENTIFIER
XXX	PROJECT DRIVEWAY IDENTIFIER

WHITETAIL WOODS - ALTOONA, WI
STUDY AREA AND INTERSECTION IDENTIFIER

FIGURE 1

Westwood
Phone (952) 937-5150
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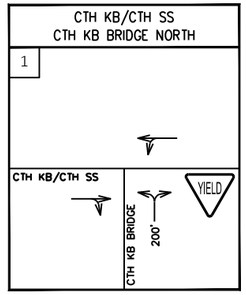
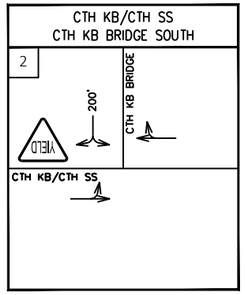
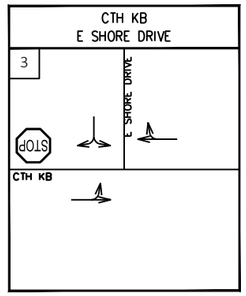
Westwood Professional Services, Inc.
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343

SCALE = 1 IN:500 FT







LEGEND

- X — STUDY INTERSECTION IDENTIFIER
- XXX — PROJECT DRIVEWAY IDENTIFIER
- STOP — STOP CONTROLLED APPROACH
- YIELD — YIELD CONTROLLED APPROACH
- LANE CONFIGURATION
- XXX' — STORAGE LENGTH IF NO DIMENSION, TURN LANE TRANSITIONS FROM A THRU LANE OR IS CONTINUOUS

WHITETAIL WOODS - ALTOONA, WI
YEAR 2023 EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL

FIGURE 2A

Westwood
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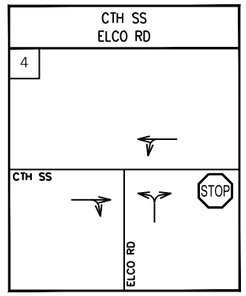
Minnetonka, MN 55343

SCALE = 1 IN:500 FT



LEGEND

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WHITETAIL WOODS - ALTOONA, WI
YEAR 2023 EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL

FIGURE 2B

Westwood
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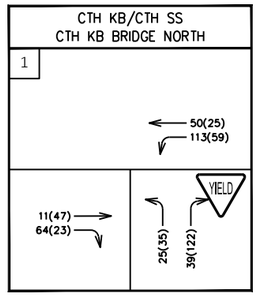
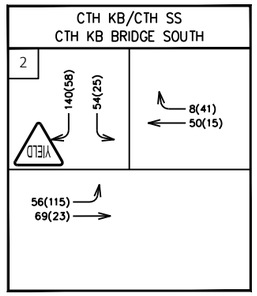
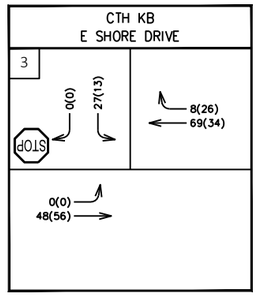
SCALE = 1 IN:500 FT







LEGEND

X	STUDY INTERSECTION IDENTIFIER
XXX	PROJECT DRIVEWAY IDENTIFIER
STOP	STOP CONTROLLED APPROACH
YIELD	YIELD CONTROLLED APPROACH
← xx(xx)	AM(PM) PEAK HOUR TRAFFIC VOLUME

WHITETAIL WOODS - ALTOONA, WI
YEAR 2023 EXISTING AM & PM PEAK HOUR TRAFFIC VOLUMES

FIGURE 3A

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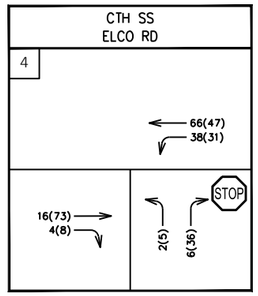
SCALE = 1 IN:500 FT



LEGEND

X	STUDY INTERSECTION IDENTIFIER
XXX	PROJECT DRIVEWAY IDENTIFIER
STOP	STOP CONTROLLED APPROACH
YIELD	YIELD CONTROLLED APPROACH
← xx(xx)	AM(PM) PEAK HOUR TRAFFIC VOLUME

WHITETAIL WOODS - ALTOONA, WI
YEAR 2023 EXISTING AM & PM PEAK HOUR TRAFFIC VOLUMES

FIGURE 3B

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Minnetonka, MN 55343

4.0 Future Conditions

This section of the report describes the anticipated buildout conditions for the Whitetail Woods project in the Year 2026.

4.1 Year 2026 Background Lane Configuration and Traffic Control

Figure 4 illustrates the anticipated lane configuration and traffic control that are expected at the study area intersections in the background scenario during the buildout year of 2026. The background lane configuration and traffic control are expected to remain unchanged from the existing condition.

4.2 Year 2026 Background Traffic Volumes

Future baseline traffic volumes near the project site were generated for the anticipated project buildout year of 2026 to determine the impact of project traffic on the surrounding roadway network.

An average annual growth rate for the study area was calculated using historic Wisconsin Department of Transportation (WisDOT) average annual daily traffic (AADT) data. An annual average growth rate of -3.7 % was obtained from the evaluation of four (4) WisDOT count stations (#180371, #180374, #180361, and #180854). One count station (#180354) showed growth over the two counts which were 10 years apart. This site is north of the railroad similar to the proposed development. A conservative 0.5% growth rate was applied to the 2023 peak hour turning movement counts at each of the study intersections in **Figure 3** to generate traffic volumes for the background year of 2026.

The Year 2026 background traffic volumes are illustrated on **Figure 5**. Detailed calculations, along with information from the WisDOT Traffic Mapping Application, are included in **Appendix B**.

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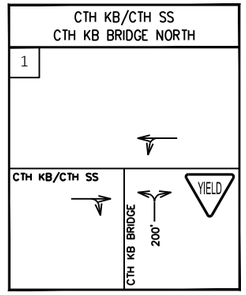

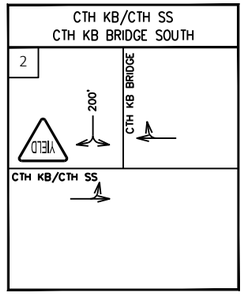

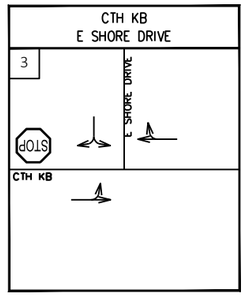

LEGEND

- X — STUDY INTERSECTION IDENTIFIER
- XXX — PROJECT DRIVEWAY IDENTIFIER
- STOP — STOP CONTROLLED APPROACH
- YIELD — YIELD CONTROLLED APPROACH
- LANE CONFIGURATION
- XXX' — STORAGE LENGTH IF NO DIMENSION, TURN LANE TRANSITIONS FROM A THRU LANE OR IS CONTINUOUS

WHITETAIL WOODS - ALTOONA, WI
YEAR 2026 BACKGROUND (NO-BUILD) LANE CONFIGURATION AND TRAFFIC CONTROL

FIGURE 4A

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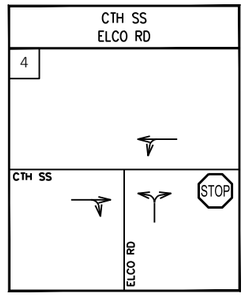
SCALE = 1 IN:500 FT



LEGEND

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- XXX — PROJECT DRIVEWAY IDENTIFIER
- STOP — STOP CONTROLLED APPROACH
- YIELD — YIELD CONTROLLED APPROACH
- LANE CONFIGURATION
- XXX' — STORAGE LENGTH
  IF NO DIMENSION, TURN LANE TRANSITIONS FROM A THRU LANE OR IS CONTINUOUS

WHITETAIL WOODS - ALTOONA, WI
YEAR 2026 BACKGROUND (NO-BUILD) LANE CONFIGURATION AND TRAFFIC CONTROL

FIGURE 4B

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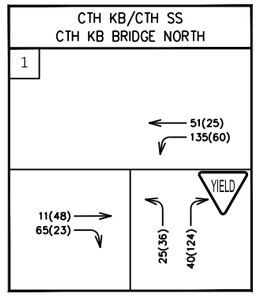
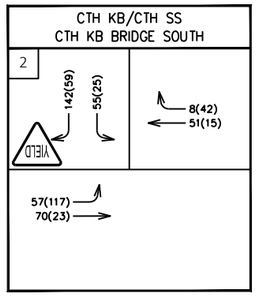
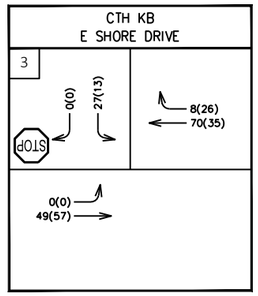
SCALE = 1 IN:500 FT







LEGEND

X	STUDY INTERSECTION IDENTIFIER
XXX	PROJECT DRIVEWAY IDENTIFIER
STOP	STOP CONTROLLED APPROACH
YIELD	YIELD CONTROLLED APPROACH
← xx(xx)	AM(PM) PEAK HOUR TRAFFIC VOLUME

WHITETAIL WOODS - ALTOONA, WI
YEAR 2026 BACKGROUND (NO-BUILD) AM & PM PEAK HOUR TRAFFIC VOLUMES

FIGURE 5A

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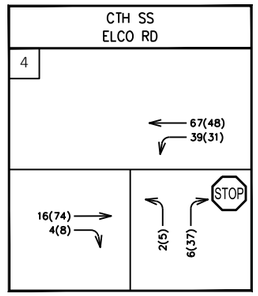
SCALE = 1 IN:500 FT



LEGEND

X	STUDY INTERSECTION IDENTIFIER
XXX	PROJECT DRIVEWAY IDENTIFIER
STOP	STOP CONTROLLED APPROACH
YIELD	YIELD CONTROLLED APPROACH
← xx(xx)	AM(PM) PEAK HOUR TRAFFIC VOLUME

WHITETAIL WOODS - ALTOONA, WI
YEAR 2026 BACKGROUND (NO-BUILD) AM & PM PEAK HOUR TRAFFIC VOLUMES

FIGURE 5B

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12701 Whitewater Drive, Suite 300
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4.3 Project Trip Generation

The 11th Edition of the Institute of Transportation Engineers' (ITE) Trip Generation Manual was used to estimate the number of vehicle trips that could be generated by the project. This manual is a standard reference used by municipalities and public agencies throughout the United States. The trip generation characteristics included in the manual are summarized by general land use type and are based on actual trip generation studies performed at numerous locations in areas of various populations.

Vehicular trip generation for the proposed Whitetail Woods project is based on fitted curve rates for:

- Single-Family Detached Housing (210)
- Single-Family Attached Housing (215)
- Multifamily Housing (Low-Rise) (220)

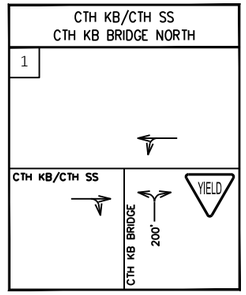
The resulting trip generation is summarized in **Table 2.** Calculations are provided in **Appendix C**.

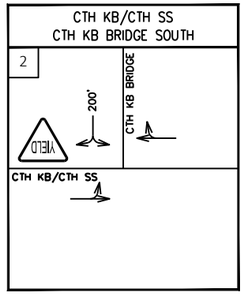
Table 2 – Whitetail Woods Total Vehicular Trip Generation

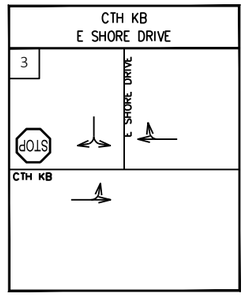
ITE Code	Land Use	Dwelling Units	Daily Trips	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
210	**Single-Family Detached Housing**	64	669	12	37	50	41	24	65
215	**Single-Family Attached Housing**	116	1,157	21	64	85	67	47	114
220	**Multifamily Housing (Low-Rise)**	312	2,075	29	91	120	97	58	155
	Total		**3,901**	**62**	**192**	**255**	**205**	**129**	**334**

Sources: ITE Trip Generation Manual, 11th Edition

SCALE = 1 IN:500 FT







LEGEND

- X — STUDY INTERSECTION IDENTIFIER
- XXX — PROJECT DRIVEWAY IDENTIFIER
- STOP — STOP CONTROLLED APPROACH
- YIELD — YIELD CONTROLLED APPROACH
- LANE CONFIGURATION
- XXX' — STORAGE LENGTH IF NO DIMENSION, TURN LANE TRANSITIONS FROM A THRU LANE OR IS CONTINUOUS

WHITETAIL WOODS - ALTOONA, WI
YEAR 2026 PROJECT BUILDOUT LANE CONFIGURATION AND TRAFFIC CONTROL

FIGURE 6A

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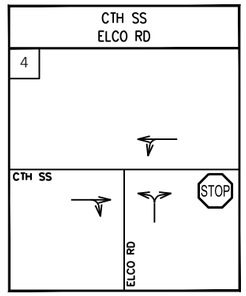
SCALE = 1 IN:500 FT



LEGEND

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- XXX — PROJECT DRIVEWAY IDENTIFIER
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WHITETAIL WOODS - ALTOONA, WI
YEAR 2026 PROJECT BUILDOUT LANE CONFIGURATION AND TRAFFIC CONTROL

FIGURE 6B

Westwood
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Westwood Professional Services, Inc.
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343

4.4 Project Trip Distribution

The directional distribution of project traffic quantifies the percentage of project-generated traffic that arrives and departs the project site in each direction for the proposed development. The project includes uses that generate primary project trips. The primary trip distribution quantifies the percentage of site-generated traffic that generally arrives and departs the project site along the same route. Primary trips are new trips to the street network and project driveways. **Figure 7** illustrates the anticipated primary project trip distribution for the Whitetail Woods project. The primary trip distribution was based on anticipated access restrictions and internal circulation through each project driveway, anticipated trip origins and destinations with the surrounding areas, and engineering judgment. The proposed trip distribution was sent to Eau Claire County and was agreed upon on January 18, 2024 via email.

4.5 Project Trip Assignment

Project traffic assignment was calculated by applying the primary trip distribution percentages found in **Figure 7** to the primary external vehicular project trip generation found in **Table 2**.

A Vistro model was prepared to distribute and assign the external project trips that were expected to be generated from the Whitetail Woods project throughout the study roadway network. The model uses zones to replicate specific areas or land uses within a development plan, links to replicate the roadway network, and gates at the boundary of the model to balance inbound and outbound traffic flows. The resulting traffic assignments at the study intersections for the Whitetail Woods project are illustrated in **Figure 8** for the primary trip assignment. The inbound and outbound trip generation is rounded to the nearest whole number when assigned in Vistro to the distribution percentages. Therefore, the number of trips assigned to the study intersections may differ slightly from the total external trip generation in **Table 2**.

4.6 Full Buildout Condition Traffic Volumes

The combined impact of background traffic and project traffic on the surrounding roadway network was determined by adding the project traffic assignment from **Figure 8** to the Year 2026 background traffic volumes in **Figure 5**. The traffic volumes illustrated in **Figure 9** represent the anticipated traffic conditions in the study area at the time the project is fully constructed and occupied in the Year 2026.

SCALE = 1 IN:500 FT

LEGEND

X	STUDY INTERSECTION IDENTIFIER
XXX	PROJECT DRIVEWAY IDENTIFIER
XX%	TRIP DISTRIBUTION

WHITETAIL WOODS - ALTOONA, WI
PROPOSED TRIP DISTRIBUTION

FIGURE 7A

Westwood
Phone (952) 937-5150
Fax (952) 937-5822
Westwood Professional Services, Inc.
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343

SCALE = 1 IN:500 FT

LEGEND

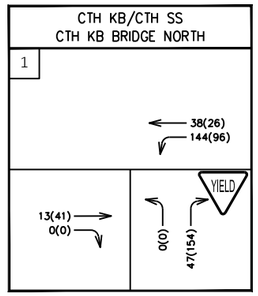
X	STUDY INTERSECTION IDENTIFIER
XXX	PROJECT DRIVEWAY IDENTIFIER
XX%	TRIP DISTRIBUTION

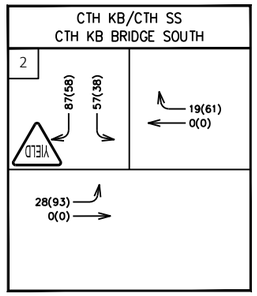
WHITETAIL WOODS - ALTOONA, WI
PROPOSED TRIP DISTRIBUTION

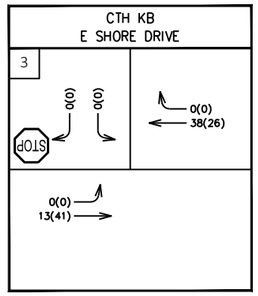
FIGURE 7B

Westwood
Phone (952) 937-5150
Fax (952) 937-5822
Westwood Professional Services, Inc.
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343

SCALE = 1 IN:500 FT







LEGEND

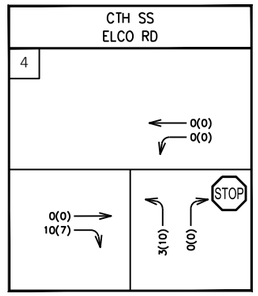
X	STUDY INTERSECTION IDENTIFIER
XXX	PROJECT DRIVEWAY IDENTIFIER
STOP	STOP CONTROLLED APPROACH
YIELD	YIELD CONTROLLED APPROACH
← xx(xx)	AM(PM) PEAK HOUR TRAFFIC VOLUME

WHITETAIL WOODS - ALTOONA, WI
PROPOSED TRIP ASSIGNMENT

FIGURE 8A

Westwood
Phone (952) 937-5150
Fax (952) 937-5822
Westwood Professional Services, Inc.
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343

SCALE = 1 IN:500 FT



LEGEND

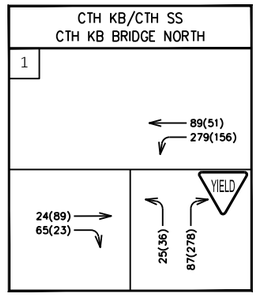
X	STUDY INTERSECTION IDENTIFIER
XXX	PROJECT DRIVEWAY IDENTIFIER
STOP	STOP CONTROLLED APPROACH
YIELD	YIELD CONTROLLED APPROACH
← xx(xx)	AM(PM) PEAK HOUR TRAFFIC VOLUME

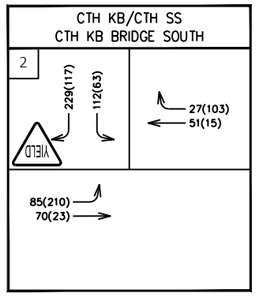
WHITETAIL WOODS - ALTOONA, WI
PROPOSED TRIP ASSIGNMENT

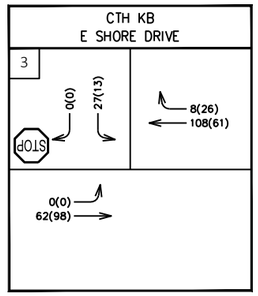
FIGURE 8B

Westwood
Phone (952) 937-5150
Fax (952) 937-5822
Westwood Professional Services, Inc.
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343

SCALE = 1 IN:500 FT







LEGEND

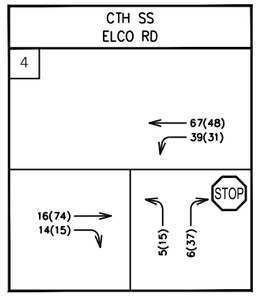
X	STUDY INTERSECTION IDENTIFIER
XXX	PROJECT DRIVEWAY IDENTIFIER
STOP	STOP CONTROLLED APPROACH
YIELD	YIELD CONTROLLED APPROACH
← xx(xx)	AM(PM) PEAK HOUR TRAFFIC VOLUME

WHITETAIL WOODS - ALTOONA, WI
YEAR 2026 TOTAL TRAFFIC VOLUMES

FIGURE 9A

Westwood
Phone (952) 937-5150
Fax (952) 937-5822
Westwood Professional Services, Inc.
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343

SCALE = 1 IN:500 FT



LEGEND

X	STUDY INTERSECTION IDENTIFIER
XXX	PROJECT DRIVEWAY IDENTIFIER
STOP	STOP CONTROLLED APPROACH
YIELD	YIELD CONTROLLED APPROACH
← xx(xx)	AM(PM) PEAK HOUR TRAFFIC VOLUME

WHITETAIL WOODS - ALTOONA, WI
YEAR 2026 TOTAL TRAFFIC VOLUMES

FIGURE 9B

Westwood
Phone (952) 937-5150
Fax (952) 937-5822
Westwood Professional Services, Inc.
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343

5.0 Traffic Capacity Analysis

Analyses were conducted at the study area intersections identified in **Section 3.4** within the following scenarios:

1. Year 2023 Existing Conditions
2. Year 2026 Background (No-Build) Conditions
3. Year 2026 Project Buildout Conditions without Mitigation

The purposes of these analyses are to identify potential capacity constraints in the existing and future study area street network and to quantify the impacts of the Whitetail Woods project.

5.1 Operational Analysis Methodology

The study intersections were analyzed using Synchro Version 11 Traffic Engineering Software. Level of Service (LOS) analyses within Synchro for signalized and stop controlled intersections were calculated and reported using the average total delay analysis methodology as presented in the Transportation Research Board's Highway Capacity Manual (HCM 6th Edition). HCM 6th Edition describes LOS as *"a qualitative stratification of a performance measure or measures that represent quality of service, measured on an A-F scale, with LOS A representing the best operating conditions from the traveler's perspective and LOS F the worst."* **Table 3** summarizes the average total delay criteria for LOS A through F.

Table 3 – Level of Service Criteria

Level of Service	**Signalized Intersection Average Total Delay** (seconds/vehicle)	**Stop Controlled / Roundabout Intersection Average Total Delay** (seconds/vehicle)
A	≤10	10
B	>10 and ≤20	>10 and ≤15
C	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	>80	>50

Highway Capacity Manual (HCM 6th Edition), Transportation Research Board

5.2 Study Intersection Operational Analysis

Level of Service analyses for the study intersections are provided for the Year 2023 Existing Conditions, the Year 2026 Background Conditions, and the anticipated Year 2026 Full Buildout Conditions without Mitigation. The analyses are based on the lane configurations, traffic control and traffic volumes as illustrated in the following:

- Year 2023 Existing Conditions: **Figure 2** and **Figure 3**
- Year 2026 Background (No-Build) Conditions: **Figure 4** and **Figure 5**
- Year 2026 Project Buildout Conditions without Mitigation: **Figure 6** and **Figure 9**

Summary reports from the LOS analyses are provided for all study intersections in **Appendix D**. All intersections were analyzed using the lowest level of traffic control that provided an acceptable intersection LOS. Results of the LOS analyses are summarized in **Table 4**.

All intersections are anticipated to operate with acceptable LOS in the AM and PM peak hours in all three scenarios.

5.3 Queueing Analysis

A queueing analysis at the study intersections was conducted for the following scenarios:

- Year 2022 Existing Conditions: **Figure 2** and **Figure 3**
- Year 2026 Background (No-Build) Conditions: **Figure 4** and **Figure 5**
- Year 2026 Project Buildout Conditions: **Figure 6** and **Figure 9**

The analysis uses the HCM's 6th Edition 95th percentile left and right turn queue lengths reported by Synchro (see **Appendix D**). **Table 4** summarizes the results of the queue length analysis based on the anticipated traffic control required at full buildout of the Whitetail Woods project for the existing roadway geometry.

The length of the bridge from start to end of the centerline pavement marking is 175 FT. The existing geometry is anticipated to have adequate storage for Year 2026 Full Buildout Condition Scenario for the calculated queues.

Table 4 – Peak Hour Intersection Capacity Analysis Results Summary

Level of Service										
Year	Condition	Peak Hour	Bridge North		Bridge South		E Shore		Elco	
			NB	WB	EB	SB	EB	SB	NB	WB
2023	Existing	AM	B	A	A	B	A	A	A	A
		PM	A	A	A	A	A	A	A	A
2026	Background	AM	B	A	A	B	A	A	A	A
		PM	A	A	A	A	A	A	A	A
2026	Full Buildout	AM	B	A	A	B	A	B	A	A
		PM	B	A	A	B	A	A	A	A
Queue (FT)										
Year	Condition	Peak Hour	Bridge North		Bridge South		E Shore		Elco	
			NB	WB	EB	SB	EB	SB	NB	WB
2023	Existing	AM	7.5	7.5	2.5	27.5	0	2.5	0	2.5
		PM	15	2.5	7.5	10	0	2.5	2.5	2.5
2026	Background	AM	7.5	7.5	2.5	27.5	0	2.5	0	2.5
		PM	17.5	2.5	7.5	10	0	2.5	5	2.5
2026	Full Buildout	AM	17.5	17.5	5	72.5	0	5	0	2.5
		PM	47.5	10	15	30	0	2.5	5	2.5

6.0 Safety Analysis

6.1 Intersection Sight Distance

A sight distance review was requested for the proposed intersections of where the proposed Briarcliffe Dr & Trails End Drive meet CTH SS/Nine Mile Creek Rd.

Note that the sight distance measurements and photographs used in this report are based on approximate intersection placement and online street view photos. When designing the intersection, all sight-distances should be verified, and the intersection should be designed accordingly by the design engineer.

The intersections of CTH SS/Nine Mile Creek Rd and the proposed Briarcliffe Drive and Trails End Drive were analyzed for having a stop sign control on the minor road (see **Appendix E**). For intersections with stop control on the minor road, the sight distance was evaluated for the following:

- Left turn from the minor road
- Right turn from the minor road
- Left turn from the major road

6.2 Data Analysis

Sight distance for the proposed intersections was conducted using a design speed of 5 mph above the posted speed limit on CTH SS/Nine Mile Creek Rd, for a design speed of 50 mph.

The proposed intersections of where the proposed Briarcliffe Dr & Trails End Drive meet CTH SS/Nine Mile Creek Rd were analyzed for sight distance. Sight distance for the passenger vehicle and combination truck for the left turn from Briarcliffe Drive may not have enough sight distance to the west due to the existing horizontal curve and trees and should be verified by the design staff. In addition, the sight distance may also be impacted by trees to the east and should also be verified by the design staff. Sight distance for the passenger car and combination truck for the right turn from Briarcliffe Drive may not have enough sight distance to the east due to existing trees and should be verified by the design staff. The left turn from major street scenario has ample sight distance.

The three scenarios for sight distance at the proposed intersection of Trails End Drive and CTH SS/Nine Mile Creek Road appear to have ample sight distance.

Conclusions and Recommendations

All intersections are anticipated to operate with acceptable LOS in the AM and PM peak hours.

The existing geometry is anticipated to have adequate storage for Year 2026 Full Buildout Condition Scenario for the calculated queues.

The proposed intersections of where the proposed Briarcliffe Dr & Trails End Drive meet CTH SS/Nine Mile Creek Rd were analyzed for sight distance. Sight distance for the passenger vehicle and combination truck for the left turn from Briarcliffe Drive may not have enough sight distance to the west due to the existing horizontal curve and trees and should be verified by the design staff. In addition, the sight distance may also be impacted by trees to the east and should also be verified by the design staff. Sight distance for the passenger car and combination truck for the right turn from Briarcliffe Drive may not have enough sight distance to the east due to existing trees and should be verified by the design staff. The left turn from major street scenario has ample sight distance.

The three scenarios for sight distance at the proposed intersection of Trails End Drive and CTH SS/Nine Mile Creek Road appear to have ample sight distance.

APPENDIX A

Existing Peak Hour Traffic Count Data

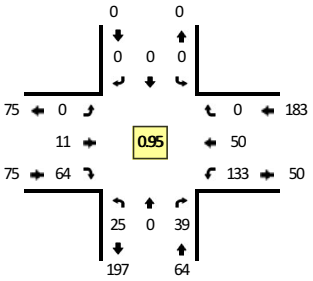
Type of peak hour being reported: Intersection Peak

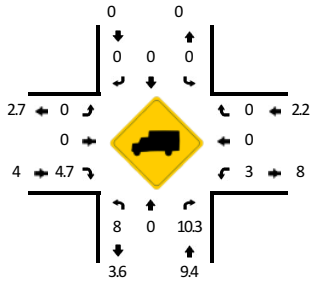
Method for determining peak hour: Total Entering Volume

LOCATION: CTH KB -- CTH SS/9 Mile Creek Rd
CITY/STATE: Altoona, WI

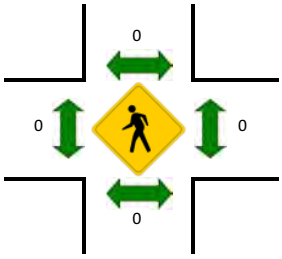
QC JOB #: 16376501
DATE: Thu, Nov 30 2023

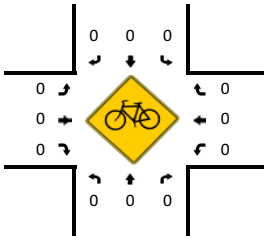
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:15 AM -- 7:30 AM

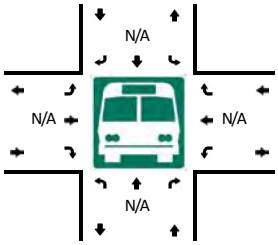


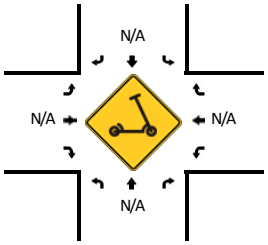


TRUE DATA TO IMPROVE MOBILITY









15-Min Count Period Beginning At	CTH KB (Northbound)				CTH KB (Southbound)				CTH SS/9 Mile Creek Rd (Eastbound)				CTH SS/9 Mile Creek Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	1	0	0	0	0	0	0	0	0	1	2	0	2	11	0	0	17	
6:15 AM	0	0	0	0	0	0	0	0	0	1	5	0	9	7	0	0	22	
6:30 AM	0	0	0	0	0	0	0	0	0	1	6	0	7	17	0	0	31	
6:45 AM	3	0	3	0	0	0	0	0	0	2	3	0	23	19	0	0	53	123
7:00 AM	2	0	8	0	0	0	0	0	0	3	8	0	24	21	0	0	66	172
7:15 AM	9	0	7	0	0	0	0	0	0	4	27	0	29	9	0	0	85	235
7:30 AM	9	0	9	0	0	0	0	0	0	2	17	0	30	16	0	0	83	287
7:45 AM	2	0	6	0	0	0	0	0	0	0	11	0	36	14	0	0	69	303
8:00 AM	5	0	17	0	0	0	0	0	0	5	9	0	38	11	0	0	85	322
8:15 AM	3	0	9	0	0	0	0	0	0	8	2	0	16	5	0	0	43	280
8:30 AM	0	0	5	0	0	0	0	0	0	1	7	0	11	4	0	0	28	225
8:45 AM	1	0	4	0	0	0	0	0	0	4	4	0	15	6	0	0	34	190

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	36	0	28	0	0	0	0	0	0	16	108	0	116	36	0	0	340
Heavy Trucks	4	0	12		0	0	0		0	0	0		8	0	0		24
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	
Peak hour total	25	0	39	0					0	11	64	0	133	50	0	0	

Report generated on 12/6/2023 6:37 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

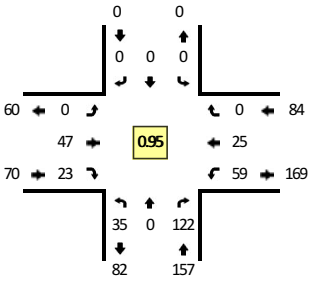
Type of peak hour being reported: Intersection Peak

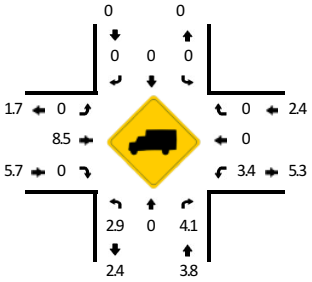
Method for determining peak hour: Total Entering Volume

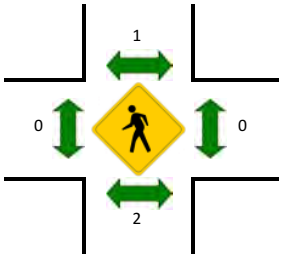
LOCATION: CTH KB -- CTH SS/9 Mile Creek Rd
CITY/STATE: Altoona, WI

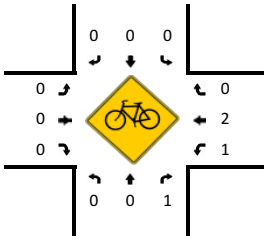
QC JOB #: 16376502
DATE: Thu, Nov 30 2023

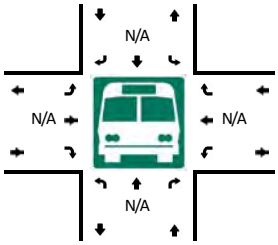
Peak-Hour: 3:30 PM -- 4:30 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

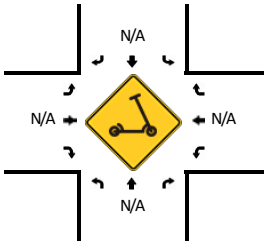












15-Min Count Period Beginning At	CTH KB (Northbound)				CTH KB (Southbound)				CTH SS/9 Mile Creek Rd (Eastbound)				CTH SS/9 Mile Creek Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	7	0	11	0	0	0	0	0	0	12	16	0	18	4	0	0	68	
3:15 PM	10	0	18	0	0	0	0	0	0	8	6	0	16	7	0	0	65	
3:30 PM	6	0	31	0	0	0	0	0	0	7	9	0	13	9	0	0	75	
3:45 PM	8	0	42	0	0	0	0	0	0	14	3	0	8	4	0	0	79	287
4:00 PM	12	0	27	0	0	0	0	0	0	14	5	0	16	8	0	0	82	301
4:15 PM	9	0	22	0	0	0	0	0	0	12	6	0	22	4	0	0	75	311
4:30 PM	9	0	20	0	0	0	0	0	0	10	6	0	22	8	0	0	75	311
4:45 PM	7	0	25	0	0	0	0	0	0	10	10	0	15	4	0	0	71	303
5:00 PM	14	0	23	0	0	0	0	0	0	12	5	0	13	2	0	0	69	290
5:15 PM	7	0	17	0	0	0	0	0	0	4	4	0	16	7	0	0	55	270
5:30 PM	3	0	25	0	0	0	0	0	0	8	6	0	22	6	0	0	70	265
5:45 PM	3	0	16	0	0	0	0	0	0	10	9	0	27	7	0	0	72	266

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	48	0	108	0	0	0	0	0	0	56	20	0	64	32	0	0	328
Heavy Trucks	0	0	0		0	0	0		0	12	0		0	0	0		12
Buses																	
Pedestrians		8				0				0				0			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 12/6/2023 6:37 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

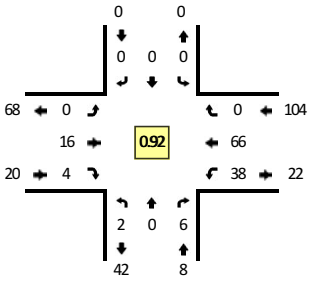
Type of peak hour being reported: Intersection Peak

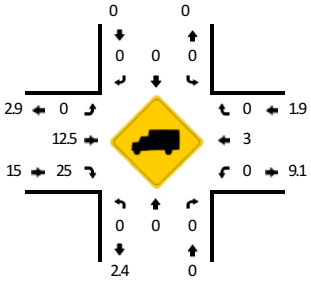
Method for determining peak hour: Total Entering Volume

LOCATION: Elco Rd -- CTH SS/9 Mile Creek Rd
CITY/STATE: Altoona, WI

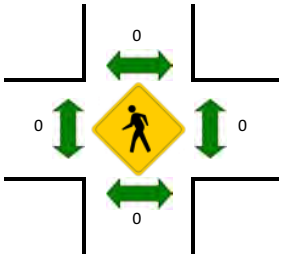
QC JOB #: 16376503
DATE: Thu, Nov 30 2023

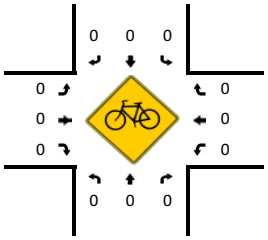
Peak-Hour: 7:00 AM -- 8:00 AM
Peak 15-Min: 7:00 AM -- 7:15 AM

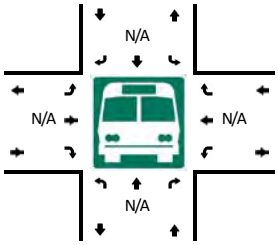


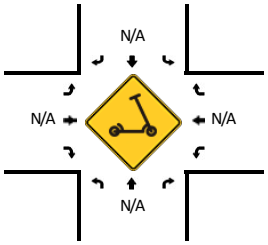


TRUE DATA TO IMPROVE MOBILITY









15-Min Count Period Beginning At	Elco Rd (Northbound)				Elco Rd (Southbound)				CTH SS/9 Mile Creek Rd (Eastbound)				CTH SS/9 Mile Creek Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	4	7	0	0	12	
6:15 AM	0	0	1	0	0	0	0	0	0	1	0	0	4	7	0	0	13	
6:30 AM	0	0	0	0	0	0	0	0	0	3	0	0	9	13	0	0	25	
6:45 AM	0	0	2	0	0	0	0	0	0	2	0	0	6	17	0	0	27	77
7:00 AM	2	0	0	0	0	0	0	0	0	7	0	0	4	23	0	0	36	101
7:15 AM	0	0	0	0	0	0	0	0	0	3	3	0	13	12	0	0	31	119
7:30 AM	0	0	2	0	0	0	0	0	0	5	0	0	12	15	0	0	34	128
7:45 AM	0	0	4	0	0	0	0	0	0	1	1	0	9	16	0	0	31	132
8:00 AM	3	0	0	0	0	0	0	0	0	9	2	0	9	13	0	0	36	132
8:15 AM	0	0	7	0	0	0	0	0	0	10	0	0	4	8	0	0	29	130
8:30 AM	1	0	1	0	0	0	0	0	0	8	1	0	7	6	0	0	24	120
8:45 AM	0	0	1	0	0	0	0	0	0	1	1	0	7	5	0	0	15	104

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	0	0	0	0	0	0	0	0	28	0	0	16	92	0	0	144
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	4	0		8
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 12/6/2023 6:37 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

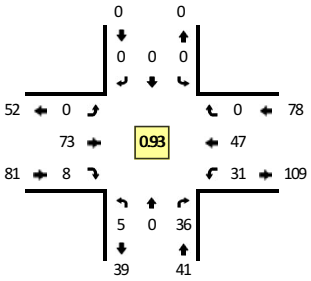
Type of peak hour being reported: Intersection Peak

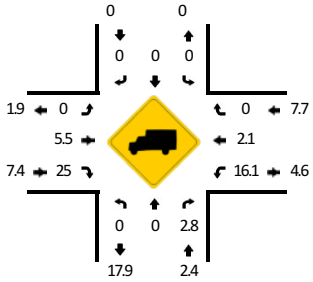
Method for determining peak hour: Total Entering Volume

LOCATION: Elco Rd -- CTH SS/9 Mile Creek Rd
CITY/STATE: Altoona, WI

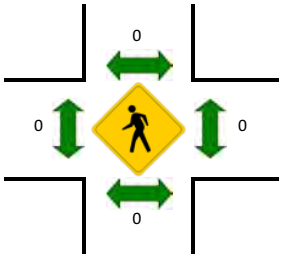
QC JOB #: 16376504
DATE: Thu, Nov 30 2023

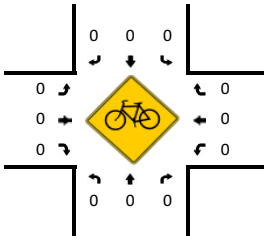
Peak-Hour: 3:45 PM -- 4:45 PM
Peak 15-Min: 3:45 PM -- 4:00 PM

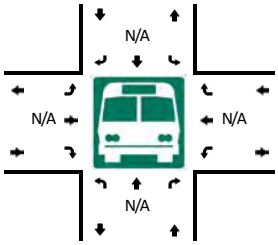


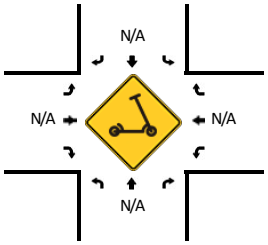


TRUE DATA TO IMPROVE MOBILITY









15-Min Count Period Beginning At	Elco Rd (Northbound)				Elco Rd (Southbound)				CTH SS/9 Mile Creek Rd (Eastbound)				CTH SS/9 Mile Creek Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	2	0	8	0	0	0	0	0	0	12	3	0	6	8	0	0	39	
3:15 PM	0	0	8	0	0	0	0	0	0	8	1	0	3	11	0	0	31	
3:30 PM	2	0	4	0	0	0	0	0	0	16	2	0	4	5	0	0	33	
3:45 PM	1	0	10	0	0	0	0	0	0	26	3	0	6	8	0	0	54	157
4:00 PM	0	0	6	0	0	0	0	0	0	22	1	0	8	12	0	0	49	167
4:15 PM	1	0	10	0	0	0	0	0	0	13	1	0	6	12	0	0	43	179
4:30 PM	3	0	10	0	0	0	0	0	0	12	3	0	11	15	0	0	54	200
4:45 PM	2	0	6	0	0	0	0	0	0	10	0	0	6	6	0	0	30	176
5:00 PM	0	0	12	0	0	0	0	0	0	10	3	0	7	5	0	0	37	164
5:15 PM	0	0	9	0	0	0	0	0	0	6	0	0	4	13	0	0	32	153
5:30 PM	0	0	6	0	0	0	0	0	0	9	0	0	3	11	0	0	29	128
5:45 PM	0	0	3	0	0	0	0	0	0	8	3	0	2	6	0	0	22	120

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	0	40	0	0	0	0	0	0	104	12	0	24	32	0	0	216
Heavy Trucks	0	0	0		0	0	0		0	0	4		0	0	0		4
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 12/6/2023 6:37 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

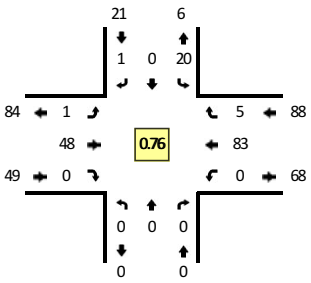
Type of peak hour being reported: Intersection Peak

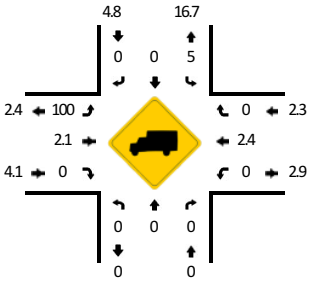
Method for determining peak hour: Total Entering Volume

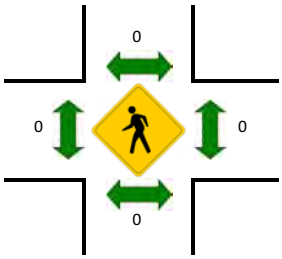
LOCATION: East Shore Dr -- CTH KB
CITY/STATE: Altoona, WI

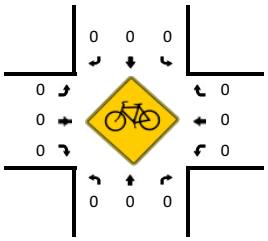
QC JOB #: 16376505
DATE: Thu, Nov 30 2023

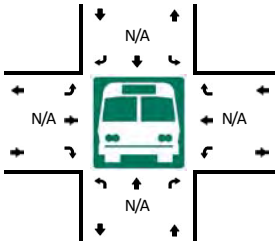
Peak-Hour: 6:45 AM -- 7:45 AM
Peak 15-Min: 7:15 AM -- 7:30 AM

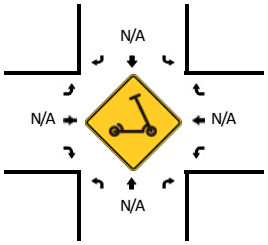












15-Min Count Period Beginning At	East Shore Dr (Northbound)				East Shore Dr (Southbound)				CTH KB (Eastbound)				CTH KB (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	0	0	0	1	0	0	0	0	2	0	0	0	10	0	0	13	
6:15 AM	0	0	0	0	5	0	0	0	0	1	0	0	0	7	0	0	13	
6:30 AM	0	0	0	0	1	0	0	0	0	5	0	0	0	16	0	0	22	
6:45 AM	0	0	0	0	1	0	0	0	0	5	0	0	0	21	1	0	28	76
7:00 AM	0	0	0	0	5	0	1	0	1	6	0	0	0	19	2	0	34	97
7:15 AM	0	0	0	0	9	0	0	0	0	23	0	0	0	18	2	0	52	136
7:30 AM	0	0	0	0	5	0	0	0	0	14	0	0	0	25	0	0	44	158
7:45 AM	0	0	0	0	6	0	0	0	0	6	0	0	0	14	2	0	28	158
8:00 AM	0	0	0	0	7	0	0	0	0	5	0	0	0	12	4	0	28	152
8:15 AM	0	0	0	0	0	0	0	0	0	11	0	0	0	7	1	0	19	119
8:30 AM	0	0	0	0	5	0	1	0	0	3	0	0	0	4	0	0	13	88
8:45 AM	0	0	0	0	1	0	0	0	0	7	0	0	0	7	0	0	15	75

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	36	0	0	0	0	92	0	0	0	72	8	0	208
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	4	0		4
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 12/6/2023 6:37 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

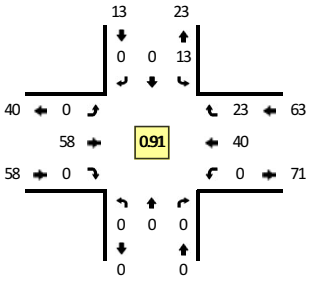
Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

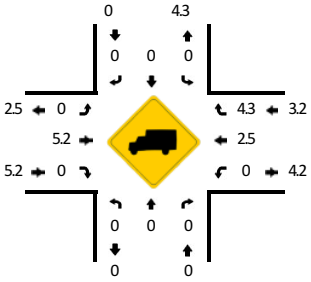
LOCATION: East Shore Dr -- CTH KB
CITY/STATE: Altoona, WI

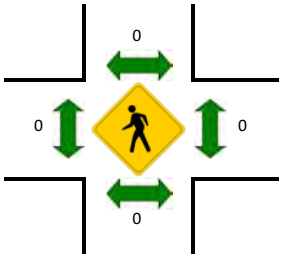
QC JOB #: 16376506
DATE: Thu, Nov 30 2023

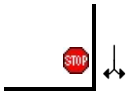
Peak-Hour: 4:00 PM -- 5:00 PM
Peak 15-Min: 4:00 PM -- 4:15 PM

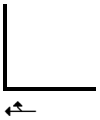


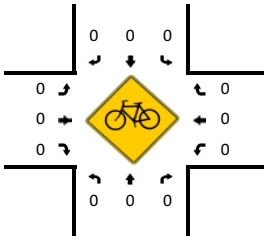
TRUE DATA TO IMPROVE MOBILITY

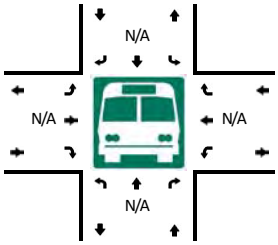


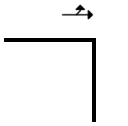


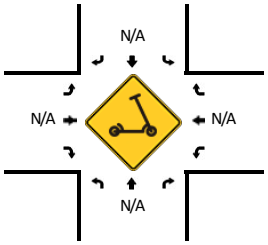












15-Min Count Period Beginning At	East Shore Dr (Northbound)				East Shore Dr (Southbound)				CTH KB (Eastbound)				CTH KB (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	0	0	0	0	6	0	1	0	0	23	0	0	0	6	4	0	40	
3:15 PM	0	0	0	0	3	0	0	0	0	9	0	0	0	12	5	0	29	
3:30 PM	0	0	0	0	3	0	0	0	0	13	0	0	0	11	3	0	30	
3:45 PM	0	0	0	0	4	0	0	0	0	14	0	0	0	4	9	0	31	130
4:00 PM	0	0	0	0	2	0	0	0	0	15	0	0	0	10	10	0	37	127
4:15 PM	0	0	0	0	4	0	0	0	0	14	0	0	0	9	4	0	31	129
4:30 PM	0	0	0	0	3	0	0	0	0	13	0	0	0	12	5	0	33	132
4:45 PM	0	0	0	0	4	0	0	0	0	16	0	0	0	9	4	0	33	134
5:00 PM	0	0	0	0	1	0	0	0	0	15	0	0	0	10	6	0	32	129
5:15 PM	0	0	0	0	3	0	0	0	0	5	0	0	0	11	4	0	23	121
5:30 PM	0	0	0	0	1	0	0	0	0	13	0	0	0	6	2	0	22	110
5:45 PM	0	0	0	0	5	0	1	0	0	14	0	0	0	8	3	0	31	108

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	8	0	0	0	0	60	0	0	0	40	40	0	148
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	0	0		8
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 12/6/2023 6:37 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

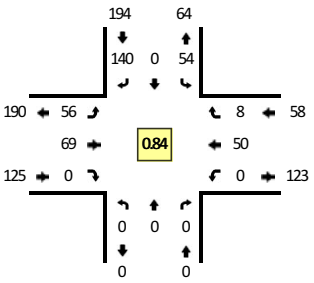
Type of peak hour being reported: Intersection Peak

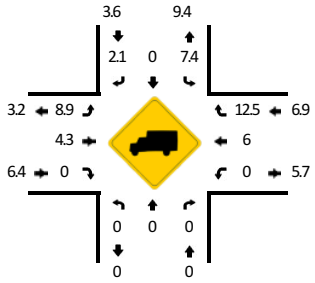
Method for determining peak hour: Total Entering Volume

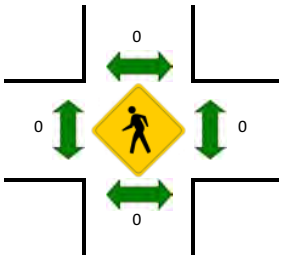
LOCATION: CTH KB -- CTH SS (South)
CITY/STATE: Altoona, WI

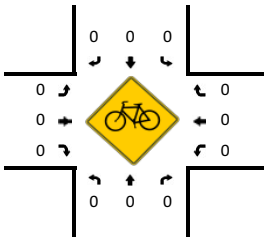
QC JOB #: 16376507
DATE: Thu, Nov 30 2023

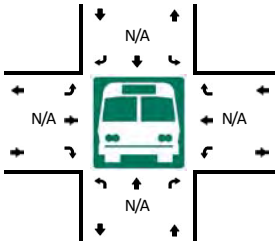
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:15 AM -- 7:30 AM

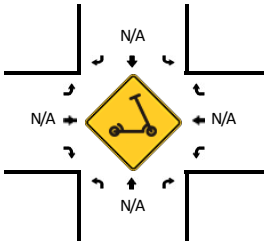












15-Min Count Period Beginning At	CTH KB (Northbound)				CTH KB (Southbound)				CTH SS (South) (Eastbound)				CTH SS (South) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	0	0	0	1	0	3	0	1	0	0	0	0	1	0	0	6	
6:15 AM	0	0	0	0	3	0	11	0	0	1	0	0	0	2	0	0	17	
6:30 AM	0	0	0	0	4	0	9	0	0	2	0	0	0	1	0	0	16	
6:45 AM	0	0	0	0	10	0	16	0	3	2	0	0	0	4	3	0	38	77
7:00 AM	0	0	0	0	10	0	21	0	8	0	0	0	0	9	1	0	49	120
7:15 AM	0	0	0	0	17	0	39	0	15	24	0	0	0	16	1	0	112	215
7:30 AM	0	0	0	0	12	0	34	0	18	24	0	0	0	23	1	0	112	311
7:45 AM	0	0	0	0	17	0	28	0	4	19	0	0	0	6	3	0	77	350
8:00 AM	0	0	0	0	8	0	39	0	19	2	0	0	0	5	3	0	76	377
8:15 AM	0	0	0	0	8	0	10	0	7	4	0	0	0	1	5	0	35	300
8:30 AM	0	0	0	0	7	0	11	0	2	3	0	0	0	2	3	0	28	216
8:45 AM	0	0	0	0	6	0	13	0	2	4	0	0	0	0	3	0	28	167

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	68	0	156	0	60	96	0	0	0	64	4	0	448
Heavy Trucks	0	0	0		0	0	8		16	4	0		0	8	0		36
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 12/6/2023 6:37 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

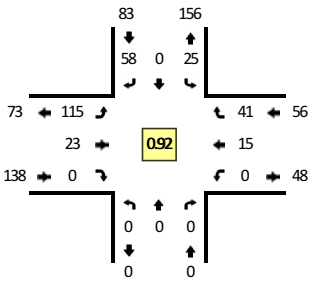
Type of peak hour being reported: Intersection Peak

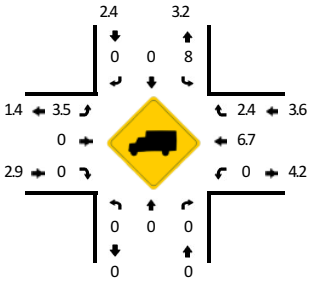
Method for determining peak hour: Total Entering Volume

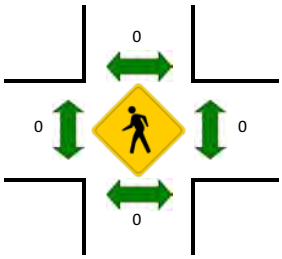
LOCATION: CTH KB -- CTH SS (South)
CITY/STATE: Altoona, WI

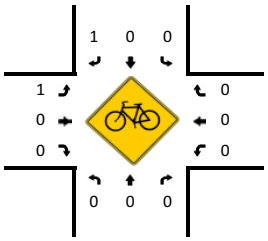
QC JOB #: 16376508
DATE: Thu, Nov 30 2023

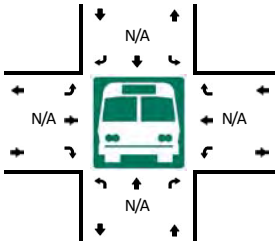
Peak-Hour: 3:30 PM -- 4:30 PM
Peak 15-Min: 3:45 PM -- 4:00 PM

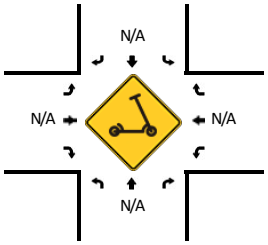












15-Min Count Period Beginning At	CTH KB (Northbound)				CTH KB (Southbound)				CTH SS (South) (Eastbound)				CTH SS (South) (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	0	0	0	0	13	0	21	0	9	7	0	0	0	3	8	0	61	
3:15 PM	0	0	0	0	6	0	16	0	14	5	0	0	0	3	14	0	58	
3:30 PM	0	0	0	0	7	0	15	0	31	5	0	0	0	3	6	0	67	
3:45 PM	0	0	0	0	3	0	8	0	35	8	0	0	0	6	15	0	75	261
4:00 PM	0	0	0	0	6	0	15	0	28	3	0	0	0	2	11	0	65	265
4:15 PM	0	0	0	0	9	0	20	0	21	7	0	0	0	4	9	0	70	277
4:30 PM	0	0	0	0	6	0	21	0	16	4	0	0	0	3	13	0	63	273
4:45 PM	0	0	0	0	8	0	17	0	19	1	0	0	0	3	15	0	63	261
5:00 PM	0	0	0	0	9	0	8	0	17	4	0	0	0	3	17	0	58	254
5:15 PM	0	0	0	0	7	0	13	0	12	1	0	0	0	3	13	0	49	233
5:30 PM	0	0	0	0	9	0	20	0	16	2	0	0	0	1	11	0	59	229
5:45 PM	0	0	0	0	8	0	28	0	12	2	0	0	0	3	7	0	60	226

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	12	0	32	0	140	32	0	0	0	24	60	0	300
Heavy Trucks	0	0	0		0	0	0		12	0	0		0	0	4		16
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 12/6/2023 6:37 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

APPENDIX B

Information from the Wisconsin Department of Transportation (WisDOT) Traffic Mapping Application

Growth Rate Calculations

Whitetail Woods
Historical AADT Volumes
Source: WisDOT Traffic Counts TC Map

1/4/2024
BNS
Comments: TIA Training says use minimum growth rate of 0.0%
Average growth of #2, 4, 5 & 7 is -3.7%
Site 6 has a large growth rate from 2011 - 2021 and may reflect developments north of railroad.
Assume traffic for development area is growing.
Use Growth rate of 0.5%

#1 Site 180256		
CTH KB EAST OF 3RD ST E ALTOONA		
Year	AADT	Difference
2021	2400	

#2 Site 180371		
USH 12 WEST OF CTH AA SOUTH		
Year	AADT	Difference
2014	8600	
2017	8100	-6%
2021	7900	-2%

#3 Site 180366		
CTH A/3RD ST E BTWN GARFIELD & DIVISION ST		
Year	AADT	Difference
2011	3000	
2017	3100	3%

#4 Site 180374		
CTH A/3RD ST SOUTH OF DANIELS AVE		
Year	AADT	Difference
2008	4100	
2011	4500	10%
2014	3600	-20%
2017	3600	0%
2021	3000	-17%

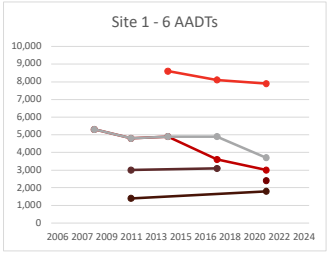
#5 Site 180361		
CTH A SPOONER BTWN 5TH & 7TH STS W		
Year	AADT	Difference
2008	5300	
2011	4800	-9%
2014	4900	2%
2017	4900	0%
2021	3700	-24%

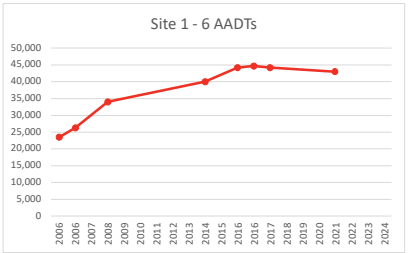
#6 Site 180354		
LAKE RD BTWN OAKLEAF WAY & PARK RD		
Year	AADT	Difference
2011	1400	
2021	1800	29%

#7 Site 180854		
USH 53 BTWN USH 12 & CTH A		
Year	AADT	Difference
2006	23500	
2006	26300	12%
2008	34000	29%
2014	40000	18%
2016	44200	11%
2016	44700	1%
2017	44200	-1%
2021	43000	-3%

Year	AADT						
	#1	#2	#3	#4	#5	#6	#7
2008 - 2011				9.8%	-9.4%		
2011 - 2014			3.3%	-20.0%	2.1%	28.6%	
2014 - 2017		-5.8%		0.0%	0.0%		10.5%
2017 - 2021		-2.5%		-16.7%	-24.5%		-2.7%
Average		-4.1%		-6.7%	-8.0%		3.9%

Year	AADT						
	#1	#2	#3	#4	#5	#6	#7
2006							23,500
2006							26,300
2007							
2008				5,300	5,300		34,000
2009							
2010							
2011			3,000	4,800	4,800	1,400	
2012							
2013							
2014		8,600		4,900	4,900		40,000
2015							
2016							44,200
2016							44,700
2017		8,100	3,100	3,600	4,900		44,200
2018							
2019							
2020							
2021	2,400	7,900		3,000	3,700	1,800	43,000
2022							
2023							
2024							





APPENDIX C

Project Trip Generation

Westwood

TRIP GENERATION CALCULATIONS

Project Name: Whitetail Woods
Calculations by: BNS Date: January 03, 2024 Project #: 3001356.03

ITE *Trip Generation - 11th Edition*

Equation Type:	Fitted Curve
Land Use Code:	210
Variable (X):	Dwelling units

Single-Family Detached Housing

Number of (X):	**64**

T = Average Vehicle Trip Ends

AM Peak Hour

One hour between 7AM to 9AM (Adjacent Street)

Ln(T)= 0.91Ln(X)+0.12 Trip Ends Per Dwelling units
T= **50** Trip Ends

Directional Distribution:

25%	Entering	75%	Exiting
12	Entering*	**37**	Exiting*

**Rounding may occur in calculations*

PM Peak Hour

One hour between 4PM to 6PM (Adjacent Street)

Ln(T)= 0.94Ln(X)+0.27 Trip Ends Per Dwelling units
T= **65** Trip Ends

Directional Distribution:

63%	Entering	37%	Exiting
41	Entering*	**24**	Exiting*

**Rounding may occur in calculations*

Weekday

Daily Weekday

Ln(T)= 0.92Ln(X)+2.68 Trip Ends Per Dwelling units
T= **669** Trip Ends

Directional Distribution:

50%	Entering	50%	Exiting
335	Entering*	**335**	Exiting*

**Rounding may occur in calculations*

Pass-By Reduction

Non Pass-By Trip End Percentage	
AM	100%
PM	100%

Pass-By Trip End Percentage	
AM	0%
PM	0%

Non Pass-By Trip Ends:

AM	12	Entering	37	Exiting
PM	41	Entering	24	Exiting

**Rounding may occur in calculations*

Pass-By Trip Ends:

AM	0	Entering	0	Exiting
PM	0	Entering	0	Exiting

**Rounding may occur in calculations*

Westwood

TRIP GENERATION CALCULATIONS

Project Name: Whitetail Woods
Calculations by: BNS Date: January 03, 2024 Project #: 3001356.03

ITE *Trip Generation - 11th Edition*

Equation Type:	Fitted Curve
Land Use Code:	215
Variable (X):	Dwelling units

Single-Family Attached Housing

Number of (X):	**116**

T = Average Vehicle Trip Ends

AM Peak Hour

One hour between 7AM to 9AM (Adjacent Street)

Ln(T)= 0.91Ln(X)+0.12 Trip Ends Per Dwelling units
T= **85** Trip Ends

Directional Distribution:

25%	Entering	75%	Exiting
21	Entering*	**64**	Exiting*

**Rounding may occur in calculations*

PM Peak Hour

One hour between 4PM to 6PM (Adjacent Street)

Ln(T)= 0.94Ln(X)+0.27 Trip Ends Per Dwelling units
T= **114** Trip Ends

Directional Distribution:

59%	Entering	41%	Exiting
67	Entering*	**47**	Exiting*

**Rounding may occur in calculations*

Weekday

Daily Weekday

Ln(T)= 0.92Ln(X)+2.68 Trip Ends Per Dwelling units
T= **1,157** Trip Ends

Directional Distribution:

50%	Entering	50%	Exiting
578	Entering*	**578**	Exiting*

**Rounding may occur in calculations*

Pass-By Reduction

Non Pass-By Trip End Percentage	
AM	100%
PM	100%

Pass-By Trip End Percentage	
AM	0%
PM	0%

Non Pass-By Trip Ends:

AM	21	Entering	64	Exiting
PM	67	Entering	47	Exiting

**Rounding may occur in calculations*

Pass-By Trip Ends:

AM	0	Entering	0	Exiting
PM	0	Entering	0	Exiting

**Rounding may occur in calculations*

Westwood TRIP GENERATION CALCULATIONS

Project Name: Whitetail Woods
Calculations by: BNS Date: January 29, 2024 Project #: 3001356.03

ITE *Trip Generation - 11th Edition*

Equation Type:	Fitted Curve
Land Use Code:	220
Variable (X):	Dwelling Units

Multifamily Housing (Low-Rise)

Number of (X):	**312**

T = Average Vehicle Trip Ends

AM Peak Hour

One hour between 7AM to 9AM (Adjacent Street)

Ln(T) = 0.31(X) + 22.85 Trip Ends Per Dwelling Units
T= **120** Trip Ends

Directional Distribution:
24% Entering **29** Entering*
76% Exiting **91** Exiting*

**Rounding may occur in calculations*

PM Peak Hour

One hour between 4PM to 6PM (Adjacent Street)

Ln(T) = 0.43(X) + 20.55 Trip Ends Per Dwelling Units
T= **155** Trip Ends

Directional Distribution:
63% Entering **97** Entering*
37% Exiting **58** Exiting*

**Rounding may occur in calculations*

Weekday

Daily Weekday

T= 6.41(X) + 75.31 Trip Ends Per Dwelling Units
T= **2,075** Trip Ends

Directional Distribution:
50% Entering **1,038** Entering*
50% Exiting **1,037** Exiting*

**Rounding may occur in calculations*

Pass-By Reduction

Non Pass-By Trip End Percentage
AM 100%
PM 100%

Pass-By Trip End Percentage
AM 0%
PM 0%

Non Pass-By Trip Ends:

AM	29	Entering	91	Exiting
PM	97	Entering	58	Exiting

**Rounding may occur in calculations*

Pass-By Trip Ends:

AM	0	Entering	0	Exiting
PM	0	Entering	0	Exiting

**Rounding may occur in calculations*

APPENDIX D

Synchro Capacity Analyses

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	11	64	133	50	25	39
Future Volume (vph)	11	64	133	50	25	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.886				0.917	
Flt Protected				0.965	0.981	
Satd. Flow (prot)	1615	0	0	1794	1565	0
Flt Permitted				0.965	0.981	
Satd. Flow (perm)	1615	0	0	1794	1565	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	596			712	240	
Travel Time (s)	13.5			16.2	5.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	5%	3%	0%	8%	10%
Adj. Flow (vph)	12	67	140	53	26	41
Shared Lane Traffic (%)						
Lane Group Flow (vph)	79	0	0	193	67	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.1%		ICU Level of Service A	
Analysis Period (min) 15			

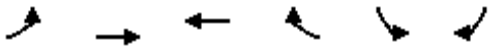
Intersection	
Int Delay, s/veh	5.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	11	64	133	50	25	39
Future Vol, veh/h	11	64	133	50	25	39
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	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	0	8	10
Mvmt Flow	12	67	140	53	26	41

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	79	0	379	46
Stage 1	-	-	-	-	46	-
Stage 2	-	-	-	-	333	-
Critical Hdwy	-	-	4.13	-	6.48	6.3
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.227	-	3.572	3.39
Pot Cap-1 Maneuver	-	-	1513	-	611	1001
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1513	-	553	1001
Mov Cap-2 Maneuver	-	-	-	-	553	-
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	645	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.5	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	760	-	-	1513	-
HCM Lane V/C Ratio	0.089	-	-	0.093	-
HCM Control Delay (s)	10.2	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.3	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	56	69	50	8	54	140
Future Volume (vph)	56	69	50	8	54	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.981		0.902	
Flt Protected		0.978			0.986	
Satd. Flow (prot)	0	1749	1744	0	1634	0
Flt Permitted		0.978			0.986	
Satd. Flow (perm)	0	1749	1744	0	1634	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1254	1777		240	
Travel Time (s)		28.5	40.4		5.5	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	9%	4%	6%	12%	7%	2%
Adj. Flow (vph)	67	82	60	10	64	167
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	149	70	0	231	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.7%		ICU Level of Service A	
Analysis Period (min) 15			

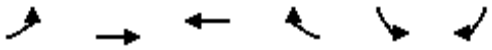
Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	56	69	50	8	54	140
Future Vol, veh/h	56	69	50	8	54	140
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	84	84	84	84	84	84
Heavy Vehicles, %	9	4	6	12	7	2
Mvmt Flow	67	82	60	10	64	167

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	70	0	-	0	281	65
Stage 1	-	-	-	-	65	-
Stage 2	-	-	-	-	216	-
Critical Hdwy	4.19	-	-	-	6.47	6.22
Critical Hdwy Stg 1	-	-	-	-	5.47	-
Critical Hdwy Stg 2	-	-	-	-	5.47	-
Follow-up Hdwy	2.281	-	-	-	3.563	3.318
Pot Cap-1 Maneuver	1487	-	-	-	698	999
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	808	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1487	-	-	-	665	999
Mov Cap-2 Maneuver	-	-	-	-	665	-
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	808	-

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1487	-	-	-	876
HCM Lane V/C Ratio	0.045	-	-	-	0.264
HCM Control Delay (s)	7.5	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	48	69	8	27	0
Future Volume (vph)	0	48	69	8	27	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.986			
Flt Protected					0.950	
Satd. Flow (prot)	0	1827	1824	0	1736	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1827	1824	0	1736	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1382	596		1343	
Travel Time (s)		31.4	13.5		30.5	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	0%	4%	3%	0%	4%	0%
Adj. Flow (vph)	0	66	95	11	37	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	66	106	0	37	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 14.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	48	69	8	27	0
Future Vol, veh/h	0	48	69	8	27	0
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	73	73	73	73	73	73
Heavy Vehicles, %	0	4	3	0	4	0
Mvmt Flow	0	66	95	11	37	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	106	0	-	0	167	101
Stage 1	-	-	-	-	101	-
Stage 2	-	-	-	-	66	-
Critical Hdwy	4.1	-	-	-	6.44	6.2
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.2	-	-	-	3.536	3.3
Pot Cap-1 Maneuver	1498	-	-	-	819	960
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	952	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1498	-	-	-	819	960
Mov Cap-2 Maneuver	-	-	-	-	819	-
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	952	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1498	-	-	-	819
HCM Lane V/C Ratio	-	-	-	-	0.045
HCM Control Delay (s)	0	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	16	4	38	66	2	3
Future Volume (vph)	16	4	38	66	2	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974				0.919	
Flt Protected				0.982	0.980	
Satd. Flow (prot)	1650	0	0	1819	1711	0
Flt Permitted				0.982	0.980	
Satd. Flow (perm)	1650	0	0	1819	1711	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	4094			1972	2438	
Travel Time (s)	93.0			44.8	55.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	17%	0%	4%	0%	0%
Adj. Flow (vph)	17	4	41	72	2	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	0	0	113	5	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	16	4	38	66	2	3
Future Vol, veh/h	16	4	38	66	2	3
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	92	92	92	92	92	92
Heavy Vehicles, %	11	17	0	4	0	0
Mvmt Flow	17	4	41	72	2	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	21	0	173	19
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	154	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1608	-	822	1065
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	879	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1608	-	800	1065
Mov Cap-2 Maneuver	-	-	-	-	800	-
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	855	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	940	-	-	1608	-
HCM Lane V/C Ratio	0.006	-	-	0.026	-
HCM Control Delay (s)	8.9	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	47	23	59	25	35	122
Future Volume (vph)	47	23	59	25	35	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.956				0.895	
Flt Protected				0.966	0.989	
Satd. Flow (prot)	1724	0	0	1797	1621	0
Flt Permitted				0.966	0.989	
Satd. Flow (perm)	1724	0	0	1797	1621	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	596			712	240	
Travel Time (s)	13.5			16.2	5.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	0%	3%	0%	3%	4%
Adj. Flow (vph)	49	24	62	26	37	128
Shared Lane Traffic (%)						
Lane Group Flow (vph)	73	0	0	88	165	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.4%		ICU Level of Service A	
Analysis Period (min) 15			

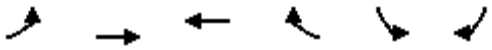
Intersection	
Int Delay, s/veh	6.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	47	23	59	25	35	122
Future Vol, veh/h	47	23	59	25	35	122
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	95	95	95	95	95	95
Heavy Vehicles, %	8	0	3	0	3	4
Mvmt Flow	49	24	62	26	37	128

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	73	0	211	61
Stage 1	-	-	-	-	61	-
Stage 2	-	-	-	-	150	-
Critical Hdwy	-	-	4.13	-	6.43	6.24
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.336
Pot Cap-1 Maneuver	-	-	1520	-	775	999
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	875	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1520	-	743	999
Mov Cap-2 Maneuver	-	-	-	-	743	-
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	839	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.2	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	928	-	-	1520	-
HCM Lane V/C Ratio	0.178	-	-	0.041	-
HCM Control Delay (s)	9.7	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	115	23	15	41	25	58
Future Volume (vph)	115	23	15	41	25	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.900		0.905	
Flt Protected		0.960			0.985	
Satd. Flow (prot)	0	1780	1655	0	1654	0
Flt Permitted		0.960			0.985	
Satd. Flow (perm)	0	1780	1655	0	1654	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1254	1777		240	
Travel Time (s)		28.5	40.4		5.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	0%	7%	2%	8%	0%
Adj. Flow (vph)	125	25	16	45	27	63
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	150	61	0	90	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.9%		ICU Level of Service A	
Analysis Period (min) 15			

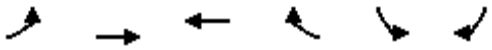
Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	115	23	15	41	25	58
Future Vol, veh/h	115	23	15	41	25	58
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	92	92	92	92	92	92
Heavy Vehicles, %	3	0	7	2	8	0
Mvmt Flow	125	25	16	45	27	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	61	0	-	0	314	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	275	-
Critical Hdwy	4.13	-	-	-	6.48	6.2
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	2.227	-	-	-	3.572	3.3
Pot Cap-1 Maneuver	1536	-	-	-	667	1038
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	758	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1536	-	-	-	612	1038
Mov Cap-2 Maneuver	-	-	-	-	612	-
Stage 1	-	-	-	-	888	-
Stage 2	-	-	-	-	758	-

Approach	EB	WB	SB
HCM Control Delay, s	6.3	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1536	-	-	-	858
HCM Lane V/C Ratio	0.081	-	-	-	0.105
HCM Control Delay (s)	7.6	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0.4



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	56	34	26	13	0
Future Volume (vph)	0	56	34	26	13	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.941			
Flt Protected					0.950	
Satd. Flow (prot)	0	1900	1757	0	1805	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1900	1757	0	1805	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1382	596		1343	
Travel Time (s)		31.4	13.5		30.5	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	3%	0%	0%	4%	0%	0%
Adj. Flow (vph)	0	64	39	30	15	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	64	69	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	56	34	26	13	0
Future Vol, veh/h	0	56	34	26	13	0
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	87	87	87	87	87	87
Heavy Vehicles, %	3	0	0	4	0	0
Mvmt Flow	0	64	39	30	15	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	69	0	-	0	118	54
Stage 1	-	-	-	-	54	-
Stage 2	-	-	-	-	64	-
Critical Hdwy	4.13	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1526	-	-	-	883	1019
Stage 1	-	-	-	-	974	-
Stage 2	-	-	-	-	964	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1526	-	-	-	883	1019
Mov Cap-2 Maneuver	-	-	-	-	883	-
Stage 1	-	-	-	-	974	-
Stage 2	-	-	-	-	964	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1526	-	-	-	883
HCM Lane V/C Ratio	-	-	-	-	0.017
HCM Control Delay (s)	0	-	-	-	9.1
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	73	8	31	47	5	36
Future Volume (vph)	73	8	31	47	5	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.986				0.880	
Flt Protected				0.981	0.994	
Satd. Flow (prot)	1750	0	0	1734	1619	0
Flt Permitted				0.981	0.994	
Satd. Flow (perm)	1750	0	0	1734	1619	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	4094			1972	2438	
Travel Time (s)	93.0			44.8	55.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	25%	16%	2%	0%	3%
Adj. Flow (vph)	78	9	33	51	5	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	87	0	0	84	44	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	73	8	31	47	5	36
Future Vol, veh/h	73	8	31	47	5	36
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, %	5	25	16	2	0	3
Mvmt Flow	78	9	33	51	5	39

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	87	0	200	83
Stage 1	-	-	-	-	83	-
Stage 2	-	-	-	-	117	-
Critical Hdwy	-	-	4.26	-	6.4	6.23
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.344	-	3.5	3.327
Pot Cap-1 Maneuver	-	-	1425	-	793	974
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	913	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1425	-	774	974
Mov Cap-2 Maneuver	-	-	-	-	774	-
Stage 1	-	-	-	-	945	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	944	-	-	1425	-
HCM Lane V/C Ratio	0.047	-	-	0.023	-
HCM Control Delay (s)	9	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	11	65	135	51	25	40
Future Volume (vph)	11	65	135	51	25	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.885				0.917	
Flt Protected				0.965	0.981	
Satd. Flow (prot)	1613	0	0	1794	1565	0
Flt Permitted				0.965	0.981	
Satd. Flow (perm)	1613	0	0	1794	1565	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	596			712	240	
Travel Time (s)	13.5			16.2	5.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	5%	3%	0%	8%	10%
Adj. Flow (vph)	12	68	142	54	26	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	0	0	196	68	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.3%		ICU Level of Service A	
Analysis Period (min) 15			

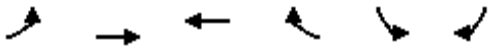
Intersection	
Int Delay, s/veh	5.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	11	65	135	51	25	40
Future Vol, veh/h	11	65	135	51	25	40
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	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	0	8	10
Mvmt Flow	12	68	142	54	26	42

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	80	0	384	46
Stage 1	-	-	-	-	46	-
Stage 2	-	-	-	-	338	-
Critical Hdwy	-	-	4.13	-	6.48	6.3
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.227	-	3.572	3.39
Pot Cap-1 Maneuver	-	-	1512	-	607	1001
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	709	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1512	-	548	1001
Mov Cap-2 Maneuver	-	-	-	-	548	-
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	640	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.5	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	760	-	-	1512	-
HCM Lane V/C Ratio	0.09	-	-	0.094	-
HCM Control Delay (s)	10.2	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.3	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	57	70	51	8	55	142
Future Volume (vph)	57	70	51	8	55	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.981		0.902	
Flt Protected		0.978			0.986	
Satd. Flow (prot)	0	1749	1744	0	1634	0
Flt Permitted		0.978			0.986	
Satd. Flow (perm)	0	1749	1744	0	1634	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1254	1777		240	
Travel Time (s)		28.5	40.4		5.5	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	9%	4%	6%	12%	7%	2%
Adj. Flow (vph)	68	83	61	10	65	169
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	151	71	0	234	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.0%		ICU Level of Service A	
Analysis Period (min) 15			

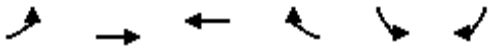
Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	57	70	51	8	55	142
Future Vol, veh/h	57	70	51	8	55	142
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	84	84	84	84	84	84
Heavy Vehicles, %	9	4	6	12	7	2
Mvmt Flow	68	83	61	10	65	169

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	71	0	-	0	285	66
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	219	-
Critical Hdwy	4.19	-	-	-	6.47	6.22
Critical Hdwy Stg 1	-	-	-	-	5.47	-
Critical Hdwy Stg 2	-	-	-	-	5.47	-
Follow-up Hdwy	2.281	-	-	-	3.563	3.318
Pot Cap-1 Maneuver	1486	-	-	-	695	998
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	806	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1486	-	-	-	662	998
Mov Cap-2 Maneuver	-	-	-	-	662	-
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	806	-

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1486	-	-	-	874
HCM Lane V/C Ratio	0.046	-	-	-	0.268
HCM Control Delay (s)	7.5	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	49	70	8	27	0
Future Volume (vph)	0	49	70	8	27	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.986			
Flt Protected					0.950	
Satd. Flow (prot)	0	1827	1824	0	1736	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1827	1824	0	1736	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1382	596		1343	
Travel Time (s)		31.4	13.5		30.5	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	0%	4%	3%	0%	4%	0%
Adj. Flow (vph)	0	67	96	11	37	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	67	107	0	37	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 14.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	49	70	8	27	0
Future Vol, veh/h	0	49	70	8	27	0
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	73	73	73	73	73	73
Heavy Vehicles, %	0	4	3	0	4	0
Mvmt Flow	0	67	96	11	37	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	107	0	-	0	169	102
Stage 1	-	-	-	-	102	-
Stage 2	-	-	-	-	67	-
Critical Hdwy	4.1	-	-	-	6.44	6.2
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.2	-	-	-	3.536	3.3
Pot Cap-1 Maneuver	1497	-	-	-	817	959
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	951	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1497	-	-	-	817	959
Mov Cap-2 Maneuver	-	-	-	-	817	-
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	951	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1497	-	-	-	817
HCM Lane V/C Ratio	-	-	-	-	0.045
HCM Control Delay (s)	0	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	16	4	39	67	2	6
Future Volume (vph)	16	4	39	67	2	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974				0.895	
Flt Protected				0.982	0.989	
Satd. Flow (prot)	1650	0	0	1820	1682	0
Flt Permitted				0.982	0.989	
Satd. Flow (perm)	1650	0	0	1820	1682	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	4094			1972	2438	
Travel Time (s)	93.0			44.8	55.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	17%	0%	4%	0%	0%
Adj. Flow (vph)	17	4	42	73	2	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	0	0	115	9	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	16	4	39	67	2	6
Future Vol, veh/h	16	4	39	67	2	6
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	92	92	92	92	92	92
Heavy Vehicles, %	11	17	0	4	0	0
Mvmt Flow	17	4	42	73	2	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	21	0	176	19
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1608	-	818	1065
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	876	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1608	-	796	1065
Mov Cap-2 Maneuver	-	-	-	-	796	-
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	852	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	982	-	-	1608	-
HCM Lane V/C Ratio	0.009	-	-	0.026	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	48	23	60	25	36	124
Future Volume (vph)	48	23	60	25	36	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.957				0.895	
Flt Protected				0.966	0.989	
Satd. Flow (prot)	1724	0	0	1797	1621	0
Flt Permitted				0.966	0.989	
Satd. Flow (perm)	1724	0	0	1797	1621	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	596			712	240	
Travel Time (s)	13.5			16.2	5.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	0%	3%	0%	3%	4%
Adj. Flow (vph)	51	24	63	26	38	131
Shared Lane Traffic (%)						
Lane Group Flow (vph)	75	0	0	89	169	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.6%		ICU Level of Service A	
Analysis Period (min) 15			

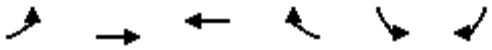
Intersection	
Int Delay, s/veh	6.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	48	23	60	25	36	124
Future Vol, veh/h	48	23	60	25	36	124
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	95	95	95	95	95	95
Heavy Vehicles, %	8	0	3	0	3	4
Mvmt Flow	51	24	63	26	38	131

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	75	0	215	63
Stage 1	-	-	-	-	63	-
Stage 2	-	-	-	-	152	-
Critical Hdwy	-	-	4.13	-	6.43	6.24
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.336
Pot Cap-1 Maneuver	-	-	1518	-	771	996
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	874	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1518	-	739	996
Mov Cap-2 Maneuver	-	-	-	-	739	-
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	837	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.3	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	924	-	-	1518	-
HCM Lane V/C Ratio	0.182	-	-	0.042	-
HCM Control Delay (s)	9.8	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	117	23	15	42	25	59
Future Volume (vph)	117	23	15	42	25	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.900		0.905	
Flt Protected		0.960			0.985	
Satd. Flow (prot)	0	1779	1656	0	1654	0
Flt Permitted		0.960			0.985	
Satd. Flow (perm)	0	1779	1656	0	1654	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1254	1777		240	
Travel Time (s)		28.5	40.4		5.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	0%	7%	2%	8%	0%
Adj. Flow (vph)	127	25	16	46	27	64
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	152	62	0	91	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.0%		ICU Level of Service A	
Analysis Period (min) 15			

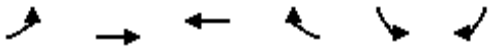
Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	117	23	15	42	25	59
Future Vol, veh/h	117	23	15	42	25	59
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	92	92	92	92	92	92
Heavy Vehicles, %	3	0	7	2	8	0
Mvmt Flow	127	25	16	46	27	64

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	62	0	-	0	318	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	279	-
Critical Hdwy	4.13	-	-	-	6.48	6.2
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	2.227	-	-	-	3.572	3.3
Pot Cap-1 Maneuver	1535	-	-	-	663	1038
Stage 1	-	-	-	-	968	-
Stage 2	-	-	-	-	755	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1535	-	-	-	607	1038
Mov Cap-2 Maneuver	-	-	-	-	607	-
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	SB
HCM Control Delay, s	6.3	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1535	-	-	-	857
HCM Lane V/C Ratio	0.083	-	-	-	0.107
HCM Control Delay (s)	7.6	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0.4



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	57	35	26	13	0
Future Volume (vph)	0	57	35	26	13	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.942			
Flt Protected					0.950	
Satd. Flow (prot)	0	1900	1760	0	1805	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1900	1760	0	1805	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1382	596		1343	
Travel Time (s)		31.4	13.5		30.5	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	3%	0%	0%	4%	0%	0%
Adj. Flow (vph)	0	66	40	30	15	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	66	70	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	57	35	26	13	0
Future Vol, veh/h	0	57	35	26	13	0
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	87	87	87	87	87	87
Heavy Vehicles, %	3	0	0	4	0	0
Mvmt Flow	0	66	40	30	15	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	70	0	-	0	121	55
Stage 1	-	-	-	-	55	-
Stage 2	-	-	-	-	66	-
Critical Hdwy	4.13	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1524	-	-	-	879	1018
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	962	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1524	-	-	-	879	1018
Mov Cap-2 Maneuver	-	-	-	-	879	-
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	962	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1524	-	-	-	879
HCM Lane V/C Ratio	-	-	-	-	0.017
HCM Control Delay (s)	0	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	74	8	31	48	5	37
Future Volume (vph)	74	8	31	48	5	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.986				0.880	
Flt Protected				0.981	0.994	
Satd. Flow (prot)	1750	0	0	1735	1619	0
Flt Permitted				0.981	0.994	
Satd. Flow (perm)	1750	0	0	1735	1619	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	4094			1972	2438	
Travel Time (s)	93.0			44.8	55.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	25%	16%	2%	0%	3%
Adj. Flow (vph)	80	9	33	52	5	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	0	0	85	45	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	74	8	31	48	5	37
Future Vol, veh/h	74	8	31	48	5	37
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, %	5	25	16	2	0	3
Mvmt Flow	80	9	33	52	5	40

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	89	0	203	85
Stage 1	-	-	-	-	85	-
Stage 2	-	-	-	-	118	-
Critical Hdwy	-	-	4.26	-	6.4	6.23
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.344	-	3.5	3.327
Pot Cap-1 Maneuver	-	-	1423	-	790	971
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	912	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1423	-	771	971
Mov Cap-2 Maneuver	-	-	-	-	771	-
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	890	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	942	-	-	1423	-
HCM Lane V/C Ratio	0.048	-	-	0.023	-
HCM Control Delay (s)	9	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	24	65	279	89	25	87
Future Volume (vph)	24	65	279	89	25	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.901				0.895	
Flt Protected				0.963	0.989	
Satd. Flow (prot)	1652	0	0	1789	1535	0
Flt Permitted				0.963	0.989	
Satd. Flow (perm)	1652	0	0	1789	1535	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	596			712	240	
Travel Time (s)	13.5			16.2	5.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	5%	3%	0%	8%	10%
Adj. Flow (vph)	25	68	294	94	26	92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	93	0	0	388	118	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.2%		ICU Level of Service A	
Analysis Period (min) 15			

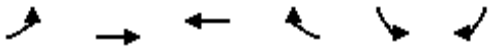
Intersection	
Int Delay, s/veh	6.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	24	65	279	89	25	87
Future Vol, veh/h	24	65	279	89	25	87
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	95	95	95	95	95	95
Heavy Vehicles, %	0	5	3	0	8	10
Mvmt Flow	25	68	294	94	26	92

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	93	0	741	59
Stage 1	-	-	-	-	59	-
Stage 2	-	-	-	-	682	-
Critical Hdwy	-	-	4.13	-	6.48	6.3
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	-	-	2.227	-	3.572	3.39
Pot Cap-1 Maneuver	-	-	1495	-	375	985
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	491	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1495	-	297	985
Mov Cap-2 Maneuver	-	-	-	-	297	-
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	389	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.1	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	649	-	-	1495	-
HCM Lane V/C Ratio	0.182	-	-	0.196	-
HCM Control Delay (s)	11.8	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.7	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	85	70	51	27	112	229
Future Volume (vph)	85	70	51	27	112	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.954		0.909	
Flt Protected		0.973			0.984	
Satd. Flow (prot)	0	1732	1677	0	1640	0
Flt Permitted		0.973			0.984	
Satd. Flow (perm)	0	1732	1677	0	1640	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1254	1777		240	
Travel Time (s)		28.5	40.4		5.5	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	9%	4%	6%	12%	7%	2%
Adj. Flow (vph)	101	83	61	32	133	273
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	184	93	0	406	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.0%		ICU Level of Service A	
Analysis Period (min) 15			

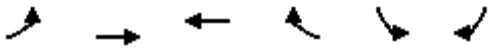
Intersection	
Int Delay, s/veh	9.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	70	51	27	112	229
Future Vol, veh/h	85	70	51	27	112	229
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	84	84	84	84	84	84
Heavy Vehicles, %	9	4	6	12	7	2
Mvmt Flow	101	83	61	32	133	273

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	93	0	-	0	362	77
Stage 1	-	-	-	-	77	-
Stage 2	-	-	-	-	285	-
Critical Hdwy	4.19	-	-	-	6.47	6.22
Critical Hdwy Stg 1	-	-	-	-	5.47	-
Critical Hdwy Stg 2	-	-	-	-	5.47	-
Follow-up Hdwy	2.281	-	-	-	3.563	3.318
Pot Cap-1 Maneuver	1458	-	-	-	627	984
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	752	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1458	-	-	-	581	984
Mov Cap-2 Maneuver	-	-	-	-	581	-
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	752	-

Approach	EB	WB	SB
HCM Control Delay, s	4.2	0	14
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1458	-	-	-	801
HCM Lane V/C Ratio	0.069	-	-	-	0.507
HCM Control Delay (s)	7.7	0	-	-	14
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	2.9



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	52	108	8	27	0
Future Volume (vph)	0	52	108	8	27	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.991			
Flt Protected					0.950	
Satd. Flow (prot)	0	1827	1832	0	1736	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1827	1832	0	1736	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1382	596		1343	
Travel Time (s)		31.4	13.5		30.5	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	0%	4%	3%	0%	4%	0%
Adj. Flow (vph)	0	71	148	11	37	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	71	159	0	37	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 16.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	52	108	8	27	0
Future Vol, veh/h	0	52	108	8	27	0
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	73	73	73	73	73	73
Heavy Vehicles, %	0	4	3	0	4	0
Mvmt Flow	0	71	148	11	37	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	159	0	-	0	225	154
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	71	-
Critical Hdwy	4.1	-	-	-	6.44	6.2
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.2	-	-	-	3.536	3.3
Pot Cap-1 Maneuver	1433	-	-	-	759	897
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	947	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1433	-	-	-	759	897
Mov Cap-2 Maneuver	-	-	-	-	759	-
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	947	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1433	-	-	-	759
HCM Lane V/C Ratio	-	-	-	-	0.049
HCM Control Delay (s)	0	-	-	-	10
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	16	14	39	67	5	6
Future Volume (vph)	16	14	39	67	5	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.937				0.921	
Flt Protected				0.982	0.980	
Satd. Flow (prot)	1564	0	0	1820	1715	0
Flt Permitted				0.982	0.980	
Satd. Flow (perm)	1564	0	0	1820	1715	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	4094			1972	2438	
Travel Time (s)	93.0			44.8	55.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	17%	0%	4%	0%	0%
Adj. Flow (vph)	17	15	42	73	5	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	0	0	115	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	16	14	39	67	5	6
Future Vol, veh/h	16	14	39	67	5	6
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	92	92	92	92	92	92
Heavy Vehicles, %	11	17	0	4	0	0
Mvmt Flow	17	15	42	73	5	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	32	0	182	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1593	-	812	1057
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	876	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1593	-	790	1057
Mov Cap-2 Maneuver	-	-	-	-	790	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	852	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	916	-	-	1593	-
HCM Lane V/C Ratio	0.013	-	-	0.027	-
HCM Control Delay (s)	9	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	-

1. Bridge North

Lanes, Volumes, Timings
10: Bridge & CTH KB/CTH SS

01/29/2024

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	89	23	156	51	36	278
Future Volume (vph)	89	23	156	51	36	278
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.973				0.880	
Flt Protected				0.964	0.994	
Satd. Flow (prot)	1738	0	0	1791	1600	0
Flt Permitted				0.964	0.994	
Satd. Flow (perm)	1738	0	0	1791	1600	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	596			712	240	
Travel Time (s)	13.5			16.2	5.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	0%	3%	0%	3%	4%
Adj. Flow (vph)	94	24	164	54	38	293
Shared Lane Traffic (%)						
Lane Group Flow (vph)	118	0	0	218	331	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.8%		ICU Level of Service A	
Analysis Period (min) 15			

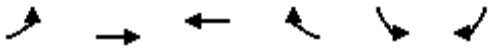
Intersection	
Int Delay, s/veh	7.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	89	23	156	51	36	278
Future Vol, veh/h	89	23	156	51	36	278
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	95	95	95	95	95	95
Heavy Vehicles, %	8	0	3	0	3	4
Mvmt Flow	94	24	164	54	38	293

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	118	0	488	106
Stage 1	-	-	-	-	106	-
Stage 2	-	-	-	-	382	-
Critical Hdwy	-	-	4.13	-	6.43	6.24
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.227	-	3.527	3.336
Pot Cap-1 Maneuver	-	-	1464	-	537	943
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	688	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1464	-	475	943
Mov Cap-2 Maneuver	-	-	-	-	475	-
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	609	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.9	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	847	-	-	1464	-
HCM Lane V/C Ratio	0.39	-	-	0.112	-
HCM Control Delay (s)	11.9	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	0.4	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	210	23	15	103	63	117
Future Volume (vph)	210	23	15	103	63	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.882		0.912	
Flt Protected		0.957			0.983	
Satd. Flow (prot)	0	1770	1633	0	1657	0
Flt Permitted		0.957			0.983	
Satd. Flow (perm)	0	1770	1633	0	1657	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1254	1777		240	
Travel Time (s)		28.5	40.4		5.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	0%	7%	2%	8%	0%
Adj. Flow (vph)	228	25	16	112	68	127
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	253	128	0	195	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.9%		ICU Level of Service A	
Analysis Period (min) 15			

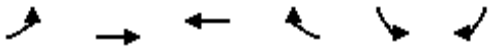
Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	210	23	15	103	63	117
Future Vol, veh/h	210	23	15	103	63	117
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	92	92	92	92	92	92
Heavy Vehicles, %	3	0	7	2	8	0
Mvmt Flow	228	25	16	112	68	127

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	128	0	-	0	553	72
Stage 1	-	-	-	-	72	-
Stage 2	-	-	-	-	481	-
Critical Hdwy	4.13	-	-	-	6.48	6.2
Critical Hdwy Stg 1	-	-	-	-	5.48	-
Critical Hdwy Stg 2	-	-	-	-	5.48	-
Follow-up Hdwy	2.227	-	-	-	3.572	3.3
Pot Cap-1 Maneuver	1452	-	-	-	484	996
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	609	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1452	-	-	-	407	996
Mov Cap-2 Maneuver	-	-	-	-	407	-
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	609	-

Approach	EB	WB	SB
HCM Control Delay, s	7.2	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1452	-	-	-	661
HCM Lane V/C Ratio	0.157	-	-	-	0.296
HCM Control Delay (s)	7.9	0	-	-	12.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	1.2



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	89	61	26	13	0
Future Volume (vph)	0	89	61	26	13	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.959			
Flt Protected					0.950	
Satd. Flow (prot)	0	1900	1800	0	1805	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1900	1800	0	1805	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1382	596		1343	
Travel Time (s)		31.4	13.5		30.5	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	3%	0%	0%	4%	0%	0%
Adj. Flow (vph)	0	102	70	30	15	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	102	100	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 14.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	89	61	26	13	0
Future Vol, veh/h	0	89	61	26	13	0
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	87	87	87	87	87	87
Heavy Vehicles, %	3	0	0	4	0	0
Mvmt Flow	0	102	70	30	15	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	100	0	-	0	187	85
Stage 1	-	-	-	-	85	-
Stage 2	-	-	-	-	102	-
Critical Hdwy	4.13	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1486	-	-	-	807	980
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	927	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1486	-	-	-	807	980
Mov Cap-2 Maneuver	-	-	-	-	807	-
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	927	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1486	-	-	-	807
HCM Lane V/C Ratio	-	-	-	-	0.019
HCM Control Delay (s)	0	-	-	-	9.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	74	15	31	48	15	37
Future Volume (vph)	74	15	31	48	15	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.977				0.904	
Flt Protected				0.981	0.986	
Satd. Flow (prot)	1714	0	0	1735	1658	0
Flt Permitted				0.981	0.986	
Satd. Flow (perm)	1714	0	0	1735	1658	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	4094			1972	2438	
Travel Time (s)	93.0			44.8	55.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	5%	25%	16%	2%	0%	3%
Adj. Flow (vph)	80	16	33	52	16	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	96	0	0	85	56	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	74	15	31	48	15	37
Future Vol, veh/h	74	15	31	48	15	37
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, %	5	25	16	2	0	3
Mvmt Flow	80	16	33	52	16	40

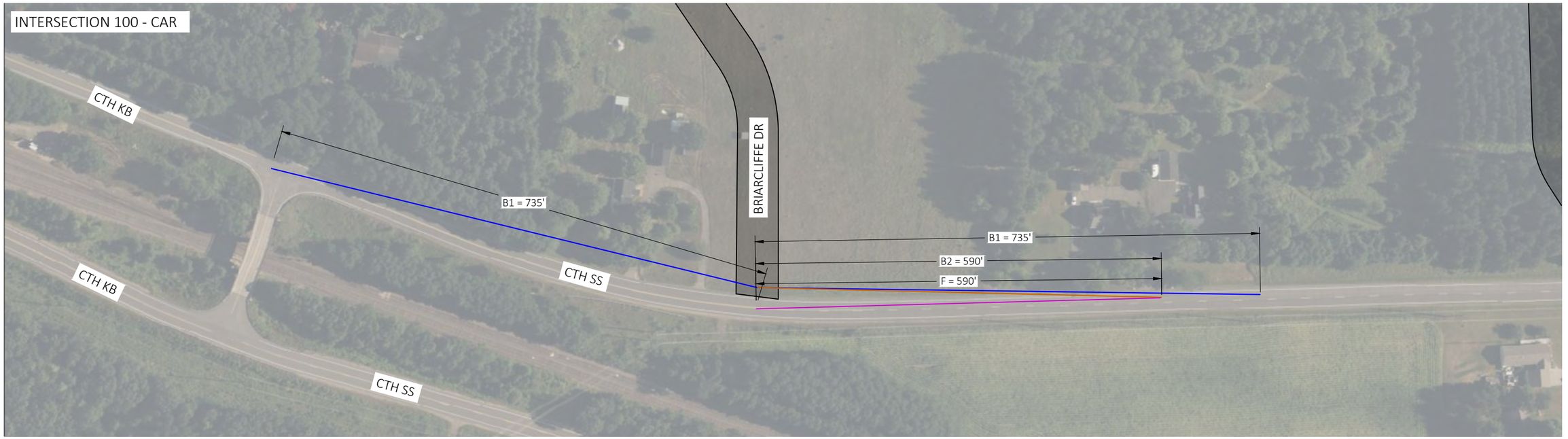
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	96	0	206	88
Stage 1	-	-	-	-	88	-
Stage 2	-	-	-	-	118	-
Critical Hdwy	-	-	4.26	-	6.4	6.23
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.344	-	3.5	3.327
Pot Cap-1 Maneuver	-	-	1414	-	787	968
Stage 1	-	-	-	-	940	-
Stage 2	-	-	-	-	912	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1414	-	768	968
Mov Cap-2 Maneuver	-	-	-	-	768	-
Stage 1	-	-	-	-	940	-
Stage 2	-	-	-	-	890	-

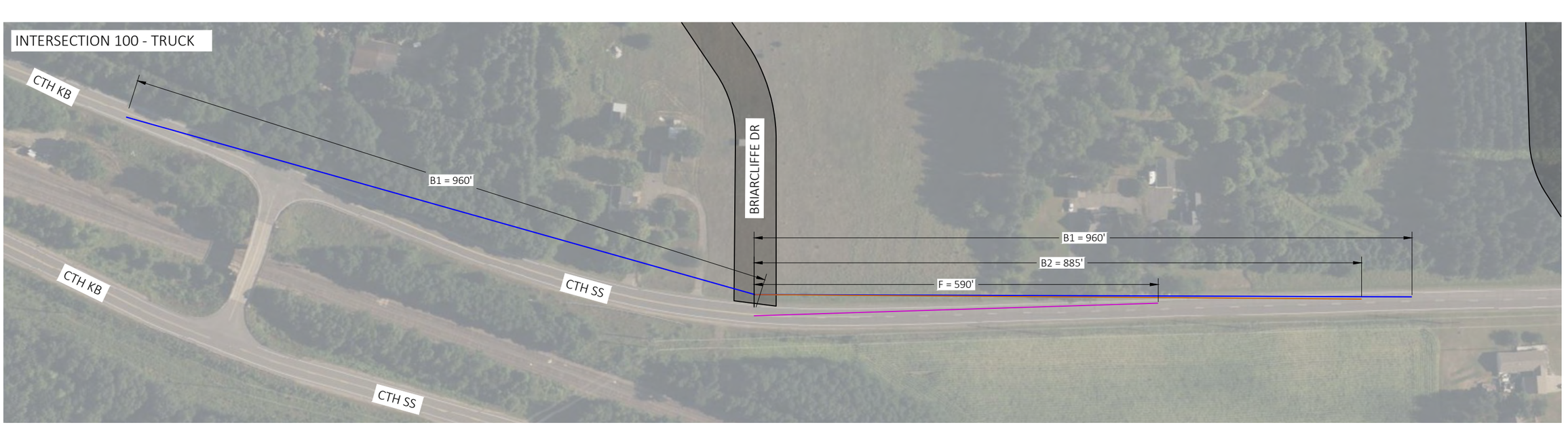
Approach	EB	WB	NB
HCM Control Delay, s	0	3	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	900	-	-	1414	-
HCM Lane V/C Ratio	0.062	-	-	0.024	-
HCM Control Delay (s)	9.3	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

APPENDIX E

Intersection Sight Distance Data

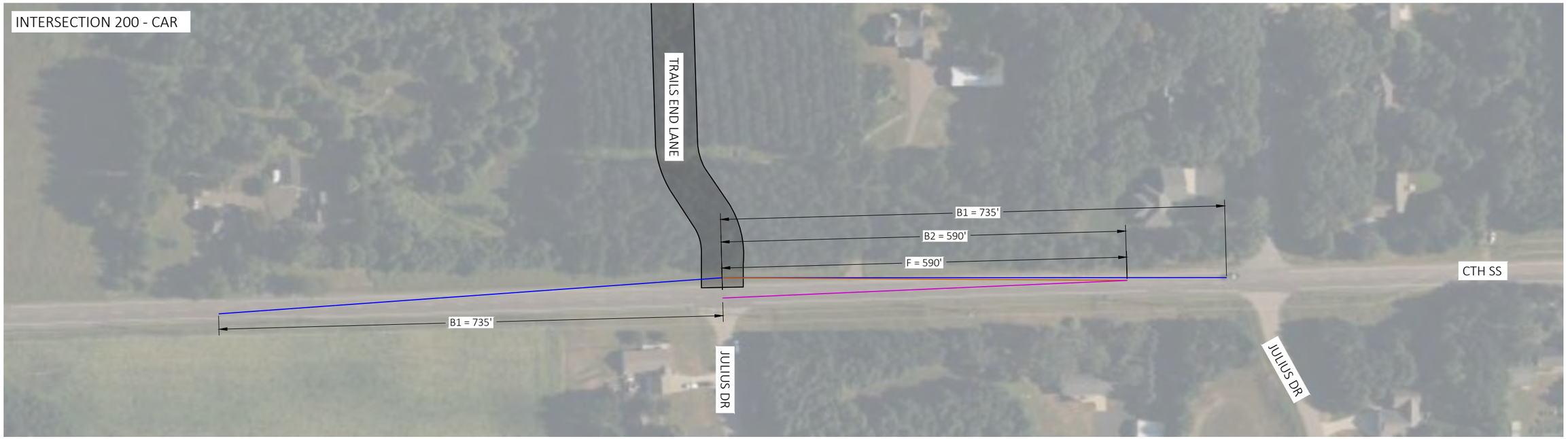


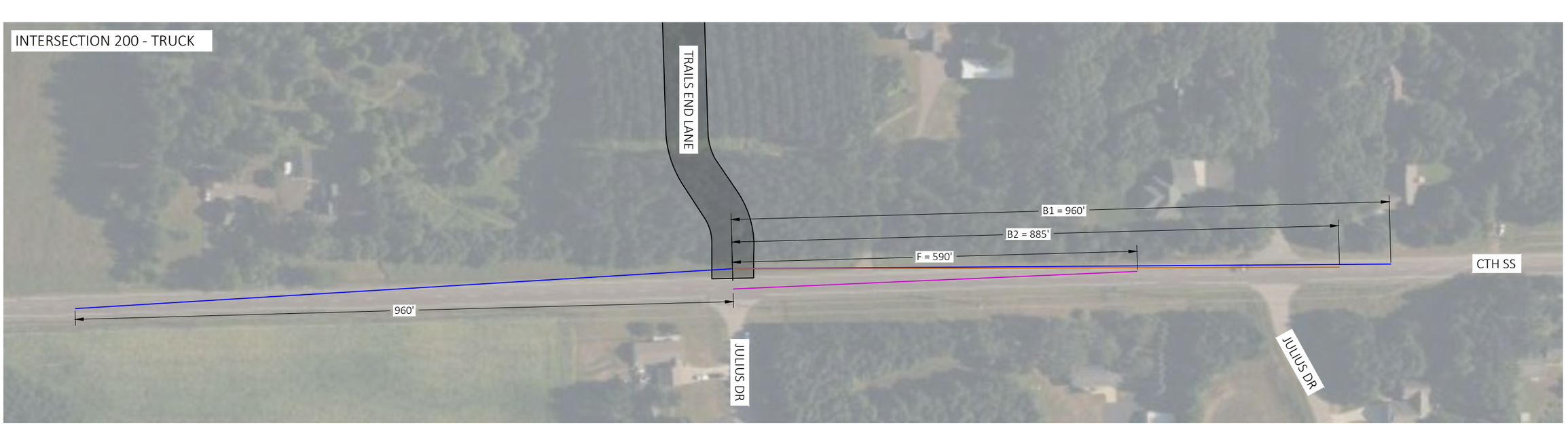


WHITETAIL WOODS - ALTOONA, WI
SITE ACCESS - INTERSECTION 100 SIGHT DISTANCE

APPENDIX E

Westwood
Phone (952) 937-5150
westwoodps.com
Westwood Professional Services, Inc.
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343





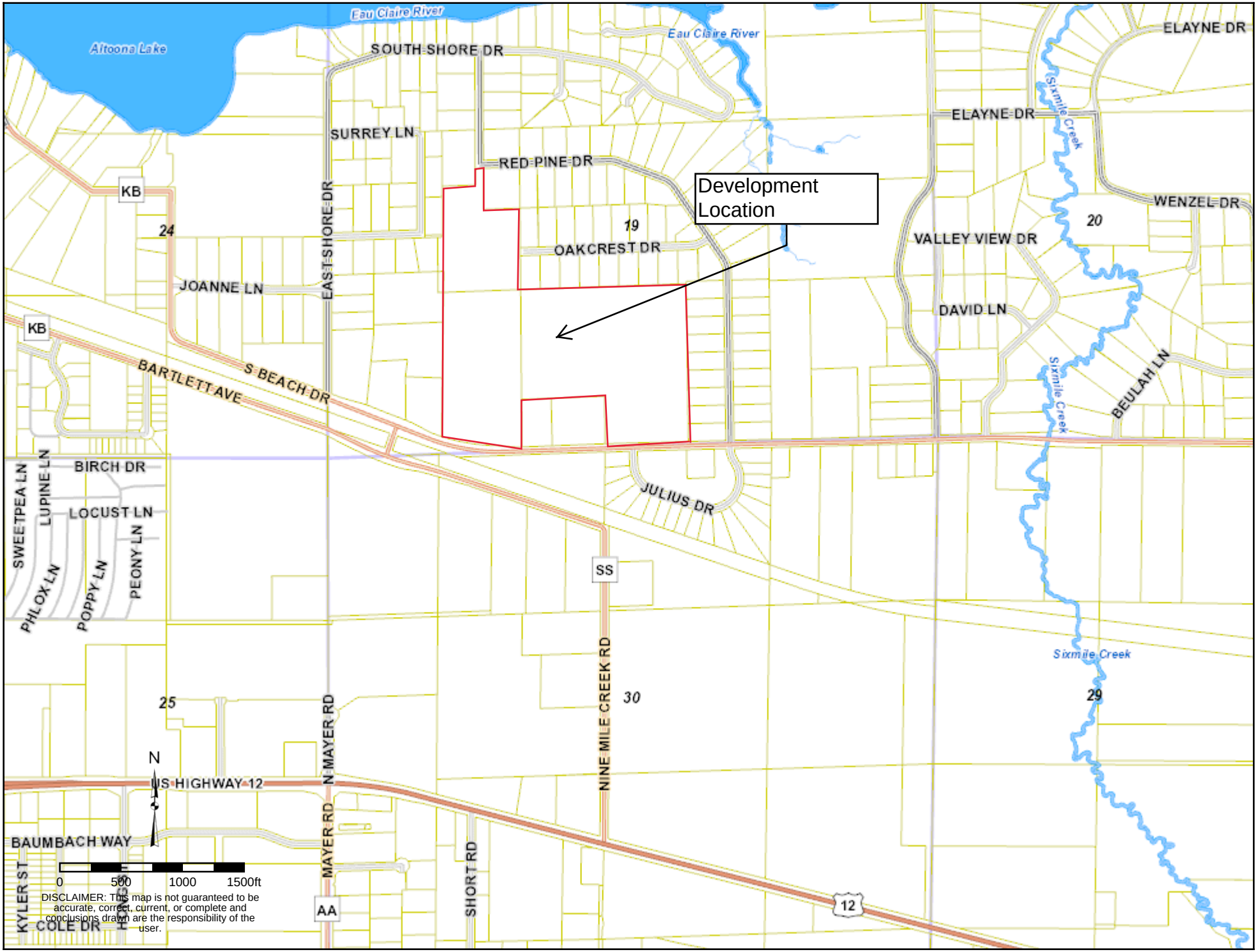
WHITETAIL WOODS - ALTOONA, WI
SITE ACCESS - INTERSECTION 200 SIGHT DISTANCE

APPENDIX E

Westwood
Phone (952) 937-5150
westwoodps.com
Westwood Professional Services, Inc.
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343

APPENDIX F

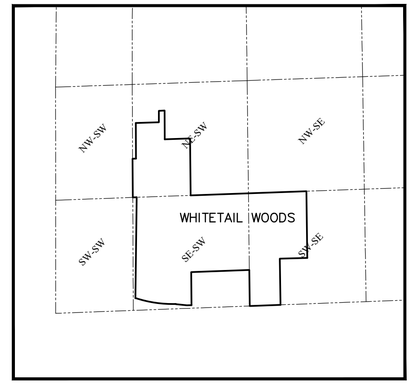
Whitetail Woods Project Information


Altoona Lake
Eau Claire River
Eau Claire River
SOUTH SHORE DR
SURREY LN
RED PINE DR
EAST SHORE DR
OAKCREST DR
JOANNE LN
Development Location
KB
KB
24
19
20
ELAYNE DR
ELAYNE DR
WENZEL DR
VALLEY VIEW DR
DAVID LN
Sixmile Creek
Sixmile Creek
BEULAH LN
BARTLETT AVE
S BEACH DR
JULIUS DR
BIRCH DR
LOCUST LN
SWEETPEA LN
LUPINE LN
PHLOX LN
POPPY LN
PEONY LN
SS
NINE MILE CREEK RD
Sixmile Creek
25
30
29
N
N MAYER RD
MAYER RD
US HIGHWAY 12
BAUMBACH WAY
SHORT RD
KYLER ST
COLE DR
AA
12
0
500
1000
1500ft
DISCLAIMER: This map is not guaranteed to be accurate, correct, current, or complete and conclusions drawn are the responsibility of the user.

PRELIMINARY PLAT
OF
WHITETAIL WOODS

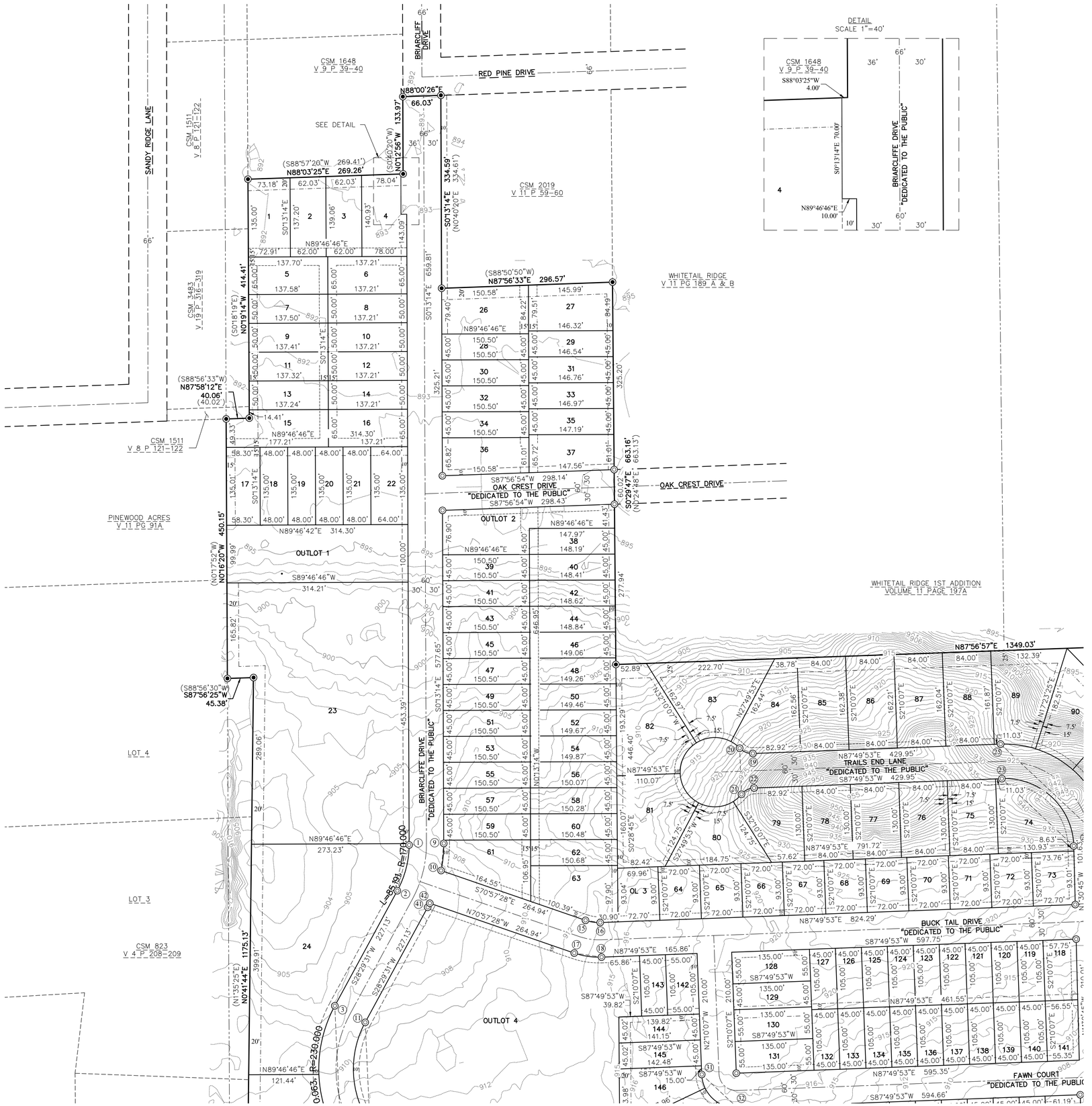
Part of the Southeast Quarter of the Southwest Quarter, the Northeast Quarter of the Southwest Quarter, and the Southwest Quarter of the Southeast Quarter, Section 19, Township 27 North, Range 8 West, City of Altoona, Eau Claire County, Wisconsin.

SECTION 19, TOWNSHIP 27 NORTH, RANGE 8 WEST



BEARINGS ARE REFERENCED TO THE SOUTH LINE OF THE SW 1/4 OF SECTION 19 ASSUMED TO BEAR S87°50'05"W.

NORTH
0 50 100
1"=100'



LEGEND

- FOUND ALUMINUM MONUMENT
- FOUND BRASS CAP MONUMENT
- FOUND 1" OUTSIDE DIAMETER IRON PIPE
- FOUND 1" IRON BAR
- SET 1" OUTSIDE DIAMETER BY 18" IRON PIPE, 1.13 POUNDS / LINEAR FOOT AT ALL OTHER LOT AND OUTLOT CORNERS
- SET 1 1/4" BY 18" IRON BAR, 4.30 POUNDS / LINEAR FOOT
- ( ) RECORD INFORMATION
- POB POINT OF BEGINNING
- CSM CERTIFIED SURVEY MAP
- V VOLUME
- P PAGE
- DRAINAGE EASEMENT
- ACCESS & UTILITY EASEMENT
- UTILITY EASEMENT

Notes:
1. See sheet 3 for curve data and area table.

PRELIMINARY
WISCONSIN
JEFF C. STOCKBURGER
S-2708
EAU CLAIRE, WI
LAND SURVEYOR

Developer:
Grip Development LLC
2620 Fairway Dr. Ste 1
Altoona, WI 54720

DATE OF PRELIMINARY PLAT: 9-11-23

EVERYDAY SURVEYING & ENGINEERING
711 S HILLCREST PARKWAY
ALTOONA, WI 54720
PH: (715) 831-0654 • EMAIL: INFO@ESELLC.CO

PRELIMINARY PLAT
OF
WHITETAIL WOODS

Part of the Southeast Quarter of the Southwest Quarter, the Northeast Quarter of the Southwest Quarter, and the Southwest Quarter of the Southeast Quarter, Section 19, Township 27 North, Range 8 West, City of Altoona, Eau Claire County, Wisconsin.

BEARINGS ARE REFERENCED TO THE SOUTH LINE OF THE SW 1/4 OF SECTION 19 ASSUMED TO BEAR S87°50'05"W.

NORTH
0 50 100
1"=100'

PRELIMINARY

WISCONSIN
JEFF C. STOCKBURGER
S-2708
EAU CLAIRE, WI
LAND SURVEYOR

DATE OF PRELIMINARY PLAT: 9-11-23

EVERYDAY SURVEYING & ENGINEERING
711 S HILLCREST PARKWAY
ALTOONA, WI 54720
PH: (715) 831-0654 • EMAIL: INFO@ESELLC.CO

SURVEYOR'S CERTIFICATE

I, Jeffrey C. Stockburger, Professional Land Surveyor, do hereby certify that I have surveyed, divided, and mapped the plat of Whitetail Woods. Said land being Part of the Southeast Quarter of the Southwest Quarter, the Northeast Quarter of the Southwest Quarter, and the Southwest Quarter of the Southeast Quarter, Section 19, Township 27 North, Range 8 West, City of Altoona, Eau Claire County, Wisconsin.

Beginning at the South Quarter Corner of said Section 19;
Thence N00°39'46"W, 419.91 feet;
Thence S87°50'55"W, 676.45 feet;
Thence S00°28'45"E, 384.70 feet;
Thence S88°02'39"W, 53.36 feet along said right-of-way line;
Thence N84°06'21"W, 131.41 feet along said right-of-way line;
Thence 476.51 feet along said right-of-way line and the arc of a curve, concave northeasterly, with a chord bearing of N81°39'36"W, a chord length of 474.15 feet, and a radius of 1382.41 feet to the East line of Certified Survey Map Number 823 recorded in Volume 4 on Pages 208-209;
Thence N00°41'44"E, 1175.13 along said East line;
Thence S87°56'25"W, 45.38 feet;
Thence N00°16'20"W, 450.15 feet along the East line of Pinewood Acres recorded in Volume 11 on Page 91A and a southerly extension thereof to the South line of Certified Survey Map Number 1511 recorded in Volume 8 on Pages 121-122;
Thence N87°58'12"E, 40.06 feet to the southeast corner of said Certified Survey Map Number 1511;
Thence N00°19'14"W, 414.41 feet along the said East line of said Certified Survey Map number 1511 and the East line of Certified Survey Map Number 3483 recorded in Volume 19 on Pages 316-319 to the southwest corner of Certified Survey Map Number 1648 recorded in Volume 9 on Pages 39-40;
Thence N88°03'25"E, 269.26 feet to the southeast corner of said Certified Survey Map Number 1648;
Thence N00°12'56"W, 133.97 feet along the East line of said Certified Survey Map Number 1648 to the South right-of-way line of Red Pine Drive;
Thence N88°00'26"E, 66.03 feet along said right-of-way line to the northwest corner of Certified Survey Map Number 2019 recorded in Volume 11 on Pages 59-60;
Thence S00°13'14"E, 334.59 feet to the southwest corner of said Certified Survey Map Number 2019;
Thence N87°56'33"E, 296.57 feet to the southwest corner of said Certified Survey Map Number 2019 to the West line of Whitetail Ridge recorded in Volume 11 on Pages 189 A & B;
Thence S00°29'47"E, 663.16 feet to the southwest corner of said Whitetail Ridge;
Thence N87°56'57"E, 1349.03 feet to the northeast corner of said Whitetail Ridge;
Thence S00°46'26"E, 776.11 feet along the west line of said Whitetail Ridge;
Thence S88°29'57"W, 319.90 feet;
Thence S00°46'26"E, 538.35 feet to the south line of the Southeast Quarter of said Section 19;
Thence S87°50'28"W, 358.09 feet along said south line to the **Point of Beginning.**

That I have made such survey, land division and plat by the direction of Jason Griepentrog, Member, Grip Development LLC.
That such plat is a correct representation of all the exterior boundaries of the land surveyed and the subdivision thereof made.
That I have fully complied with the provisions of Chapter 236 of the Wisconsin Statutes, Wisconsin Administrative Code Chapter AE-7, and the subdivision regulations of the City of Altoona, in surveying, dividing and mapping the same.

_____ Dated this_____ Day of _____ , 2023.
Jeffrey C. Stockburger, PLS 2708

COUNTY TREASURER'S CERTIFICATE

State of Wisconsin

County of _____ SS

I, Glenda J. Lyons, being the duly elected, qualified, and acting treasurer of the County of Eau Claire, do hereby certify that the records in my office show no unredeemed tax sales and no unpaid taxes or special assessments on any of the land included in this plat of Whitetail Woods.

Dated this _____day of _____, 2023.

_____.
Glenda J. Lyons, County Treasurer

CITY TREASURER'S CERTIFICATE

State of Wisconsin

County of _____ SS

I, Tina Nelson, City Treasurer, being the duly qualified and acting city treasurer of the City of Altoona, do hereby certify that the records in my office show no unredeemed tax sales and no unpaid taxes or special assessments on any of the land included in this plat of Whitetail Woods.

Dated this _____day of _____, 2023.

_____.
Tina Nelson, City Treasurer

COMMON COUNCIL RESOLUTION

Resolved that the plat of Whitetail Woods, located in the City of Altoona is hereby approved by the City of Altoona.

Approved this _____day of _____, 2023.

_____.
Brendan Pratt, Mayor

I hereby certify that the foregoing is a copy of a resolution adopted by the City of Altoona.

_____.
Cindy Bauer, City Clerk

CORPORATE OWNER'S CERTIFICATE OF DEDICATION

Grip Development LLC, a corporation organized and existing under and by virtue of the laws of the State of Wisconsin, as owner, does hereby certify that said company caused the land described on this plat to be surveyed, divided, mapped and dedicated as represented on the plat. Grip Development LLC does further certify that this plat is required by S.236.10 or 236.12 to be submitted to the following for approval or objection.

------- City of Altoona
------- Department of Administration

In witness hereof, the said Grip Development LLC has caused this document to be signed by Jason Griepentrog, Member.

On this _____day of _____, 2023.

_____
Jason Griepentrog, Member
Grip Development LLC

State of Wisconsin

County of _____ SS

Personally came before me, this _____day of _____, 2023. The above named Jason Griepentrog, to me known to be the person who executed the foregoing instrument and acknowledged the same.

_____.
Notary Public

My commission expires _____.

PRELIMINARY PLAT OF WHITETAIL WOODS

Part of the Southeast Quarter of the Southwest Quarter, the Northeast Quarter of the Southwest Quarter, and the Southwest Quarter of the Southeast Quarter, Section 19, Township 27 North, Range 8 West, City of Altoona, Eau Claire County, Wisconsin.

LOT AREA TABLE

LOT	SQUARE FEET	ACRES	LOT	SQUARE FEET	ACRES	LOT	SQUARE FEET	ACRES
1	9,939	0.23	62	6,776	0.16	123	4,725	0.11
2	8,564	0.20	63	12,950	0.30	124	4,725	0.11
3	8,680	0.20	64	6,696	0.15	125	4,725	0.11
4	11,084	0.25	65	6,696	0.15	126	4,725	0.11
5	8,947	0.21	66	6,696	0.15	127	4,725	0.11
6	8,919	0.20	67	6,696	0.15	128	7,425	0.17
7	6,877	0.16	68	6,696	0.15	129	6,075	0.14
8	6,861	0.16	69	6,696	0.15	130	7,425	0.17
9	6,873	0.16	70	6,696	0.15	131	7,425	0.17
10	6,861	0.16	71	6,696	0.15	132	4,725	0.11
11	6,868	0.16	72	6,696	0.15	133	4,725	0.11
12	6,861	0.16	73	6,810	0.16	134	4,725	0.11
13	6,864	0.16	74	13,943	0.32	135	4,725	0.11
14	6,861	0.16	75	10,920	0.25	136	4,725	0.11
15	10,915	0.25	76	10,920	0.25	137	4,725	0.11
16	8,919	0.20	77	10,920	0.25	138	4,725	0.11
17	7,870	0.18	78	10,920	0.25	139	4,725	0.11
18	6,480	0.15	79	11,917	0.27	140	4,725	0.11
19	6,480	0.15	80	12,895	0.30	141	5,874	0.13
20	6,480	0.15	81	18,314	0.42	142	5,775	0.13
21	6,480	0.15	82	19,645	0.45	143	4,725	0.11
22	8,640	0.20	83	19,591	0.45	144	6,322	0.15
23	129,981	2.98	84	13,489	0.31	145	6,382	0.15
24	77,165	1.77	85	13,648	0.31	146	10,429	0.24
25	120,127	2.76	86	13,633	0.31	147	15,186	0.35
26	12,312	0.28	87	13,619	0.31	148	8,992	0.21
27	11,960	0.27	88	13,604	0.31	149	5,569	0.13
28	6,773	0.16	89	16,998	0.39	150	5,264	0.12
29	6,589	0.15	90	16,653	0.38	151	5,264	0.12
30	6,773	0.16	91	13,358	0.31	152	5,265	0.12
31	6,599	0.15	92	14,534	0.33	153	5,266	0.12
32	6,773	0.16	93	7,893	0.18	154	5,266	0.12
33	6,609	0.15	94	8,108	0.19	155	5,267	0.12
34	6,773	0.16	95	6,292	0.14	156	5,267	0.12
35	6,619	0.15	96	8,072	0.19	157	5,268	0.12
36	9,544	0.22	97	12,043	0.28	158	5,269	0.12
37	9,336	0.21	98	11,557	0.27	159	5,271	0.12
38	6,664	0.15	99	14,683	0.34	160	5,291	0.12
39	6,773	0.16	100	13,874	0.32	161	7,151	0.16
40	6,673	0.15	101	16,061	0.37	162	5,640	0.13
41	6,773	0.16	102	10,494	0.24	163	5,670	0.13
42	6,683	0.15	103	11,545	0.27	164	5,700	0.13
43	6,773	0.16	104	11,334	0.26	165	5,730	0.13
44	6,693	0.15	105	11,333	0.26	166	5,735	0.13
45	6,773	0.16	106	10,793	0.25	167	7,863	0.18
46	6,703	0.15	107	10,793	0.25	168	7,533	0.17
47	6,773	0.16	108	10,792	0.25	169	6,337	0.15
48	6,712	0.15	109	10,805	0.25	170	6,338	0.15
49	6,773	0.16	110	8,146	0.19	171	6,338	0.15
50	6,721	0.15	111	7,484	0.17	172	6,338	0.15
51	6,773	0.16	112	7,500	0.17	173	6,338	0.15
52	6,730	0.15	113	8,214	0.19	174	9,428	0.22
53	6,773	0.16	114	8,307	0.19	175	148,091	3.40
54	6,740	0.15	115	7,561	0.17	OL 3	6,633	0.15
55	6,773	0.16	116	7,561	0.17	OUTLOT 1	31,424	0.72
56	6,749	0.15	117	8,237	0.19	OUTLOT 2	17,713	0.41
57	6,773	0.16	118	6,001	0.14	OUTLOT 4	144,103	3.31
58	6,758	0.16	119	4,725	0.11	OUTLOT 5	10,425	0.24
59	6,773	0.16	120	4,725	0.11	OUTLOT 6	32,058	0.74
60	6,767	0.16	121	4,725	0.11	OUTLOT 7	38,809	0.89
61	12,217	0.28	122	4,725	0.11	OUTLOT 8	11,353	0.26

CURVE TABLE

CURVE	LOT	RADIUS	CHORD BEARING	CHORD	ARC	DELTA	TANGENT IN	TANGENT OUT
1-2		170.00'	N14°08'08"E	84.30'	85.19'	028°42'45"	N28°29'31"E	N00°13'14"W
3-4		230.00'	S02°39'18"E	237.93'	250.06'	062°17'37"	S28°29'31"W	S33°48'07"E
	24	230.00'	S13°04'38"W	122.27'	123.76'	030°49'45"		
	25	230.00'	S18°04'10"E	124.73'	126.31'	031°27'52"		
5-6		170.00'	S17°00'40"E	98.22'	99.64'	033°34'53"	S33°48'07"E	S00°13'14"E
7-8		1382.41'	N81°39'36"W	474.15'	476.51'	019°44'59"	S88°27'55"W	N71°47'07"W
	25	1382.41'	N77°53'42"W	294.28'	294.84'	012°13'12"		
	R/W	1382.41'	S85°15'12"E	60.23'	60.23'	002°29'47"		
	134	1382.41'	S89°01'05"E	121.40'	121.44'	005°02'00"		
9-10		230.00'	N05°39'48"E	47.16'	47.24'	011°46'05"	N11°32'51"E	N00°13'14"W
11-12		170.00'	S02°39'18"E	175.86'	184.83'	062°17'37"	S28°29'31"W	S33°48'07"E
13-14		230.00'	N17°00'40"W	132.88'	134.80'	033°34'53"	N00°13'14"W	N33°48'07"W
15-16		70.00'	S81°33'47"E	25.77'	25.91'	021°12'39"	S70°57'28"E	N87°49'53"E
17-18		130.00'	S81°33'47"E	47.85'	48.13'	021°12'39"	S70°57'28"E	N87°49'53"E
19-20		30.00'	S68°04'25"E	24.49'	25.23'	048°11'23"	S43°58'44"E	N87°49'53"E
20-21		60.00'	S02°10'07"E	80.00'	289.42'	276°22'46"	N43°58'44"W	N39°38'31"E
	79	60.00'	N48°44'12"E	18.97'	19.05'	018°11'23"		
	80	60.00'	N87°49'53"E	60.00'	62.83'	060°00'00"		
	81	60.00'	S32°10'07"E	60.00'	62.83'	060°00'00"		
	82	60.00'	S27°49'53"W	60.00'	62.83'	060°00'00"		
	83	60.00'	S87°49'53"W	60.00'	62.83'	060°00'00"		
	84	60.00'	N53°04'25"W	18.97'	19.05'	018°11'23"		
21-22		30.00'	S63°44'12"W	24.49'	25.23'	048°11'23"	S87°49'53"W	S39°38'31"W
23-24		120.00'	N46°50'26"W	170.67'	189.87'	090°39'22"	N01°30'45"W	S87°49'53"W
25-26		180.00'	N46°50'26"W	256.01'	284.80'	090°39'22"	N01°30'45"W	S87°49'53"W
	89	180.00'	S82°23'21"E	61.15'	61.45'	019°33'31"	N87°49'53"E	S72°36'35"E
	90	180.00'	S60°43'43"E	74.12'	74.65'	023°45'44"	S72°36'35"E	S48°50'51"E
	91	180.00'	S36°57'59"E	74.12'	74.65'	023°45'44"	S48°50'51"E	S25°05'07"E
	92	180.00'	S13°17'56"E	73.53'	74.06'	023°34'22"	S25°05'07"E	S01°30'45"E
27-28		30.00'	N24°52'23"W	24.49'	25.23'	048°11'23"	N00°46'41"W	N48°58'04"W

CURVE TABLE

CURVE	LOT	RADIUS	CHORD BEARING	CHORD	ARC	DELTA	TANGENT IN	TANGENT OUT
28-29		60.00'	S89°13'19"W	80.00'	289.42'	276°22'46"	N47°24'41"E	S48°58'04"E
	98	60.00'	N36°11'20"W	26.54'	26.76'	025°33'29"		
	99	60.00'	N06°35'24"E	60.00'	62.83'	060°00'00"		
	100	60.00'	N66°35'24"E	60.00'	62.83'	060°00'00"		
	101	60.00'	S53°24'36"E	60.00'	62.83'	060°00'00"		
	102	60.00'	S06°35'24"W	60.00'	62.83'	060°00'00"		
	103	60.00'	S42°00'03"W	11.32'	11.33'	010°49'17"		
29-30		30.00'	S23°19'00"W	24.49'	25.23'	048°11'23"	S47°24'41"W	S00°46'41"E
31-32		60.00'	N47°10'07"W	84.85'	94.25'	090°00'00"	N02°10'07"W	S87°49'53"W
	146	60.00'	S13°52'01"E	24.33'	24.50'	023°23'48"	S02°10'07"E	S25°33'55"E
	147	60.00'	S41°06'07"E	32.14'	32.54'	031°04'25"	S25°33'55"E	S56°38'20"E
	148	60.00'	S72°08'39"E	32.08'	32.47'	031°00'39"	S56°38'20"E	S87°38'59"E
	149	60.00'	S89°54'33"E	4.73'	4.73'	004°31'08"	S87°38'59"E	N87°49'53"E
33-34		130.00'	S17°22'04"E	71.03'	71.95'	031°42'39"	S01°30'45"E	S33°13'24"E
	171	130.00'	S04°34'53"E	13.92'	13.93'	006°08'18"		
	172	130.00'	S16°03'07"E	37.99'	38.12'	016°48'09"		
	173	130.00'	S28°50'17"E	19.88'	19.90'	008°46'13"		
35-36		70.00'	N17°41'25"W	37.49'	37.95'	031°03'58"	N02°09'26"W	N33°13'24"W
37-38		130.00'	N17°41'25"W	69.63'	70.49'	031°03'58"	N02°09'26"W	N33°13'24"W
39-40		70.00'	S17°22'04"E	38.25'	38.74'	031°42'39"	S01°30'45"E	S33°13'24"E
41-42		230.00'	N27°30'52"E	7.85'	7.85'	001°57'18"	N28°29'31"E	N26°32'13"E

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