TIMMONS GROUP

Faison Tract

Traffic Impact Analysis

October 2025

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Traffic Impact Analysis

Faison Tract
Zebulon, NC

Prepared for KB Home
October 2025

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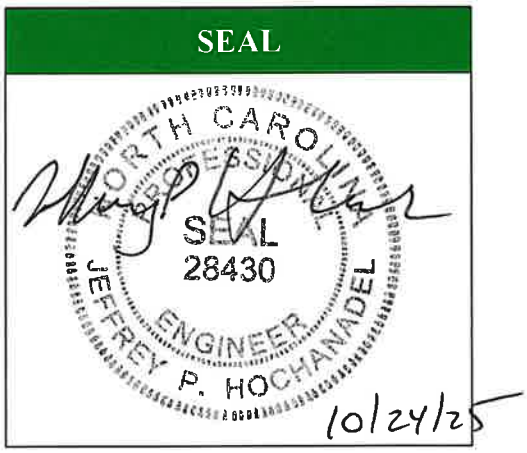

"I certify that this Traffic Impact Analysis has been prepared by me or under my immediate supervision and that I have experience and training in the field of traffic and transportation engineering."

Jeff Hochanadel, PE, PTOE
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1 EXECUTIVE SUMMARY

The proposed Faison Tract Traffic Impact Analysis (TIA) was completed in accordance with the Town of Zebulon (Town) and North Carolina Department of Transportation's (NCDOT) standards and procedures. The proposed development will be located off NC-97 (W Gannon Ave) between Green Pace Road and Water Plant Road in Zebulon, NC.

Development Summary

The proposed development will be constructed in one (1) phase and completed by 2030. The development will consist of 197 detached single-family housing units.

Access to the proposed development will be provided via one (1) new site access connection to NC-97, as well as through the proposed Ammons Property development.

Study Conditions and Limits

In accordance with applicable guidelines, the study analyzed the following conditions during the weekday AM and PM peak hours:

- 2025 Existing Traffic Conditions
- 2030 Background Traffic Conditions
- 2030 Build Traffic Conditions

The following intersections were analyzed:

1. NC-96 (N Arendell Ave) / SR-2368 (Green Pace Road)
2. NC-97 (W Gannon Ave) / SR-2329 (Lizard Lick Road / Marshburn Road);
3. NC-97 (W Gannon Ave) / SR-5447 (Pitty Pats Path) / Ammons Property Access;
4. NC-97 (W Gannon Ave) / SR-2368 (Green Pace Road);
5. NC-97 (W Gannon Ave) / Site Access; and
6. NC-97 (W Gannon Ave) / SR-2370 (Water Plant Road).

Background Traffic Condition Summary

Background traffic volumes include the following:

- Existing traffic volumes grown by 2% annually
- Traffic from the approved developments listed below (as applicable):
    - Marshburn Manor
    - Ammons Property

Site Trip Generation Summary

Site-generated trips are based on trip generation information provided in the 11th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual* and the anticipated development. Site trips are summarized in **Table 1-1** below:

Table 1-1: Trip Generation Summary

ITE Land Use Code	Independent Variable	AM Peak Hour			PM Peak Hour			Daily Traffic
		In	Out	Total	In	Out	Total	
210 – Single-Family Detached Housing	197 Units	35	103	138	118	70	188	1,883

SOURCE: ITE *Trip Generation Manual* 11th Edition (2021)

The proposed development is projected to generate 138 AM peak hour trips (35 incoming and 103 outgoing) and 188 PM peak hour trips (118 incoming and 70 outgoing). Projected Average Daily Traffic (ADT) volumes totaled 1,883 vehicles per day (VPD).

Build volumes were determined by summing Background traffic volumes and site trip distribution volumes.

Capacity Analysis Summary

Study area intersection capacity analyses were completed during the weekday AM and PM peak hours for the following conditions: 2025 Existing, 2030 Background, and 2030 Build. All analyses were performed in accordance with applicable standards and procedures. **Chapter 7** includes detailed study area intersection capacity analysis results.

Recommended Developer Improvements

The following improvement (see **Figure 1-1**) is recommended in conjunction with the proposed development's construction.

- *NC-97 / Site Access*
  - 75-foot eastbound right-turn lane

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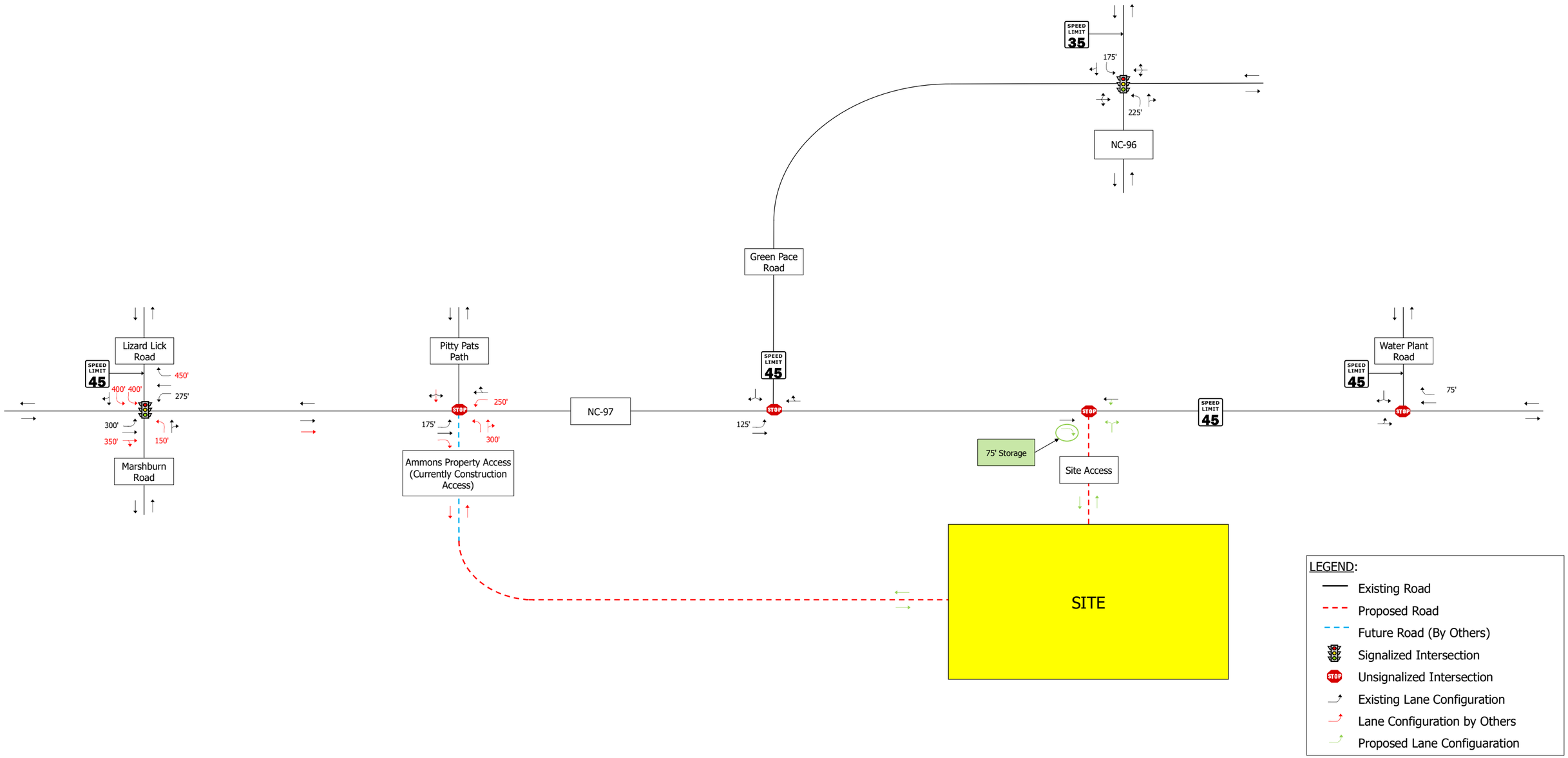

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Faison Tract Traffic Impact Analysis

2030 Proposed Lane Configuration

Figure 1-1

2 INTRODUCTION

This report presents the Faison Tract TIA findings. The proposed development will be located in Zebulon, NC. The TIA's purpose is to verify that the existing study area geometry is sufficient to accommodate the projected traffic volumes, and to determine what, if any, improvements are necessary.

The study analyzed the following weekday AM and PM peak hour conditions:

- Existing (2025) Traffic Conditions
- Background (2030) Traffic Conditions
- Build (2030) Traffic Conditions

2.1 SITE LOCATION AND STUDY AREA

The proposed development will be located off NC-97 (W Gannon Ave) between Green Pace Road and Water Plant Road in Zebulon, NC (see **Figure 2-1**). The following study area intersections were analyzed:

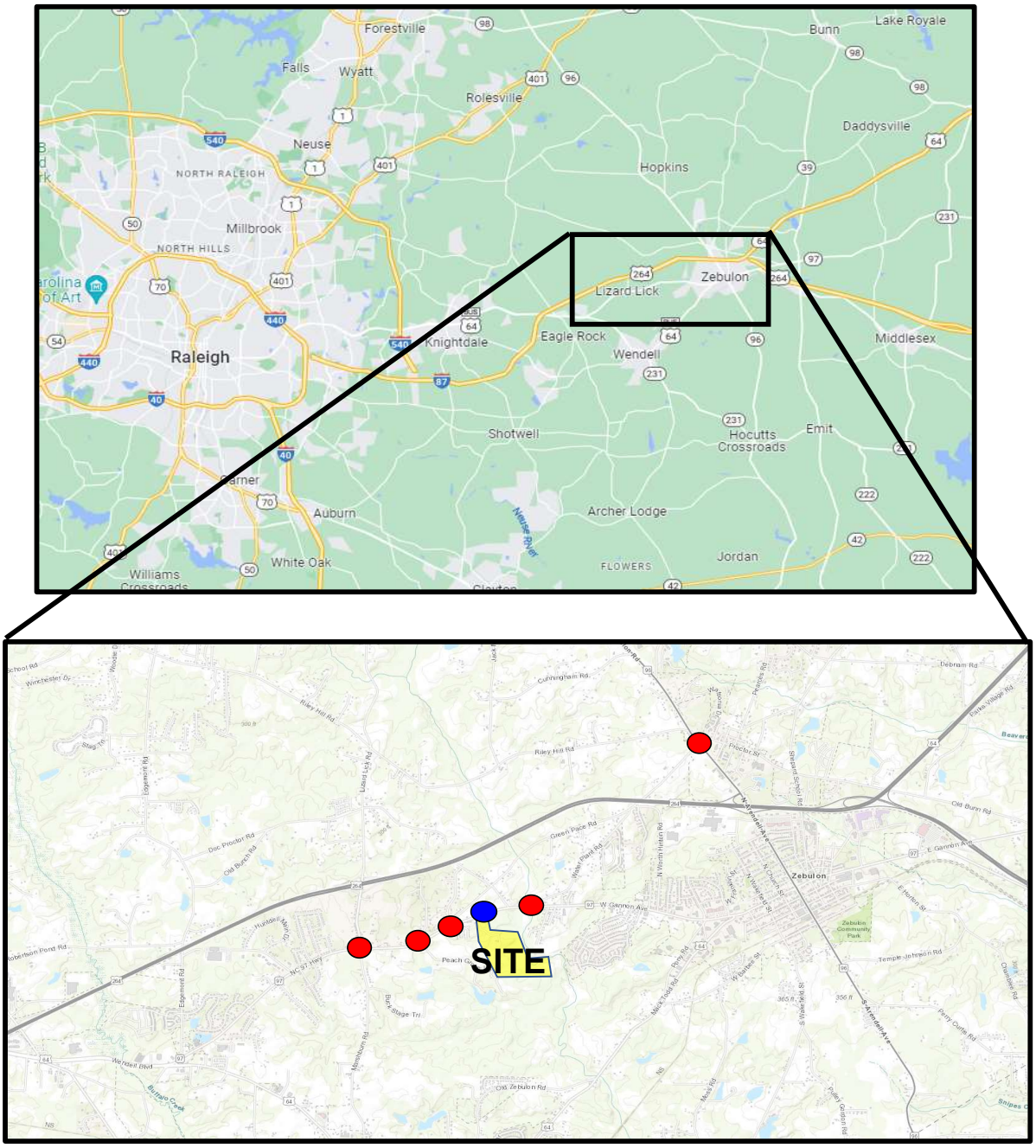
1. NC-96 (N Arendell Ave) / SR-2368 (Green Pace Road)
2. NC-97 (W Gannon Ave) / SR-2329 (Lizard Lick Road / Marshburn Road);
3. NC-97 (W Gannon Ave) / SR-5447 (Pitty Pats Path) / Ammons Property Access;
4. NC-97 (W Gannon Ave) / SR-2368 (Green Pace Road);
5. NC-97 (W Gannon Ave) / Site Access; and
6. NC-97 (W Gannon Ave) / SR-2370 (Water Plant Road).

2.2 SITE DESCRIPTION

The proposed development will be constructed in one (1) phase and completed by 2030. The development will consist of 197 detached single-family housing units.

Access to the proposed development will be provided via one (1) new site access connection to NC-97, as well as through the proposed Ammons Property development:

- Site Access
    - Proposed full movement access to NC-97, approximately 1,500-feet (C/L to C/L) east of Green Pace Road.
- Ammons Property development access
    - Full movement access (currently under construction) to NC-97, opposite Pitty Pats Path. The subject development will connect internally to the Ammons Property Development.



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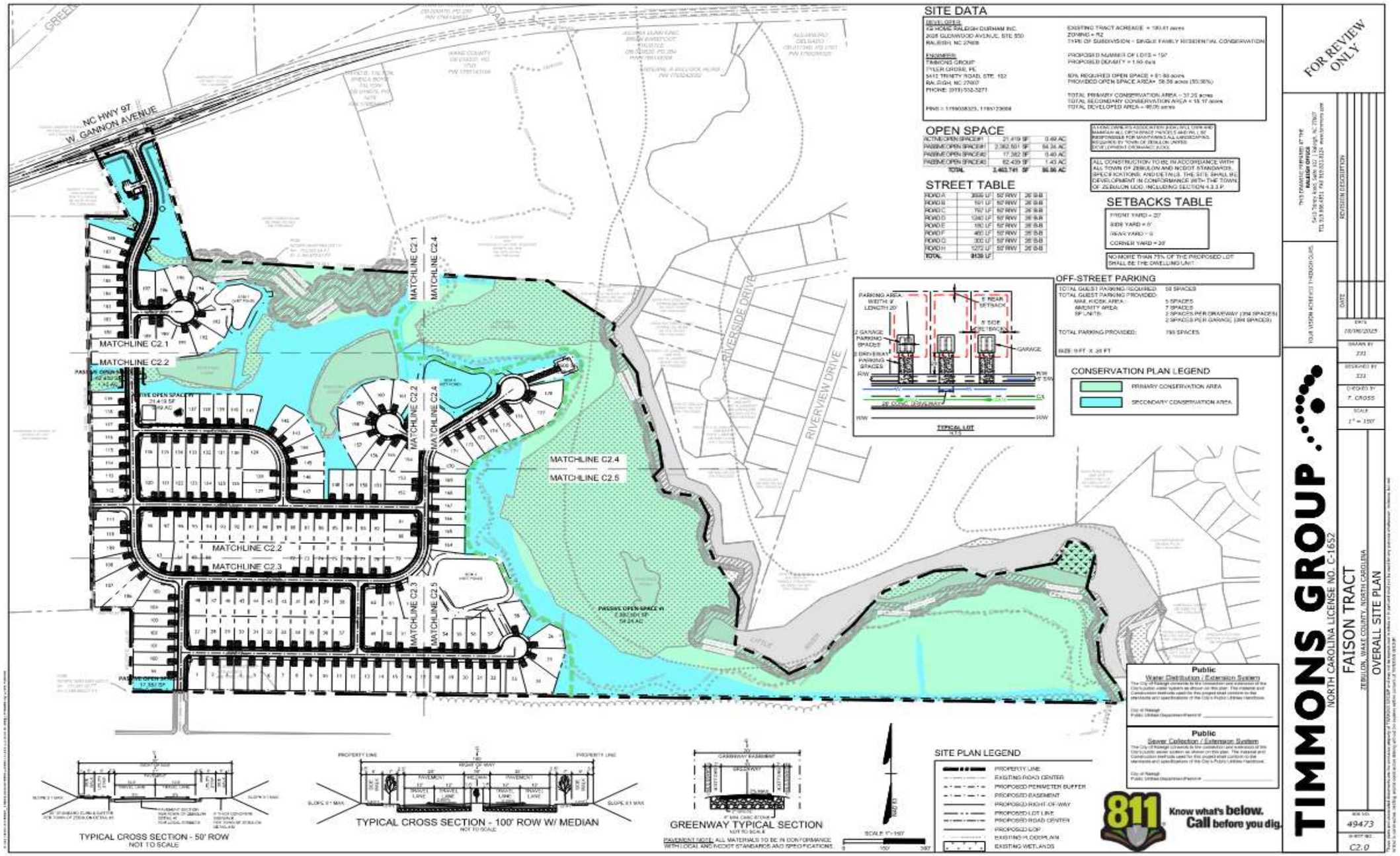
Faison Tract
Traffic Impact Analysis
Site Location Map

Figure 2-1



Faison Tract Traffic Impact Analysis
Overall Site Plan

Figure 2-2

3 EXISTING TRAFFIC CONDITIONS

3.1 EXISTING GEOMETRIC CONDITIONS

The existing intersection geometry and traffic control is shown in **Figure 3-1**. Existing roadway data is summarized in **Table 3-1** below:

Table 3-1: Existing Roadways

Road Name	Route Number	Functional Class*	Cross Section	Posted Speed Limit	AADT (Year)	AADT Location
N Arendell Avenue	NC-96	Minor Arterial	2-Lane Undivided	35	12,500 (2021)	North of SR-1001 (Pearces Road)
Green Pace Road	SR-2368	Local	2-Lane Undivided	45	2,100 (2023)	North of NC-97
W Gannon Avenue	NC-97	Minor Arterial	2-Lane Undivided	45	10,500 (2023)	East of SR-2329 (Marshburn Road)
Lizard Lick Road	SR-2329	Major Collector	2-Lane Undivided	45	8,500 (2023)	South of US-64-264 Bypass
Marshburn Road	SR-2329	Major Collector	2-Lane Undivided	45	2,400 (2023)	North of US-64 Bus (Wendell Blvd)
Pitty Pats Path	SR-5447	Local	2-Lane Undivided	Not Posted (Assumed 25)	AADT Not Available	
Water Plant Road	SR-2370	Local	2-Lane Undivided	45	AADT Not Available	

*Roadways classified per the NCDOT Functional Class Map.

3.2 ALTERNATIVE MODES OF TRANSPORTATION

Per aerial imagery and Zebulon bus routes, there are no bus stops within the study area. Sidewalks are available in a portion of the study area. No special accommodations for bicyclists (i.e., separate bike lanes or sharrows) were noted.

3.3 EXISTING TRAFFIC VOLUMES

Timmons Group calculated study area intersection peak hour volumes using weekday AM (7:00 – 9:00) and PM (4:00 – 6:00) peak period turning movement counts undertaken in October 2025. Turning movement traffic count data is summarized in **Figure 3-2**. The turning movement traffic count data is located in **Appendix A**.

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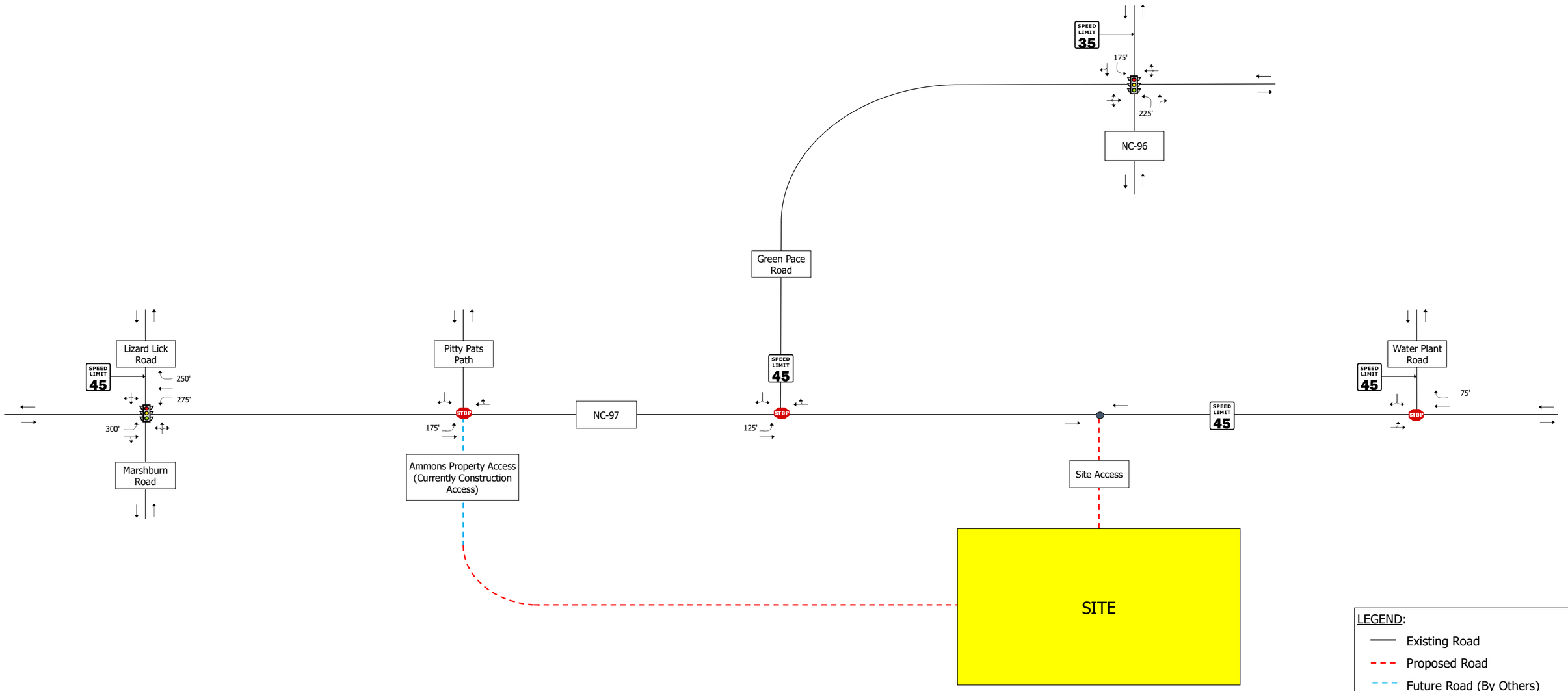

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Faison Tract Traffic Impact Analysis

2025 Existing Lane Configuration

Figure 3-1

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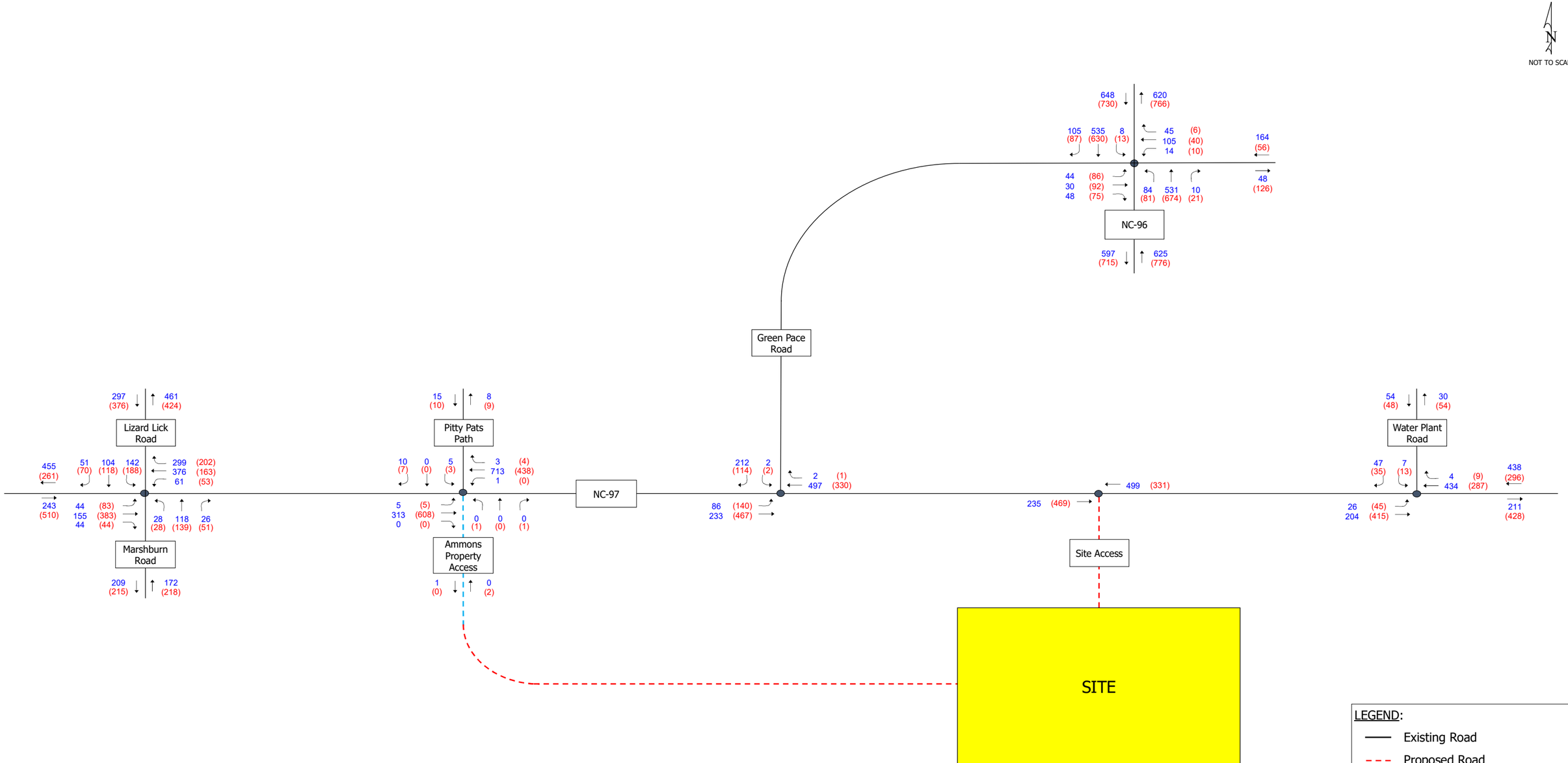

LEGEND:

- Existing Road
- Proposed Road
- Future Road (By Others)
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

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Faison Tract Traffic Impact Analysis

2025 Existing Traffic Volumes

Figure 3-2

4 BACKGROUND TRAFFIC CONDITIONS

4.1 BACKGROUND TRAFFIC VOLUMES

Background traffic volumes were calculated using a 2% annual growth rate. 2030 Ambient traffic volumes are shown in **Figure 4-1.**

4.2 PUBLIC IMPROVEMENT PROJECTS

There are no public improvement projects within the study area that were considered for this study.

4.3 APPROVED AREA DEVELOPMENTS

Site traffic from two (2) approved area developments were included in this study:

- Ammons Property
    - TIA performed by RKA (sealed 7/14/2022)
    - Located in the southeast NC-97 / Marshburn Road intersection quadrant
    - 2030 Full Build
    - 1,700 single family detached units.
    - Trip generation found in the approved TIA
    - Trip distribution volumes shown in **Figure D-1**
    - Study area improvement recommendations
        - NC-97 / Lizard Lick Road / Marshburn Road
            - 350-foot eastbound shared through / right-turn lane
            - 400-foot dual southbound left-turn lanes
            - 150-foot northbound left-turn lane
            - 450-foot westbound right-turn lane
        - NC-97 / Pitty Pats Path / Ammons Property Access
            - Full-length eastbound right-turn lane
            - 250-foot westbound left-turn lane
            - Exclusive northbound left-turn lane
            - 300-foot northbound shared through / right-turn lane

- Marshburn Manor
    - TIA performed by Stantec (sealed 9/29/2022)
    - Located in the southeast NC-97 / Marshburn Road intersection quadrant
    - 2026 Full Build
    - 404 single family detached units.
    - Trip generation found in the approved TIA
    - Trip distribution volumes shown in **Figure D-2**
    - Study area improvement recommendations
        - NC-97 / Lizard Lick Road / Marshburn Road
            - 450-foot westbound right-turn lane

Combined approved development traffic volumes are provided in **Figure 4-2**. All approved development information and trip distribution assumptions are shown in **Appendix B**.

4.4 BACKGROUND TRAFFIC VOLUMES

Background traffic volumes were determined by summing the Ambient traffic volumes (see **Figure 4-1**) and Approved Development traffic volumes (see **Figure 4-2**). The 2030 Background traffic volumes are shown in **Figure 4-3**.

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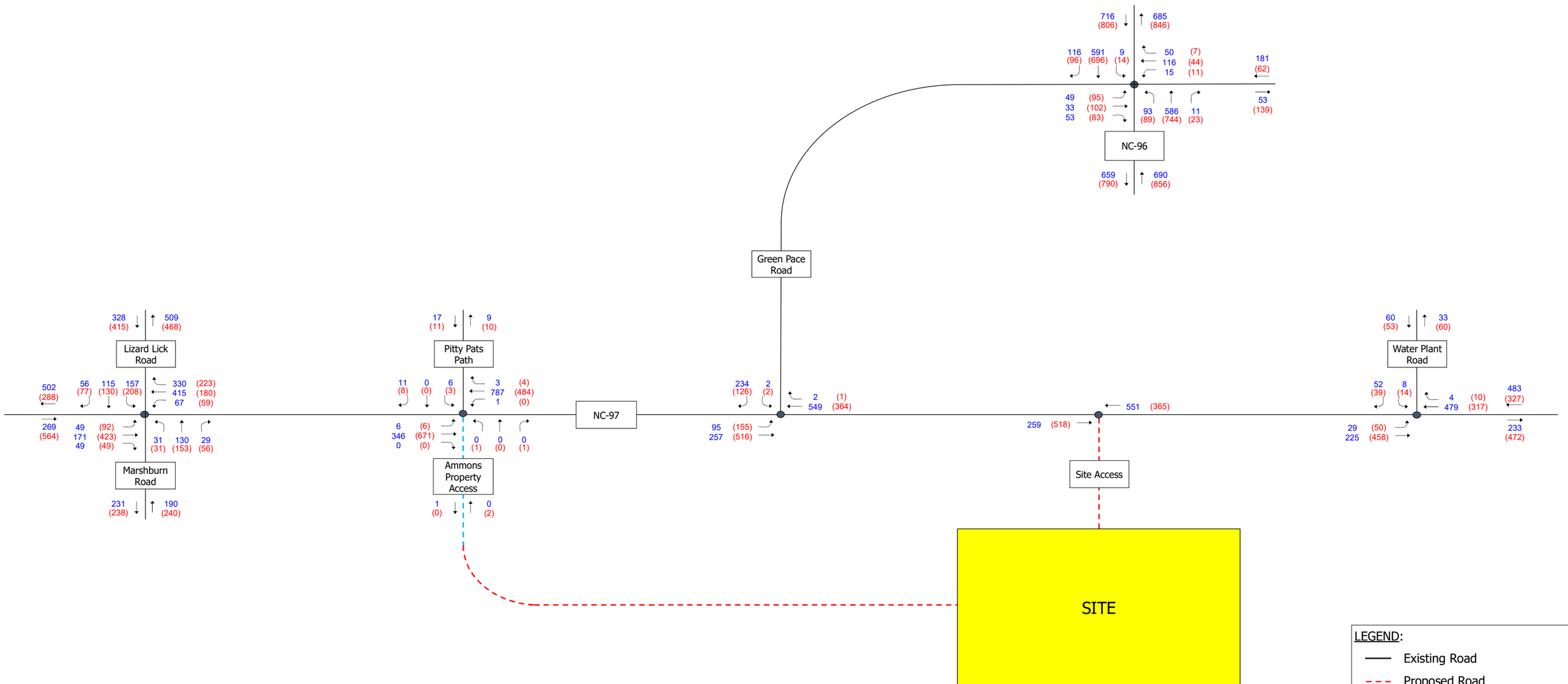

LEGEND:

- Existing Road
- Proposed Road
- Future Road (By Others)
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

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Faison Tract Traffic Impact Analysis

2030 Ambient Traffic Volumes

Figure 4-1

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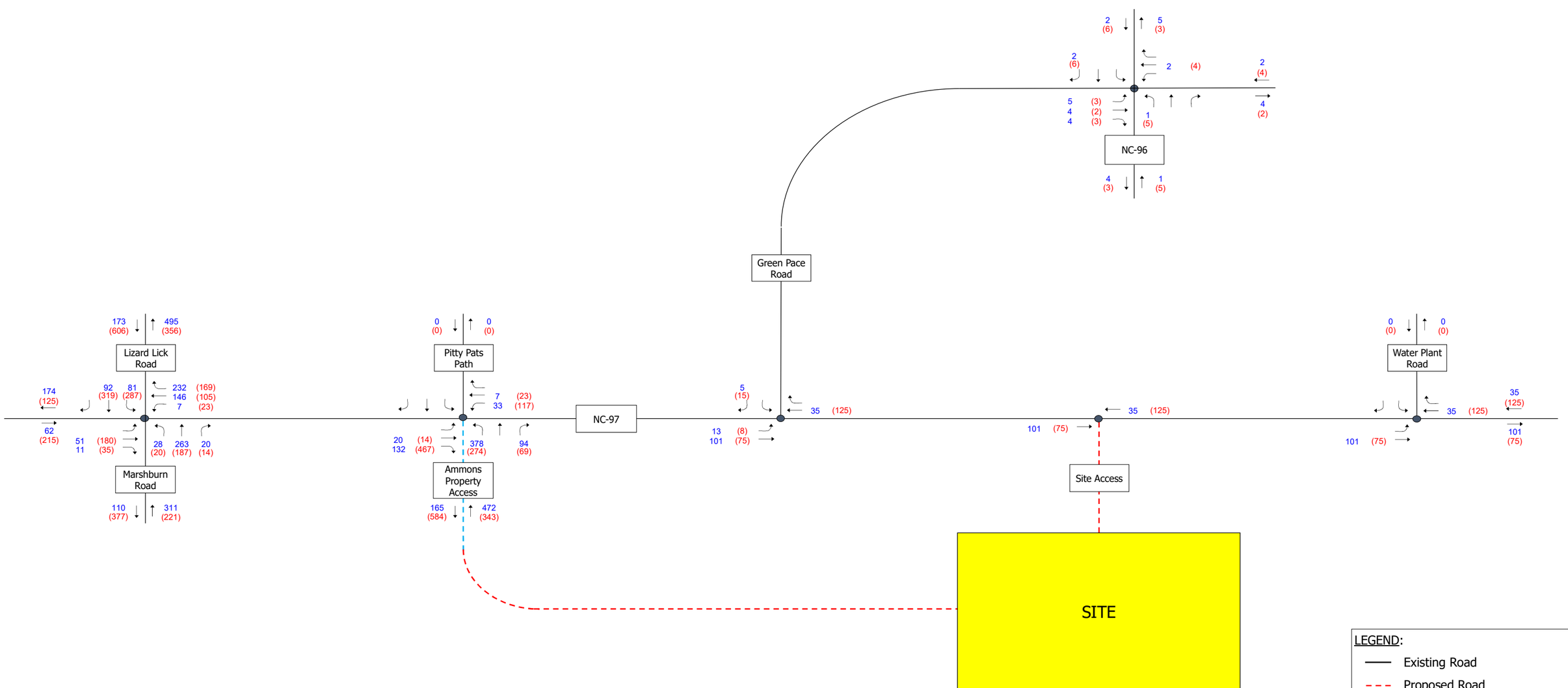

LEGEND:

- Existing Road
- Proposed Road
- Future Road (By Others)
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

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Faison Tract Traffic Impact Analysis

Combined Approved Development Traffic Volumes

Figure 4-2

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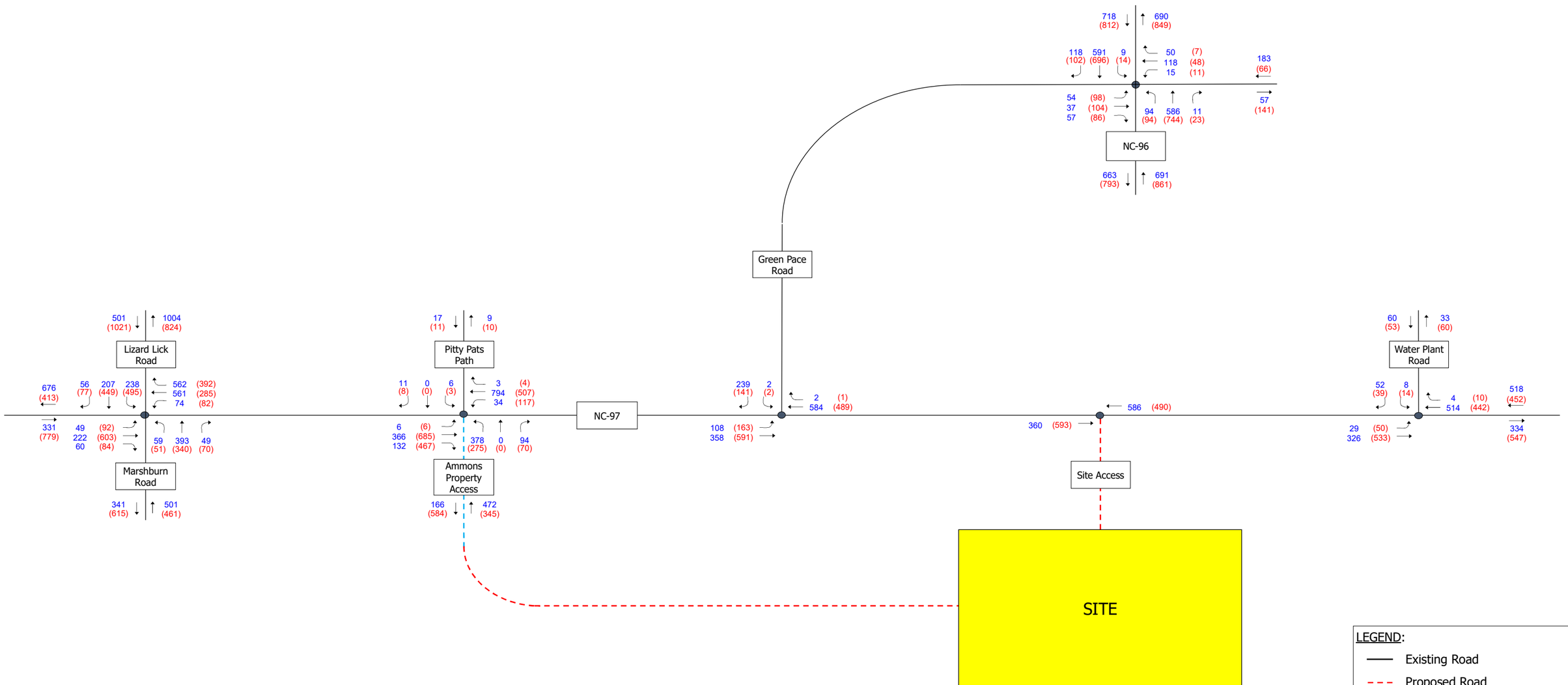

LEGEND:

- Existing Road
- Proposed Road
- Future Road (By Others)
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

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Faison Tract Traffic Impact Analysis

2030 Background Traffic Volumes

Figure 4-3

5 DEVELOPMENT TRAFFIC

The Faison Tract Development site trips were estimated based on the proposed land use supplied by the developer and subsequently distributed onto the surrounding roadway network.

5.1 TRIP GENERATION

The site-generated trips shown in **Table 5-1** are based on trip generation information provided in the 11th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual* and the anticipated building program. The trip generation was calculated in accordance with applicable standards and procedures for each land use type.

Table 5-1: Trip Generation Summary

ITE Land Use Code	Independent Variable	AM Peak Hour			PM Peak Hour			Daily Traffic
		In	Out	Total	In	Out	Total	
210 – Single-Family Detached Housing	197 Units	35	103	138	118	70	188	1,883

SOURCE: ITE *Trip Generation Manual* 11th Edition (2021)

The proposed development is projected to generate 138 AM peak hour trips (35 incoming and 103 outgoing) and 188 PM peak hour trips (118 incoming and 70 outgoing). Projected Average Daily Traffic (ADT) volumes totaled 1,883 vehicles per day (VPD).

5.2 TRIP DISTRIBUTION

The directional traffic patterns, or site trip distribution, were determined using the existing traffic characteristics and Engineering judgement. It was assumed, for study purposes, that all site traffic would enter and exit the study area similar to existing traffic volumes. Trip distribution percentages and volumes are shown in **Figures 5-1** and **5-2**, respectively.

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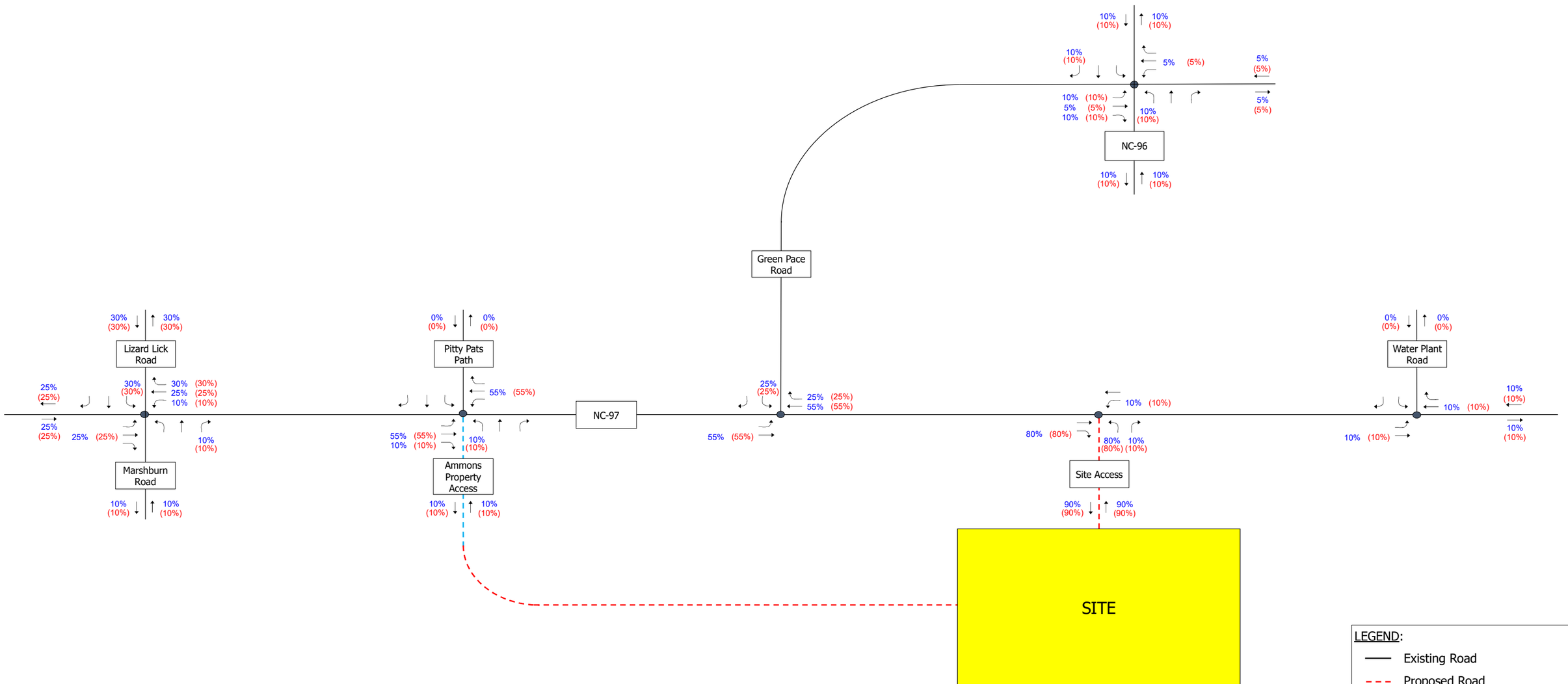

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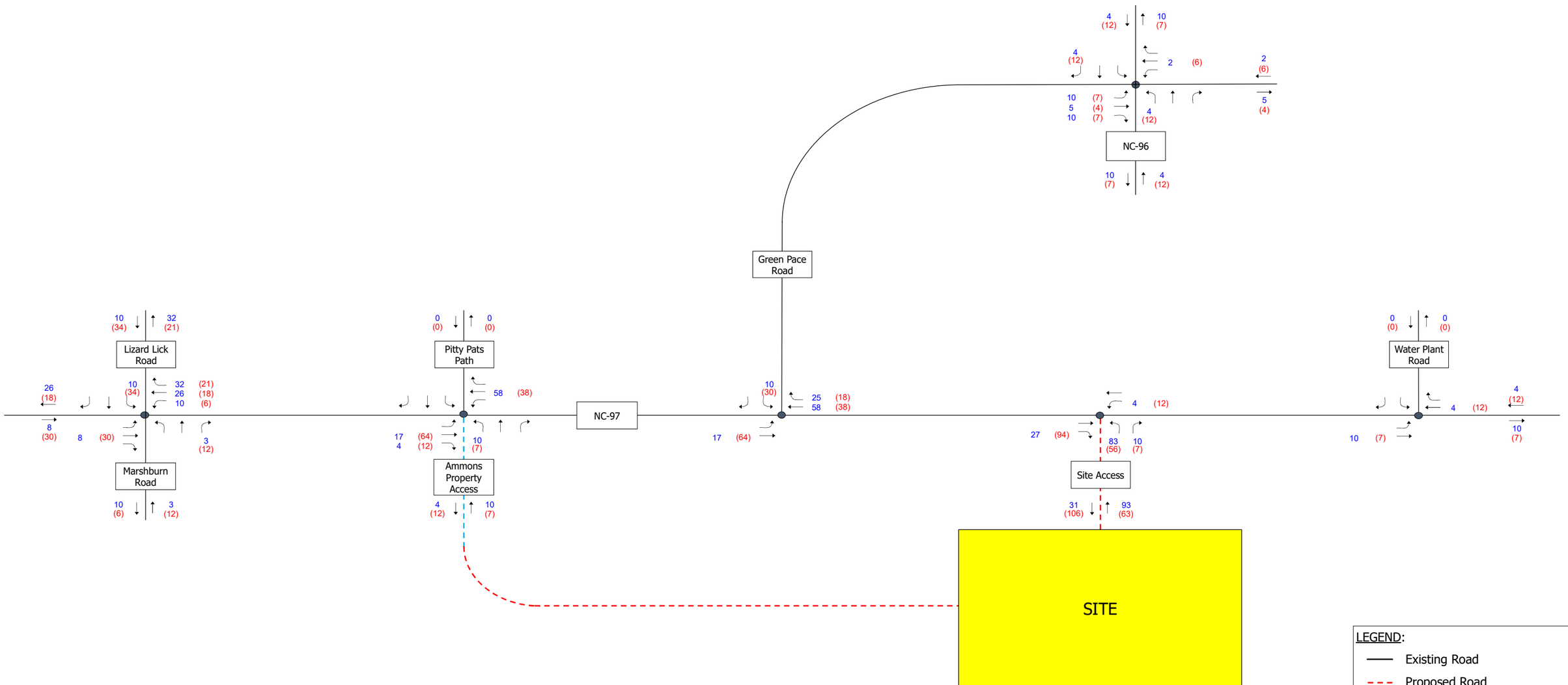
Faison Tract Traffic Impact Analysis

Trip Distribution Percentages

Figure 5-1

NOT TO SCALE



LEGEND:

- Existing Road
- Proposed Road
- Future Road (By Others)
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

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Faison Tract Traffic Impact Analysis

Trip Distribution Volumes

Figure 5-2

6 BUILD TRAFFIC CONDITIONS

6.1 BUILD TRAFFIC VOLUMES

Build traffic volumes were determined by summing Background traffic volumes (see **Figure 4-3**) and projected site trips (see **Figure 5-1b**). 2030 Build traffic volumes are shown in **Figure 6-1**.

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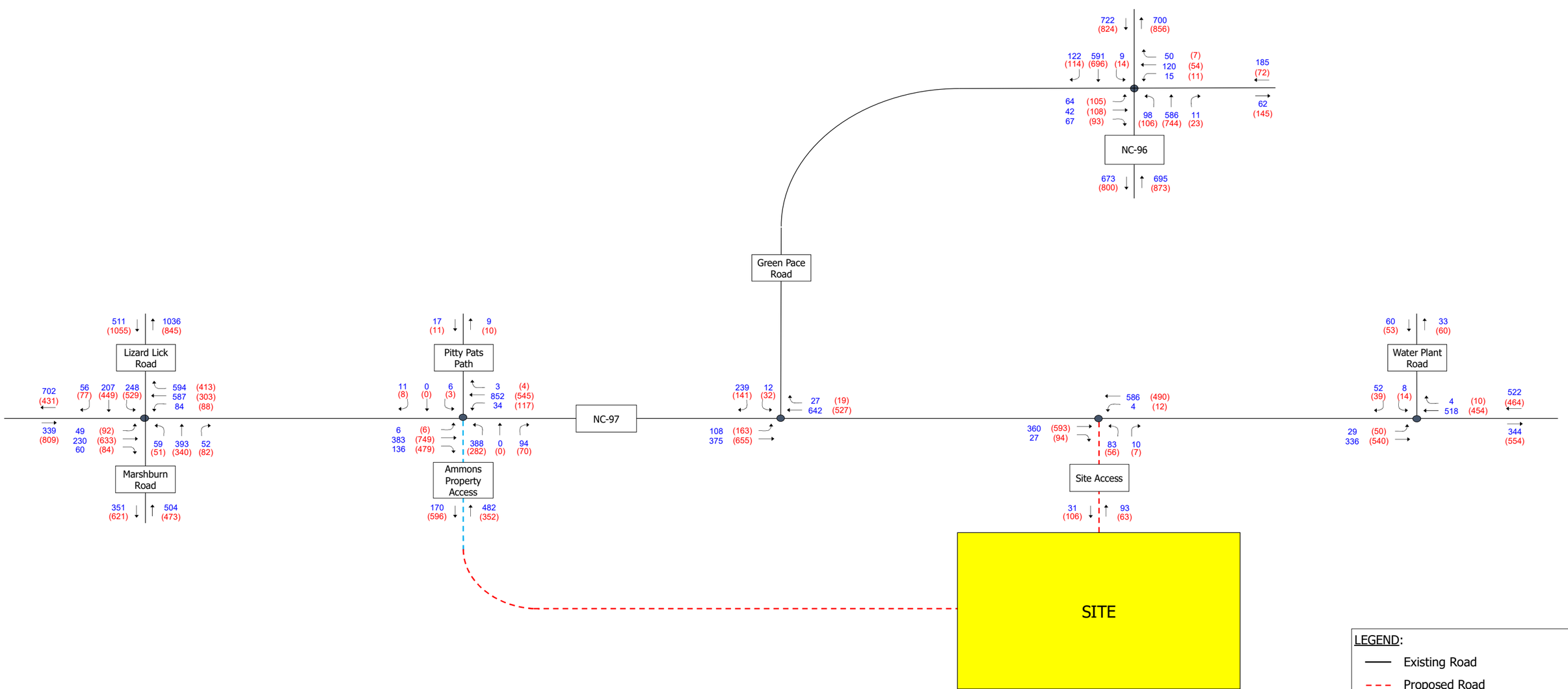

LEGEND:

- Existing Road
- Proposed Road
- Future Road (By Others)
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

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Faison Tract Traffic Impact Analysis

2030 Build Traffic Volumes

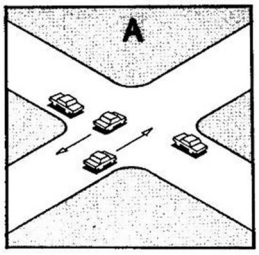
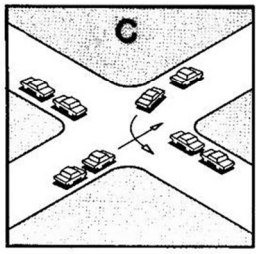
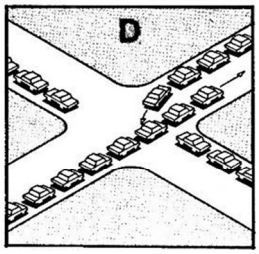
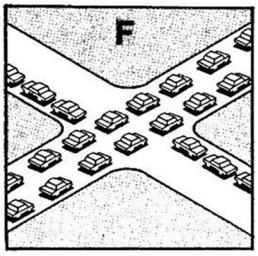
Figure 6-1

7 ANALYSIS RESULTS

7.1 CAPACITY ANALYSIS

Capacity analysis allows traffic engineers to determine the impacts of traffic on the surrounding roadway network. The Transportation Research Board's (TRB) *Highway Capacity Manual* (HCM) methodologies govern how the capacity analyses are conducted and how the results are interpreted. There are six letter grades of Levels of Service (LOS) from A to F, with LOS A representing the best operating conditions and LOS F the worst operating conditions. Typically, a LOS E (or worse) is considered unacceptable. Nevertheless, it is not uncommon for side streets to function unacceptably during peak traffic periods because the traffic volumes often do not warrant a traffic signal to assist side street traffic. **Table 7-1** shows in detail how each of these levels of service are interpreted.

Table 7-1: Level of Service Definitions

Level of Service	Roadway Segments or Controlled Access Highways	Intersections	
A	Free flow, low traffic density.	No vehicle waits longer than one signal indication.	
B	Delay is not unreasonable, stable traffic flow.	On a rare occasion motorists wait through more than one signal indication.	
C	Stable condition, movements somewhat restricted due to higher volumes, but not objectionable for motorists.	Intermittently drivers wait through more than one signal indication, and occasionally backups may develop behind left turning vehicles, traffic flow still stable and acceptable.	
D	Movements more restricted, queues and delays may occur during short peaks, but lower demands occur often enough to permit clearing, thus preventing excessive backups.	Delays at intersections may become extensive with some, especially left-turning vehicles waiting two or more signal indications, but enough cycles with lower demand occur to permit periodic clearance, thus preventing excessive backups.	
E	Actual capacity of the roadway invloves delay to all motorists due to congestion.	Very long queues may create lengthly delays, especially for left-turning vehicles.	
F	Forced flow with demand volumes greater than capacity resulting in complete congestion. Volumes drop to zero in extreme cases.	Backups from locations downstream restrict or prevent movement of vehicles out of approach creating a storage ares during part or all of an hour.	

SOURCE: *"A Policy on Design of Design of Urban Highways and Arterial Streets"* - AASHTO, 1973 based upon material published in *"Highway Capacity Manual"*, National Academy of Sciences, 1965.

For signalized and unsignalized intersections, LOS is defined in terms of **delay**, a measure of driver discomfort, frustration, fuel consumption and lost travel time. **Table 7-2** summarizes the delay associated with each LOS category:

Table 7-2: Signalized and Unsignalized Intersection Level of Service Criteria

Signalized Intersections		Unsignalized Intersections	
Level of Service	Control Delay per Vehicle (sec/veh)	Level of Service	Average Control Delay (sec/veh)
A	≤ 10	A	0 to 10
B	> 10 to ≤ 20	B	> 10 to ≤ 15
C	> 20 to ≤ 35	C	> 15 to ≤ 25
D	> 35 to ≤ 55	D	> 25 to ≤ 35
E	> 55 to ≤ 80	E	> 35 to ≤ 50
F	> 80	F	> 50

Source: Exhibit 16-2 and Exhibit 17-2 from TRB's "Highway Capacity Manual 2000"

Capacity analyses were performed to assess operational conditions. Study area intersections were analyzed using SYNCHRO Version 11.1 based on Highway Capacity Manual (HCM) methodologies with the following assumptions:

- 12-foot lane widths;
- No parking activity, bus stops, or pedestrians;
- Peak hour factor (PHF) of 0.90;
- Heavy vehicle percentages 2%
- Signal data / timing values based on existing signal plans (see **Appendix C**) and NCDOT Capacity Analysis Guidelines.

7.2 TURN LANE WARRANTS

The need for turn lanes at the proposed site accesses was determined using the NCDOT Policy on Street and Driveway Access to North Carolina Highways Manual:

"Generally left and right turn lanes and tapers shall be considered when:

- *In accordance with G.S. 137-18(29), the average daily traffic meets or exceeds 4,000 vehicles per day on any secondary route (the average daily traffic should include both the existing traffic plus traffic generated by the proposed development)"*

All site accesses intersecting roadways with a projected ADT of at least 4,000 VPD during the Build condition were evaluated for turn lanes using the NCDOT Turn Lane Warrant Nomograph (see **Appendix D**). If warrants were met, turn lanes were recommended accordingly (as needed). All recommended turn lanes are to be constructed with the appropriate taper lengths.

7.3 2025 CAPACITY ANALYSES RESULTS

Table 7-3 summarizes the 2025 Existing intersection LOS and delay based on 2025 Existing traffic volumes (see **Figure 3-2**). The corresponding SYNCHRO outputs are included in **Appendix E**.

Table 7-3: 2025 Existing Intersection LOS, Delay, and Queue Summary

Intersection	Approach / Overall	AM PEAK HOUR		PM PEAK HOUR		Movement	Turn Lane Storage (ft)	AM PEAK HOUR	PM PEAK HOUR
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]			*95th Percentile Queue Length	*95th Percentile Queue Length
1: NC-96 & Green Pace Rd	Eastbound	21.9	C	33.1	C	EB Left/Thru/Right		92	#220
	Westbound	21.8	C	19.1	B	WB Left/Thru/Right		117	47
	Northbound	8.5	A	15.1	B	NB Left	225	39	51
						NB Thru/Right		192	291
	Southbound	9.9	A	15.6	B	SB Left	175	6	8
						SB Thru/Right		251	307
	Overall	11.5	B	17.9	B	--		--	--
2: Marshburn Road/Lizard Lick Road & NC-97	Eastbound	10.6	B	15.7	B	EB Left	300	25	39
						EB Thru/Right		77	182
	Westbound	13.5	B	11.4	B	WB Left	275	30	31
						WB Thru		152	65
						WB Right	250	124	83
	Northbound	14.4	B	14.0	B	NB Left/Thru/Right		99	113
	Southbound	20.3	C	27.0	C	SB Left/Thru/Right		#210	#274
	Overall	14.5	B	17.1	B	--		--	--
3: Construction Entrance/Pitty Pats Path & NC-97	Eastbound	0.1	A	0.1	A	EB Left	175	0	0
						EB Thru/Right		0	0
	Westbound	0.0	A	0.1	A	WB Left/Thru/Right		0	0
	Northbound	21.5	C	22.8	C	NB Left/Thru/Right		0.2	0.2
	Southbound	21.0	C	20.1	C	SB Left/Thru/Right		0.3	0.2
4: NC-97 & Green Pace Rd	Eastbound	2.4	A	2.0	A	EB Left	125	0.3	0.5
						EB Thru		0	0
	Westbound	0.0	A	0.0	A	WB Thru/Right		0	0
	Southbound	17.7	C	12.4	B	SB Left/Right		2.4	0.8
6: NC-97 & Water Plant Road	Eastbound	1.0	A	0.8	A	EB Left/Thru		0.1	0.1
	Westbound	0.0	A	0.0	A	WB Thru		0	0
						WB Right	75	0	0
	Southbound	12.5	B	12.6	B	SB Left/Right		0.4	0.3

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

7.4 2030 CAPACITY ANALYSES RESULTS

2030 Background Analysis Results

Table 7-4 summarizes the 2030 Background intersection LOS and delay 2030 Background traffic volumes (see **Figure 4-1**). The corresponding SYNCHRO outputs are included in **Appendix E**.

Table 7-4: 2030 Background Intersection LOS, Delay, and Queue Summary

Intersection	Approach / Overall	AM PEAK HOUR		PM PEAK HOUR		Movement	Turn Lane Storage (ft)	AM PEAK HOUR	PM PEAK HOUR
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]			*95th Percentile Queue Length	*95th Percentile Queue Length
1: NC-96 & Green Pace Rd	Eastbound	25.4	C	39.9	D	EB Left/Thru/Right		107	#236
	Westbound	23.6	C	18.7	B	WB Left/Thru/Right		124	49
	Northbound	9.0	A	22.8	C	NB Left	225	46	#109
						NB Thru/Right		205	#394
	Southbound	10.6	B	21.1	C	SB Left	175	6	10
						SB Thru/Right		279	#468
	Overall	12.6	B	24.4	C	--		--	--
2: Marshburn Road/Lizard Lick Road & NC-97	Eastbound	24.3	C	28.5	C	EB Left	300	#85	90
						EB Thru/Right		92	251
	Westbound	29.3	C	23.5	C	WB Left	275	64	#125
						WB Thru		#517	220
						WB Right	450	356	202
	Northbound	44.2	D	42.7	D	NB Left	150	61	57
						NB Thru/Right		#439	#407
	Southbound	26.9	C	28.6	C	SB Dual Lefts	400	113	#238
						SB Thru/Right		149	310
	Overall	31.1	C	29.4	C	--		--	--
3: Ammons Property Access/Pitty Pats Path & NC-97	Eastbound	0.1	A	0.0	A	EB Left	175	0	0
						EB Thru		0	0
						EB Right		0	0
	Westbound	0.4	A	2.6	A	WB Left	250	0.1	0.9
						WB Thru/Right		0	0
	Northbound	***1100.0***	***F***	***1502.0***	***F***	NB Left		42.7	33.8
						NB Thru/Right		0.7	1
	Southbound	34.5	D	***78.6***	***F***	SB Left/Thru/Right		0.6	1
4: NC-97 & Green Pace Rd	Eastbound	2.2	A	2.0	A	EB Left	125	0.4	0.6
						EB Thru		0	0
	Westbound	0.0	A	0.0	A	WB Thru/Right		0	0
	Southbound	23.9	C	16.2	C	SB Left/Right		3.8	1.5
6: NC-97 & Water Plant Road	Eastbound	0.7	A	0.7	A	EB Left/Thru		0.1	0.2
	Westbound	0.0	A	0.0	A	WB Thru		0	0
						WB Right	75	0	0
	Southbound	14.2	B	16.4	C	SB Left/Right		0.5	0.6

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

2030 Build Analysis Results

Table 7-5 summarizes the 2030 Build Intersection LOS and delay based on 2030 Build traffic volumes (see **Figure 6-1**). **Table 7-6** summarizes the 2030 Build + Improvements intersection LOS, delay, and queue lengths based on 2030 Build traffic volumes (see **Figure 6-1**). The corresponding SYNCHRO outputs are included in **Appendix E**.

Table 7-5: 2030 Build Intersection LOS, Delay, and Queue Summary

Intersection	Approach / Overall	AM PEAK HOUR		PM PEAK HOUR		Movement	Turn Lane Storage (ft)	AM PEAK HOUR	PM PEAK HOUR
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]			*95th Percentile Queue Length	*95th Percentile Queue Length
1: NC-96 & Green Pace Rd	Eastbound	26.8	C	44.9	D	EB Left/Thru/Right		#134	#256
	Westbound	22.8	C	18.8	B	WB Left/Thru/Right		122	53
	Northbound	9.7	A	26.4	C	NB Left	225	54	#126
						NB Thru/Right		217	#394
	Southbound	11.4	B	22.3	C	SB Left	175	6	10
						SB Thru/Right		299	#480
	Overall	13.4	B	27.3	C	--		--	--
2: Marshburn Road/Lizard Lick Road & NC-97	Eastbound	22.0	C	29.2	C	EB Left	300	#82	92
						EB Thru/Right		88	264
	Westbound	27.5	C	26.2	C	WB Left	275	67	#143
						WB Thru		#517	235
						WB Right	450	368	216
	Northbound	51.1	D	45.8	D	NB Left	150	63	57
						NB Thru/Right		#468	#426
	Southbound	29.4	C	31.7	C	SB Dual Lefts	400	119	#263
						SB Thru/Right		161	310
	Overall	31.7	C	31.8	C	--		--	--
3: Ammons Property Access/Pitty Pats Path & NC-97	Eastbound	0.1	A	0.0	A	EB Left	175	0	0
						EB Thru		0	0
						EB Right		0	0
	Westbound	0.3	A	2.6	A	WB Left	250	0.1	1
						WB Thru/Right		0	0
	Northbound	***1363.7***	***F***	***2056.3***	***F***	NB Left		45.7	36.3
						NB Thru/Right		0.8	1.1
	Southbound	***39.6***	***E***	***101.4***	***F***	SB Left/Thru/Right		0.6	1.2
4: NC-97 & Green Pace Rd	Eastbound	2.2	A	1.9	A	EB Left	125	0.5	0.7
						EB Thru		0	0
	Westbound	0.0	A	0.0	A	WB Thru/Right		0	0
	Southbound	***35.6***	***E***	***49.0***	***E***	SB Left/Right		5.6	5.2
5: Site Access & NC-97	Eastbound	0.0	A	0.0	A	EB Thru/Right		0	0
	Westbound	0.1	A	0.2	A	WB Left/Thru		0	0
	Northbound	27.8	D	34.4	D	NB Left/Right		1.8	1.6
6: NC-97 & Water Plant Road	Eastbound	0.7	A	0.7	A	EB Left/Thru		0.1	0.2
	Westbound	0.0	A	0.0	A	WB Thru		0	0
						WB Right	75	0	0
	Southbound	14.3	B	16.7	C	SB Left/Right		0.5	0.6

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

Table 7-6: 2030 Build + Improvements Intersection LOS, Delay, and Queue Summary

Intersection	Approach / Overall	AM PEAK HOUR		PM PEAK HOUR		Movement	Turn Lane Storage (ft)	AM PEAK HOUR	PM PEAK HOUR
		Delay [1] (sec/veh)	LOS [1]	Delay [1] (sec/veh)	LOS [1]			*95th Percentile Queue Length	*95th Percentile Queue Length
5: Site Access & NC-97	Eastbound	0.0	A	0.0	A	EB Thru		0	0
						EB Right	75	0	0
	Westbound	0.1	A	0.2	A	WB Left/Thru		0	0
	Northbound	26.9	D	31.4	D	NB Left/Right		1.8	1.4

[1] *Overall intersection LOS and delay not reported for TWSC intersections.*

* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

1. *NC-96 / Green Pace Road*

   The signalized intersection is projected to operate at an overall LOS B and C during the 2030 Build AM and PM peak hours, respectively. All approaches are projected to operate at a LOS D or better during both peak hours. No improvements are recommended due to the proposed development's construction.

2. *NC-97 / Lizard Lick Road / Marshburn Road*

   The signalized intersection is projected to operate at an overall LOS C during both 2030 Build peak hours. All approaches are projected to operate at a LOS D or better during both peak hours. No improvements are recommended due to the proposed development's construction.

3. *NC-97 / Pitty Pats Path / Ammons Property Access*

   The north and southbound unsignalized intersection approaches are projected to operate unacceptably during both 2030 Build peak hours (consistent with Background peak hours). The Ammons Property development is required to monitor for intersection signalization. Based on projected volumes, a traffic signal will likely be warranted regardless of development site trips and should be installed by the Ammons Property Development. No improvements are recommended due to the proposed development's construction.

4. *NC-97 / Green Pace Road*

   The southbound unsignalized intersection approach is projected to operate unacceptably during both 2030 Build peak hours. All other approaches are projected to operate at LOS A. Projected queueing is less than six (6) cars for the southbound approach during either peak hour. To reduce intersection delay below Background levels, intersection signalization would be needed. Based on projected volumes and area development peaking characteristics, MUTCD's 4-hour and 8-hour volume warrants (typically required by the NCDOT for warranting signalization) will likely not be met. Due to minimal queuing, no intersection improvements are recommended due to the proposed development's construction.

5. *NC-97 / Site Access*

   All unsignalized intersection approaches are projected to operate at a LOS D or better during both 2030 Build peak hours. The AADT along NC-97 is projected to exceed 4,000 VPD; therefore, turn lanes were considered. Based on the NCDOT Turn Lane Warrant Nomographs and projected 2030

Build traffic volumes, a 75-foot eastbound right-turn lane is warranted and recommended. As shown in **Table 7-6**, following construction, all intersection approaches are projected to continue to operate acceptably. No additional improvements are recommended due to the proposed development's construction.

6. *NC-97 / Water Plant Road*

All unsignalized intersection approaches are projected to operate at a LOS D or better during both 2030 Build peak hours. No improvements are recommended due to the proposed development's construction.

8 CONCLUSIONS & RECOMMENDATIONS

Capacity analyses were performed for the 2025 Existing, 2030 Background, and 2030 Build traffic volumes.

In closing, the following improvements (see **Figure 8-1**) are recommended in conjunction with the proposed development's construction.

- *NC-97 / Site Access*
  - 75-foot eastbound right-turn lane

NOT TO SCALE

Lizard Lick Road
SPEED LIMIT 45
400' 400'
450'
275'
300'
350'
150'
Marshburn Road

Pitty Pats Path
STOP
250'
175'
300'
Ammons Property Access (Currently Construction Access)

NC-97

Green Pace Road
SPEED LIMIT 45
STOP
125'

SPEED LIMIT 35
175'
225'
NC-96

STOP
75' Storage
Site Access

SPEED LIMIT 45

Water Plant Road
SPEED LIMIT 45
STOP
75'

SITE

LEGEND:
- Existing Road
- Proposed Road
- Future Road (By Others)
- Signalized Intersection
- Unsignalized Intersection
- Existing Lane Configuration
- Lane Configuration by Others
- Proposed Lane Configuaration

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Faison Tract Traffic Impact Analysis
2030 Proposed Lane Configuration

Figure 8-1

Appendix A – Traffic Counts

TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 96 and Green)
Site Code :
Start Date : 9/24/2025
Page No : 1

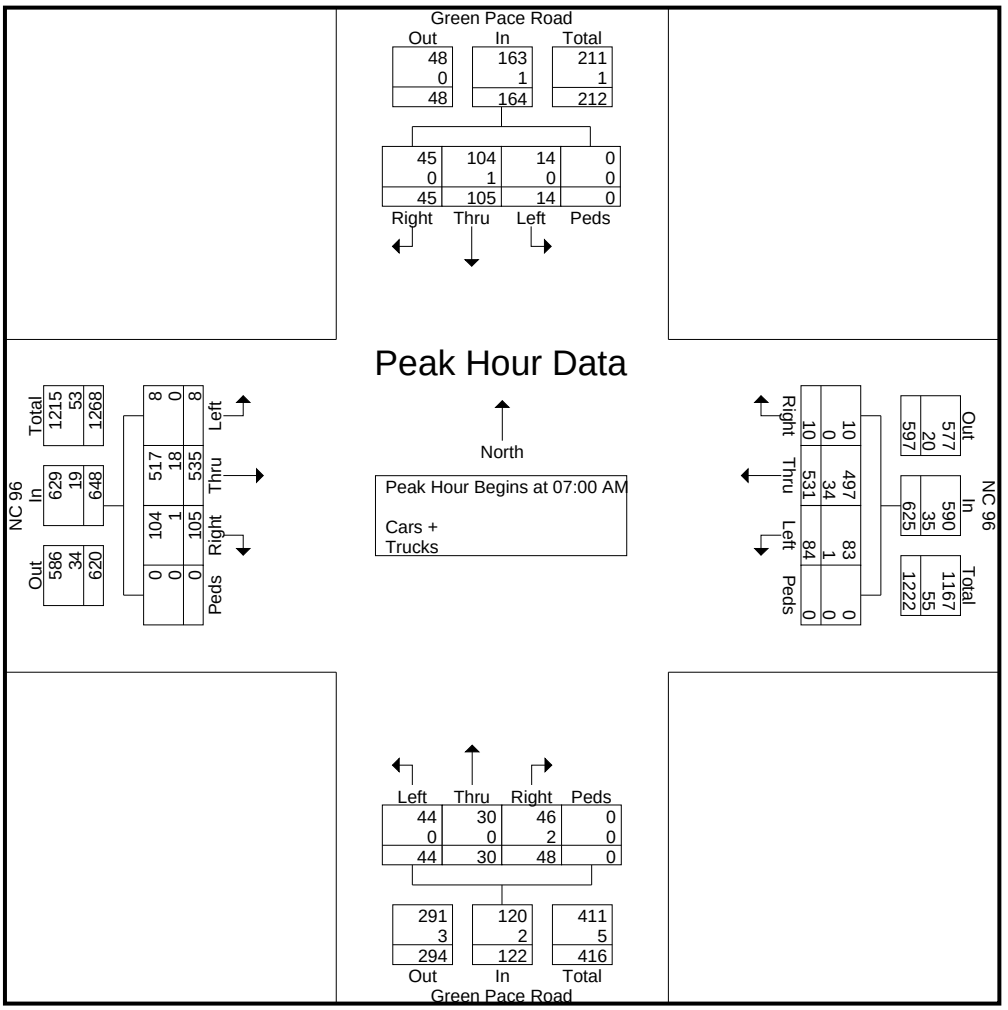
Groups Printed- Cars + - Trucks

	Green Pace Road Southbound					NC 96 Westbound					Green Pace Road Northbound					NC 96 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	4	36	21	0	61	23	134	3	0	160	11	6	10	0	27	1	105	28	0	134	382
07:15 AM	4	24	13	0	41	16	149	2	0	167	12	4	12	0	28	3	123	12	0	138	374
07:30 AM	2	22	10	0	34	19	134	1	0	154	11	13	9	0	33	3	154	32	0	189	410
07:45 AM	4	23	1	0	28	26	114	4	0	144	10	7	17	0	34	1	153	33	0	187	393
Total	14	105	45	0	164	84	531	10	0	625	44	30	48	0	122	8	535	105	0	648	1559
08:00 AM	4	27	4	1	36	17	137	3	0	157	16	9	10	0	35	1	112	25	0	138	366
08:15 AM	5	24	1	0	30	8	122	6	0	136	20	7	14	0	41	1	123	15	0	139	346
08:30 AM	1	14	2	0	17	15	101	2	0	118	22	4	9	0	35	1	117	12	0	130	300
08:45 AM	1	17	4	0	22	8	100	3	0	111	32	5	15	0	52	2	168	34	0	204	389
Total	11	82	11	1	105	48	460	14	0	522	90	25	48	0	163	5	520	86	0	611	1401
Grand Total	25	187	56	1	269	132	991	24	0	1147	134	55	96	0	285	13	1055	191	0	1259	2960
Apprch %	9.3	69.5	20.8	0.4		11.5	86.4	2.1	0		47	19.3	33.7	0		1	83.8	15.2	0		
Total %	0.8	6.3	1.9	0	9.1	4.5	33.5	0.8	0	38.8	4.5	1.9	3.2	0	9.6	0.4	35.6	6.5	0	42.5	
Cars +	25	181	55	1	262	129	924	23	0	1076	133	54	93	0	280	13	1019	189	0	1221	2839
% Cars +	100	96.8	98.2	100	97.4	97.7	93.2	95.8	0	93.8	99.3	98.2	96.9	0	98.2	100	96.6	99	0	97	95.9
Trucks	0	6	1	0	7	3	67	1	0	71	1	1	3	0	5	0	36	2	0	38	121
% Trucks	0	3.2	1.8	0	2.6	2.3	6.8	4.2	0	6.2	0.7	1.8	3.1	0	1.8	0	3.4	1	0	3	4.1

TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 96 and Green)
Site Code :
Start Date : 9/24/2025
Page No : 2

	Green Pace Road Southbound					NC 96 Westbound					Green Pace Road Northbound					NC 96 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	**4**	**36**	**21**	0	**61**	23	134	3	0	160	11	6	10	0	27	1	105	28	0	134	382
07:15 AM	4	24	13	0	41	16	**149**	2	0	**167**	**12**	4	12	0	28	**3**	123	12	0	138	374
07:30 AM	2	22	10	0	34	19	134	1	0	154	11	**13**	9	0	33	3	**154**	32	0	**189**	**410**
07:45 AM	4	23	1	0	28	**26**	114	**4**	0	144	10	7	**17**	0	**34**	1	153	**33**	0	187	393
Total Volume	14	105	45	0	164	84	531	10	0	625	44	30	48	0	122	8	535	105	0	648	1559
% App. Total	8.5	64	27.4	0		13.4	85	1.6	0		36.1	24.6	39.3	0		1.2	82.6	16.2	0		
PHF	.875	.729	.536	.000	.672	.808	.891	.625	.000	.936	.917	.577	.706	.000	.897	.667	.869	.795	.000	.857	.951
Cars +	14	104	45	0	163	83	497	10	0	590	44	30	46	0	120	8	517	104	0	629	1502
% Cars +	100	99.0	100	0	99.4	98.8	93.6	100	0	94.4	100	100	95.8	0	98.4	100	96.6	99.0	0	97.1	96.3
Trucks	0	1	0	0	1	1	34	0	0	35	0	0	2	0	2	0	18	1	0	19	57
% Trucks	0	1.0	0	0	0.6	1.2	6.4	0	0	5.6	0	0	4.2	0	1.6	0	3.4	1.0	0	2.9	3.7



TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 96 and Green)
Site Code :
Start Date : 9/24/2025
Page No : 1

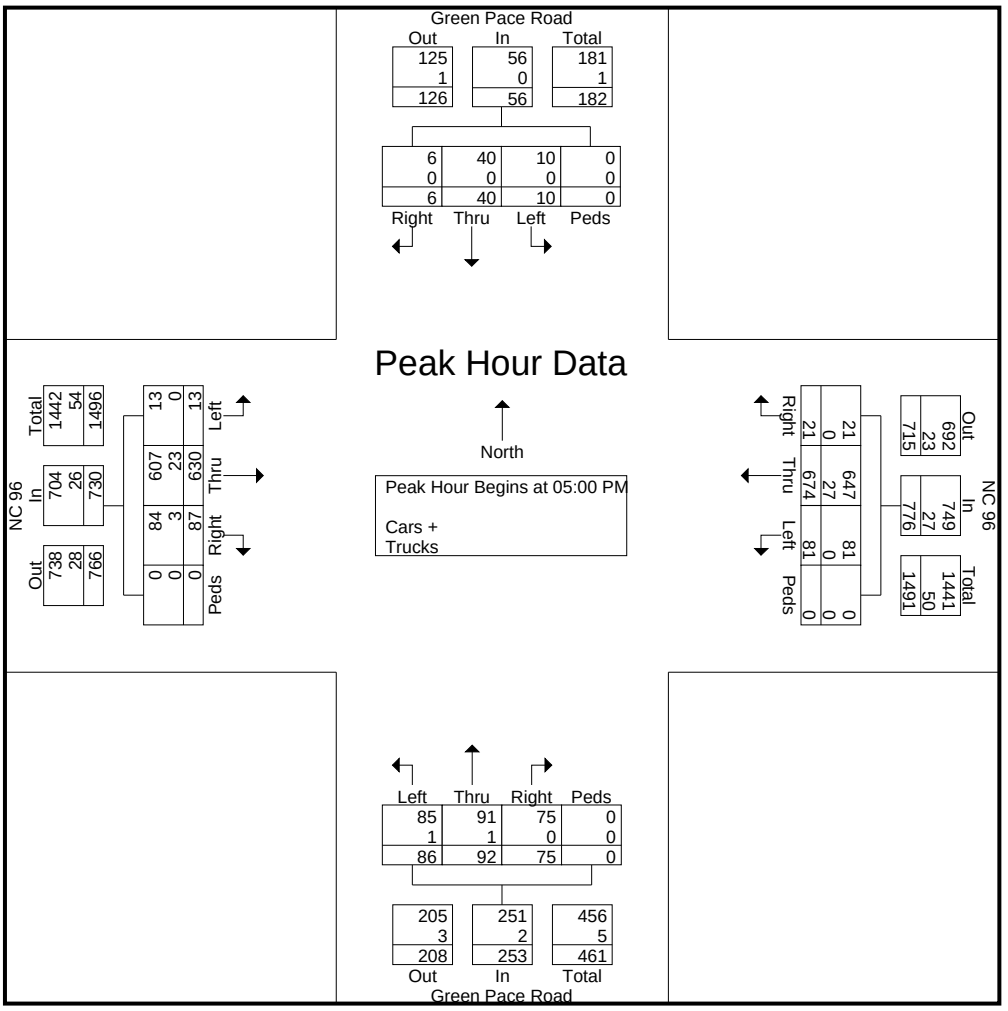
Groups Printed- Cars + - Trucks

	Green Pace Road Southbound					NC 96 Westbound					Green Pace Road Northbound					NC 96 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	5	9	3	0	17	20	159	6	0	185	26	16	17	0	59	4	161	55	0	220	481
04:15 PM	7	9	2	0	18	25	139	5	0	169	18	24	23	0	65	4	136	35	0	175	427
04:30 PM	4	8	2	0	14	17	150	6	0	173	18	20	19	0	57	2	158	26	0	186	430
04:45 PM	3	7	1	0	11	17	161	8	0	186	16	19	14	0	49	12	121	21	0	154	400
Total	19	33	8	0	60	79	609	25	0	713	78	79	73	0	230	22	576	137	0	735	1738
05:00 PM	1	6	1	0	8	24	165	6	0	195	23	26	21	0	70	3	144	21	0	168	441
05:15 PM	4	16	1	0	21	23	184	2	0	209	22	22	15	0	59	1	164	22	0	187	476
05:30 PM	2	11	3	0	16	15	161	6	0	182	15	24	22	0	61	4	138	23	0	165	424
05:45 PM	3	7	1	0	11	19	164	7	0	190	26	20	17	0	63	5	184	21	0	210	474
Total	10	40	6	0	56	81	674	21	0	776	86	92	75	0	253	13	630	87	0	730	1815
Grand Total	29	73	14	0	116	160	1283	46	0	1489	164	171	148	0	483	35	1206	224	0	1465	3553
Apprch %	25	62.9	12.1	0		10.7	86.2	3.1	0		34	35.4	30.6	0		2.4	82.3	15.3	0		
Total %	0.8	2.1	0.4	0	3.3	4.5	36.1	1.3	0	41.9	4.6	4.8	4.2	0	13.6	1	33.9	6.3	0	41.2	
Cars +	29	73	13	0	115	157	1239	46	0	1442	162	170	146	0	478	35	1152	218	0	1405	3440
% Cars +	100	100	92.9	0	99.1	98.1	96.6	100	0	96.8	98.8	99.4	98.6	0	99	100	95.5	97.3	0	95.9	96.8
Trucks	0	0	1	0	1	3	44	0	0	47	2	1	2	0	5	0	54	6	0	60	113
% Trucks	0	0	7.1	0	0.9	1.9	3.4	0	0	3.2	1.2	0.6	1.4	0	1	0	4.5	2.7	0	4.1	3.2

TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 96 and Green)
Site Code :
Start Date : 9/24/2025
Page No : 2

	Green Pace Road Southbound					NC 96 Westbound					Green Pace Road Northbound					NC 96 Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	1	6	1	0	8	**24**	165	6	0	195	23	**26**	21	0	**70**	3	144	21	0	168	441
05:15 PM	**4**	**16**	1	0	**21**	23	**184**	2	0	**209**	22	22	15	0	59	1	164	22	0	187	**476**
05:30 PM	2	11	**3**	0	16	15	161	6	0	182	15	24	**22**	0	61	4	138	**23**	0	165	424
05:45 PM	3	7	1	0	11	19	164	**7**	0	190	**26**	20	17	0	63	**5**	**184**	21	0	**210**	474
Total Volume	10	40	6	0	56	81	674	21	0	776	86	92	75	0	253	13	630	87	0	730	1815
% App. Total	17.9	71.4	10.7	0		10.4	86.9	2.7	0		34	36.4	29.6	0		1.8	86.3	11.9	0		
PHF	.625	.625	.500	.000	.667	.844	.916	.750	.000	.928	.827	.885	.852	.000	.904	.650	.856	.946	.000	.869	.953
Cars +	10	40	6	0	56	81	647	21	0	749	85	91	75	0	251	13	607	84	0	704	1760
% Cars +	100	100	100	0	100	100	96.0	100	0	96.5	98.8	98.9	100	0	99.2	100	96.3	96.6	0	96.4	97.0
Trucks	0	0	0	0	0	0	27	0	0	27	1	1	0	0	2	0	23	3	0	26	55
% Trucks	0	0	0	0	0	0	4.0	0	0	3.5	1.2	1.1	0	0	0.8	0	3.7	3.4	0	3.6	3.0



TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 97 and Lizard)
Site Code :
Start Date : 9/24/2025
Page No : 1

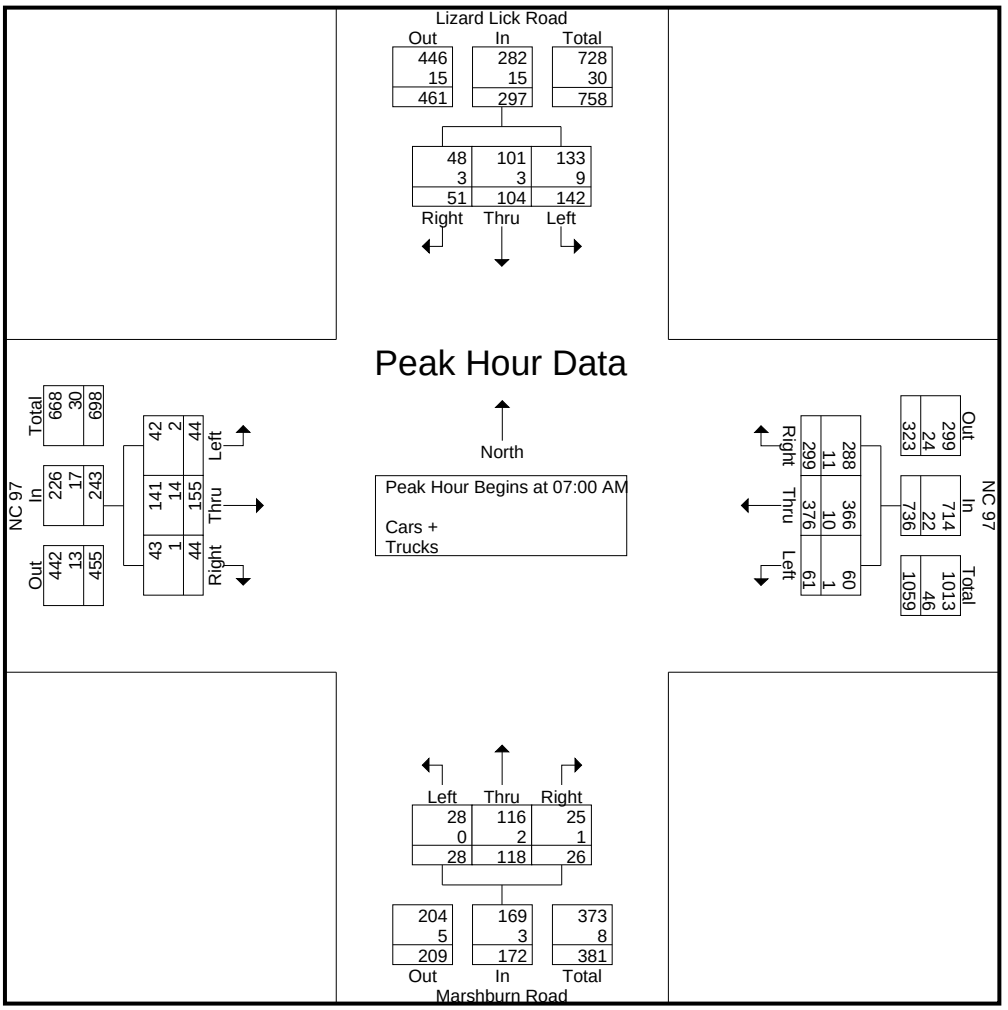
Groups Printed- Cars + - Trucks

	Lizard Lick Road Southbound				NC 97 Westbound				Marshburn Road Northbound				NC 97 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	22	15	9	46	10	117	104	231	7	33	5	45	4	37	3	44	366
07:15 AM	37	23	13	73	12	88	87	187	6	36	8	50	14	40	10	64	374
07:30 AM	43	35	13	91	21	82	53	156	8	28	4	40	10	41	5	56	343
07:45 AM	40	31	16	87	18	89	55	162	7	21	9	37	16	37	26	79	365
Total	142	104	51	297	61	376	299	736	28	118	26	172	44	155	44	243	1448
08:00 AM	37	27	22	86	23	56	48	127	10	26	13	49	11	31	15	57	319
08:15 AM	38	31	13	82	29	66	42	137	10	29	10	49	6	34	11	51	319
08:30 AM	19	23	13	55	14	56	45	115	5	24	6	35	15	32	6	53	258
08:45 AM	26	18	14	58	15	46	41	102	5	26	12	43	10	30	5	45	248
Total	120	99	62	281	81	224	176	481	30	105	41	176	42	127	37	206	1144
Grand Total	262	203	113	578	142	600	475	1217	58	223	67	348	86	282	81	449	2592
Apprch %	45.3	35.1	19.6		11.7	49.3	39		16.7	64.1	19.3		19.2	62.8	18		
Total %	10.1	7.8	4.4	22.3	5.5	23.1	18.3	47	2.2	8.6	2.6	13.4	3.3	10.9	3.1	17.3	
Cars +	251	196	108	555	139	578	456	1173	56	211	64	331	79	262	77	418	2477
% Cars +	95.8	96.6	95.6	96	97.9	96.3	96	96.4	96.6	94.6	95.5	95.1	91.9	92.9	95.1	93.1	95.6
Trucks	11	7	5	23	3	22	19	44	2	12	3	17	7	20	4	31	115
% Trucks	4.2	3.4	4.4	4	2.1	3.7	4	3.6	3.4	5.4	4.5	4.9	8.1	7.1	4.9	6.9	4.4

TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 97 and Lizard)
Site Code :
Start Date : 9/24/2025
Page No : 2

	Lizard Lick Road Southbound				NC 97 Westbound				Marshburn Road Northbound				NC 97 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	22	15	9	46	10	**117**	**104**	**231**	7	33	5	45	4	37	3	44	366
07:15 AM	37	23	13	73	12	88	87	187	6	**36**	8	**50**	14	40	10	64	**374**
07:30 AM	**43**	**35**	13	**91**	**21**	82	53	156	**8**	28	4	40	10	**41**	5	56	343
07:45 AM	40	31	**16**	87	18	89	55	162	7	21	**9**	37	**16**	37	**26**	**79**	365
Total Volume	142	104	51	297	61	376	299	736	28	118	26	172	44	155	44	243	1448
% App. Total	47.8	35	17.2		8.3	51.1	40.6		16.3	68.6	15.1		18.1	63.8	18.1		
PHF	.826	.743	.797	.816	.726	.803	.719	.797	.875	.819	.722	.860	.688	.945	.423	.769	.968
Cars +	133	101	48	282	60	366	288	714	28	116	25	169	42	141	43	226	1391
% Cars +	93.7	97.1	94.1	94.9	98.4	97.3	96.3	97.0	100	98.3	96.2	98.3	95.5	91.0	97.7	93.0	96.1
Trucks	9	3	3	15	1	10	11	22	0	2	1	3	2	14	1	17	57
% Trucks	6.3	2.9	5.9	5.1	1.6	2.7	3.7	3.0	0	1.7	3.8	1.7	4.5	9.0	2.3	7.0	3.9



File Name : Zebulon(NC 97 and Lizard)
Site Code :
Start Date : 9/24/2025
Page No : 1

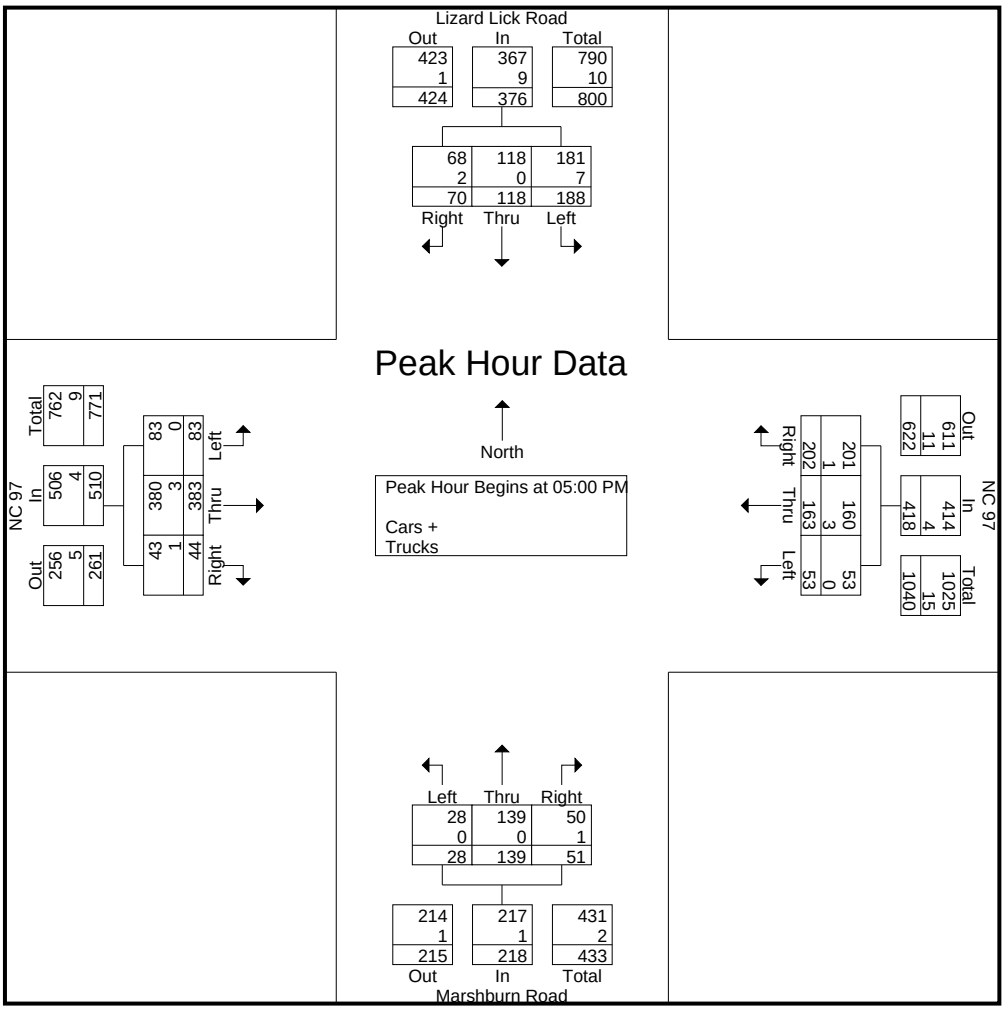
Groups Printed- Cars + - Trucks

	Lizard Lick Road Southbound				NC 97 Westbound				Marshburn Road Northbound				NC 97 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	41	34	16	91	13	58	47	118	9	37	25	71	22	76	9	107	387
04:15 PM	43	26	20	89	13	44	52	109	5	41	18	64	18	88	6	112	374
04:30 PM	41	26	21	88	8	45	49	102	9	38	14	61	25	93	9	127	378
04:45 PM	41	26	11	78	9	50	47	106	5	33	18	56	21	89	10	120	360
Total	166	112	68	346	43	197	195	435	28	149	75	252	86	346	34	466	1499
05:00 PM	46	26	15	87	13	37	60	110	6	37	17	60	23	88	6	117	374
05:15 PM	41	28	16	85	21	46	54	121	9	32	15	56	15	99	13	127	389
05:30 PM	47	39	17	103	10	41	51	102	7	41	11	59	24	88	12	124	388
05:45 PM	54	25	22	101	9	39	37	85	6	29	8	43	21	108	13	142	371
Total	188	118	70	376	53	163	202	418	28	139	51	218	83	383	44	510	1522
Grand Total	354	230	138	722	96	360	397	853	56	288	126	470	169	729	78	976	3021
Apprch %	49	31.9	19.1		11.3	42.2	46.5		11.9	61.3	26.8		17.3	74.7	8		
Total %	11.7	7.6	4.6	23.9	3.2	11.9	13.1	28.2	1.9	9.5	4.2	15.6	5.6	24.1	2.6	32.3	
Cars +	343	222	131	696	94	351	390	835	55	285	125	465	167	716	77	960	2956
% Cars +	96.9	96.5	94.9	96.4	97.9	97.5	98.2	97.9	98.2	99	99.2	98.9	98.8	98.2	98.7	98.4	97.8
Trucks	11	8	7	26	2	9	7	18	1	3	1	5	2	13	1	16	65
% Trucks	3.1	3.5	5.1	3.6	2.1	2.5	1.8	2.1	1.8	1	0.8	1.1	1.2	1.8	1.3	1.6	2.2

TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 97 and Lizard)
Site Code :
Start Date : 9/24/2025
Page No : 2

	Lizard Lick Road Southbound				NC 97 Westbound				Marshburn Road Northbound				NC 97 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	46	26	15	87	13	37	**60**	110	6	37	**17**	**60**	23	88	6	117	374
05:15 PM	41	28	16	85	**21**	**46**	54	**121**	**9**	32	15	56	15	99	**13**	127	**389**
05:30 PM	47	**39**	17	**103**	10	41	51	102	7	**41**	11	59	**24**	88	12	124	388
05:45 PM	**54**	25	**22**	101	9	39	37	85	6	29	8	43	21	**108**	13	**142**	371
Total Volume	188	118	70	376	53	163	202	418	28	139	51	218	83	383	44	510	1522
% App. Total	50	31.4	18.6		12.7	39	48.3		12.8	63.8	23.4		16.3	75.1	8.6		
PHF	.870	.756	.795	.913	.631	.886	.842	.864	.778	.848	.750	.908	.865	.887	.846	.898	.978
Cars +	181	118	68	367	53	160	201	414	28	139	50	217	83	380	43	506	1504
% Cars +	96.3	100	97.1	97.6	100	98.2	99.5	99.0	100	100	98.0	99.5	100	99.2	97.7	99.2	98.8
Trucks	7	0	2	9	0	3	1	4	0	0	1	1	0	3	1	4	18
% Trucks	3.7	0	2.9	2.4	0	1.8	0.5	1.0	0	0	2.0	0.5	0	0.8	2.3	0.8	1.2



TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 97 and Pitty)
Site Code :
Start Date : 9/24/2025
Page No : 1

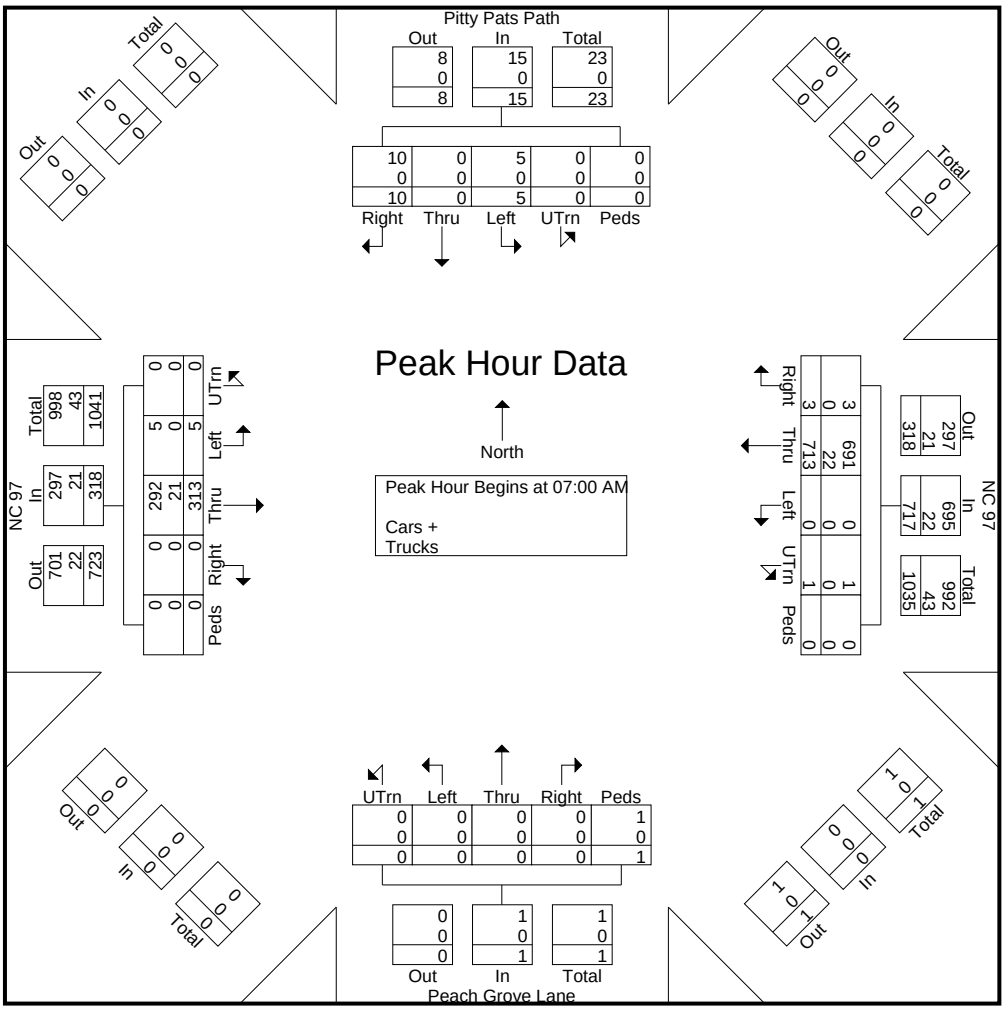
Groups Printed- Cars + - Trucks

	Pitty Pats Path Southbound						NC 97 Westbound						Peach Grove Lane Northbound						NC 97 Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	5	0	5	0	0	231	1	0	232	0	0	0	0	0	0	0	1	55	0	0	56	293
07:15 AM	0	1	0	1	0	2	1	0	172	0	0	173	0	0	0	0	1	1	0	0	85	0	0	85	261
07:30 AM	0	1	0	3	0	4	0	0	156	0	0	156	0	0	0	0	0	0	0	2	88	0	0	90	250
07:45 AM	0	3	0	1	0	4	0	0	154	2	0	156	0	0	0	0	0	0	0	2	85	0	0	87	247
Total	0	5	0	10	0	15	1	0	713	3	0	717	0	0	0	0	1	1	0	5	313	0	0	318	1051
08:00 AM	0	2	0	1	0	3	0	0	135	1	0	136	0	0	0	0	0	0	0	1	86	0	0	87	226
08:15 AM	0	0	0	4	0	4	0	0	137	1	0	138	0	0	0	0	0	0	0	2	75	0	0	77	219
08:30 AM	0	0	0	3	0	3	0	0	111	0	0	111	0	2	0	0	0	2	0	0	61	0	0	61	177
08:45 AM	0	1	0	1	0	2	0	0	100	0	0	100	0	0	0	0	0	0	0	0	67	0	0	67	169
Total	0	3	0	9	0	12	0	0	483	2	0	485	0	2	0	0	0	2	0	3	289	0	0	292	791
Grand Total	0	8	0	19	0	27	1	0	1196	5	0	1202	0	2	0	0	1	3	0	8	602	0	0	610	1842
Apprch %	0	29.6	0	70.4	0		0.1	0	99.5	0.4	0		0	66.7	0	0	33.3		0	1.3	98.7	0	0		
Total %	0	0.4	0	1	0	1.5	0.1	0	64.9	0.3	0	65.3	0	0.1	0	0	0.1	0.2	0	0.4	32.7	0	0	33.1	
Cars +	0	8	0	19	0	27	1	0	1156	5	0	1162	0	0	0	0	1	1	0	8	574	0	0	582	1772
% Cars +	0	100	0	100	0	100	100	0	96.7	100	0	96.7	0	0	0	0	100	33.3	0	100	95.3	0	0	95.4	96.2
Trucks	0	0	0	0	0	0	0	0	40	0	0	40	0	2	0	0	0	2	0	0	28	0	0	28	70
% Trucks	0	0	0	0	0	0	0	0	3.3	0	0	3.3	0	100	0	0	0	66.7	0	0	4.7	0	0	4.6	3.8

TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 97 and Pitty)
Site Code :
Start Date : 9/24/2025
Page No : 2

	Pitty Pats Path Southbound						NC 97 Westbound						Peach Grove Lane Northbound						NC 97 Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 07:00 AM																									
07:00 AM	0	0	0	**5**	0	**5**	0	0	**231**	1	0	**232**	0	0	0	0	0	0	0	1	55	0	0	56	**293**
07:15 AM	0	1	0	1	0	2	**1**	0	172	0	0	173	0	0	0	0	**1**	**1**	0	0	85	0	0	85	261
07:30 AM	0	1	0	3	0	4	0	0	156	0	0	156	0	0	0	0	0	0	0	**2**	**88**	0	0	**90**	250
07:45 AM	0	**3**	0	1	0	4	0	0	154	**2**	0	156	0	0	0	0	0	0	0	2	85	0	0	87	247
Total Volume	0	5	0	10	0	15	1	0	713	3	0	717	0	0	0	0	1	1	0	5	313	0	0	318	1051
% App. Total	0	33.3	0	66.7	0		0.1	0	99.4	0.4	0		0	0	0	0	100		0	1.6	98.4	0	0		
PHF	.000	.417	.000	.500	.000	.750	.250	.000	.772	.375	.000	.773	.000	.000	.000	.000	.250	.250	.000	.625	.889	.000	.000	.883	.897
Cars +	0	5	0	10	0	15	1	0	691	3	0	695	0	0	0	0	1	1	0	5	292	0	0	297	1008
% Cars +	0	100	0	100	0	100	100	0	96.9	100	0	96.9	0	0	0	0	100	100	0	100	93.3	0	0	93.4	95.9
Trucks	0	0	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0	0	0	21	0	0	21	43
% Trucks	0	0	0	0	0	0	0	0	3.1	0	0	3.1	0	0	0	0	0	0	0	0	6.7	0	0	6.6	4.1



TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 97 and Pitty)
Site Code :
Start Date : 9/24/2025
Page No : 1

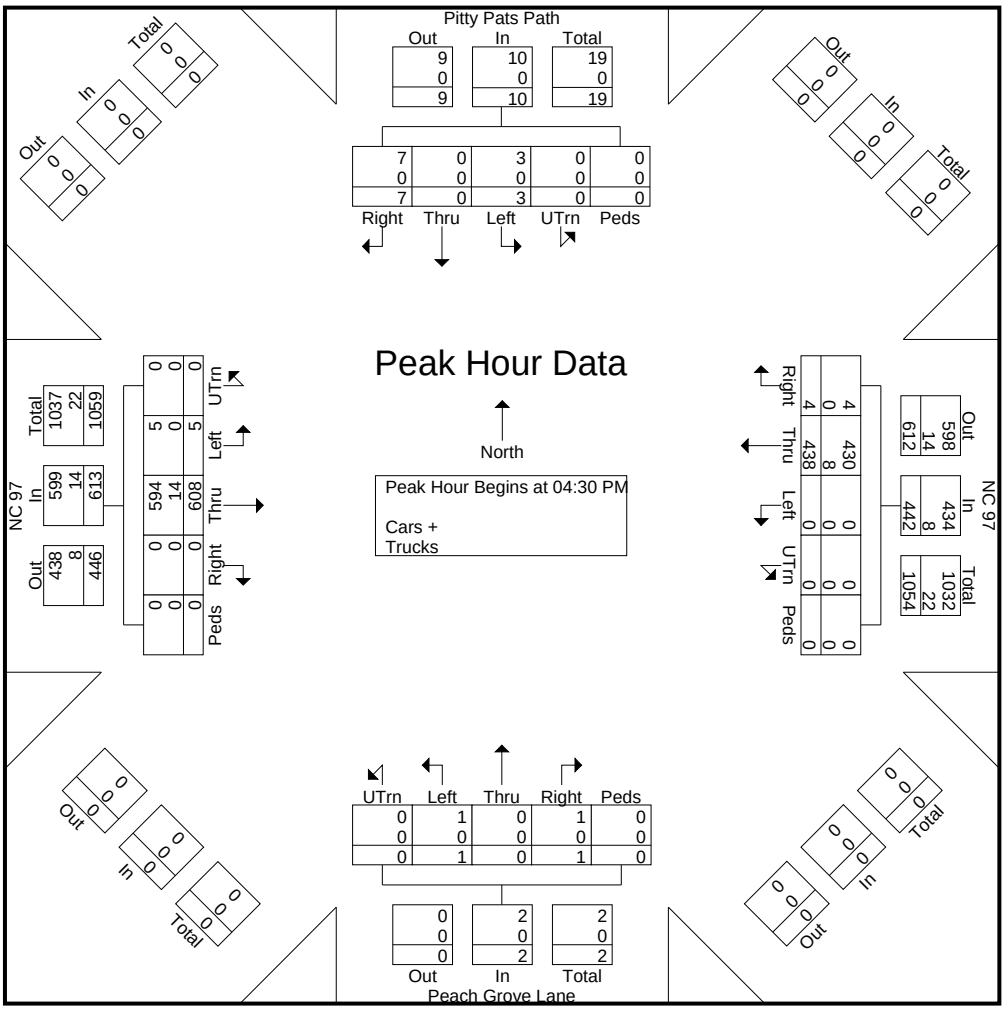
Groups Printed- Cars + - Trucks

	Pitty Pats Path Southbound						NC 97 Westbound						Peach Grove Lane Northbound						NC 97 Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	0	0	0	3	0	3	0	0	109	3	0	112	0	0	0	0	0	0	0	3	146	0	0	149	264
04:15 PM	0	1	0	2	0	3	0	0	103	0	1	104	0	0	0	0	0	0	0	0	148	0	0	148	255
04:30 PM	0	1	0	2	0	3	0	0	106	2	0	108	0	0	0	0	0	0	0	1	145	0	0	146	257
04:45 PM	0	0	0	1	0	1	0	0	106	2	0	108	0	1	0	0	0	1	0	2	152	0	0	154	264
Total	0	2	0	8	0	10	0	0	424	7	1	432	0	1	0	0	0	1	0	6	591	0	0	597	1040
05:00 PM	0	2	0	3	0	5	0	0	112	0	0	112	0	0	0	0	0	0	0	0	150	0	0	150	267
05:15 PM	0	0	0	1	0	1	0	0	114	0	0	114	0	0	0	1	0	1	0	2	161	0	0	163	279
05:30 PM	0	0	0	1	0	1	0	0	99	2	0	101	0	0	0	0	0	0	0	3	149	0	0	152	254
05:45 PM	0	1	0	3	0	4	0	0	87	0	0	87	0	0	0	0	0	0	0	5	169	0	0	174	265
Total	0	3	0	8	0	11	0	0	412	2	0	414	0	0	0	1	0	1	0	10	629	0	0	639	1065
Grand Total	0	5	0	16	0	21	0	0	836	9	1	846	0	1	0	1	0	2	0	16	1220	0	0	1236	2105
Apprch %	0	23.8	0	76.2	0		0	0	98.8	1.1	0.1		0	50	0	50	0		0	1.3	98.7	0	0		
Total %	0	0.2	0	0.8	0	1	0	0	39.7	0.4	0	40.2	0	0	0	0	0	0.1	0	0.8	58	0	0	58.7	
Cars +	0	5	0	16	0	21	0	0	822	9	1	832	0	1	0	1	0	2	0	16	1197	0	0	1213	2068
% Cars +	0	100	0	100	0	100	0	0	98.3	100	100	98.3	0	100	0	100	0	100	0	100	98.1	0	0	98.1	98.2
Trucks	0	0	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	0	0	23	0	0	23	37
% Trucks	0	0	0	0	0	0	0	0	1.7	0	0	1.7	0	0	0	0	0	0	0	0	1.9	0	0	1.9	1.8

TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 97 and Pitty)
Site Code :
Start Date : 9/24/2025
Page No : 2

	Pitty Pats Path Southbound						NC 97 Westbound						Peach Grove Lane Northbound						NC 97 Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:30 PM																									
04:30 PM	0	1	0	2	0	3	0	0	106	**2**	0	108	0	0	0	0	0	0	0	1	145	0	0	146	257
04:45 PM	0	0	0	1	0	1	0	0	106	2	0	108	0	**1**	0	0	0	**1**	0	**2**	152	0	0	154	264
05:00 PM	0	**2**	0	**3**	0	**5**	0	0	112	0	0	112	0	0	0	0	0	0	0	0	150	0	0	150	267
05:15 PM	0	0	0	1	0	1	0	0	**114**	0	0	**114**	0	0	0	**1**	0	1	0	2	**161**	0	0	**163**	**279**
Total Volume	0	3	0	7	0	10	0	0	438	4	0	442	0	1	0	1	0	2	0	5	608	0	0	613	1067
% App. Total	0	30	0	70	0		0	0	99.1	0.9	0		0	50	0	50	0		0	0.8	99.2	0	0		
PHF	.000	.375	.000	.583	.000	.500	.000	.000	.961	.500	.000	.969	.000	.250	.000	.250	.000	.500	.000	.625	.944	.000	.000	.940	.956
Cars +	0	3	0	7	0	10	0	0	430	4	0	434	0	1	0	1	0	2	0	5	594	0	0	599	1045
% Cars +	0	100	0	100	0	100	0	0	98.2	100	0	98.2	0	100	0	100	0	100	0	100	97.7	0	0	97.7	97.9
Trucks	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	14	0	0	14	22
% Trucks	0	0	0	0	0	0	0	0	1.8	0	0	1.8	0	0	0	0	0	0	0	0	2.3	0	0	2.3	2.1



TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 97 and Green)
Site Code :
Start Date : 9/24/2025
Page No : 1

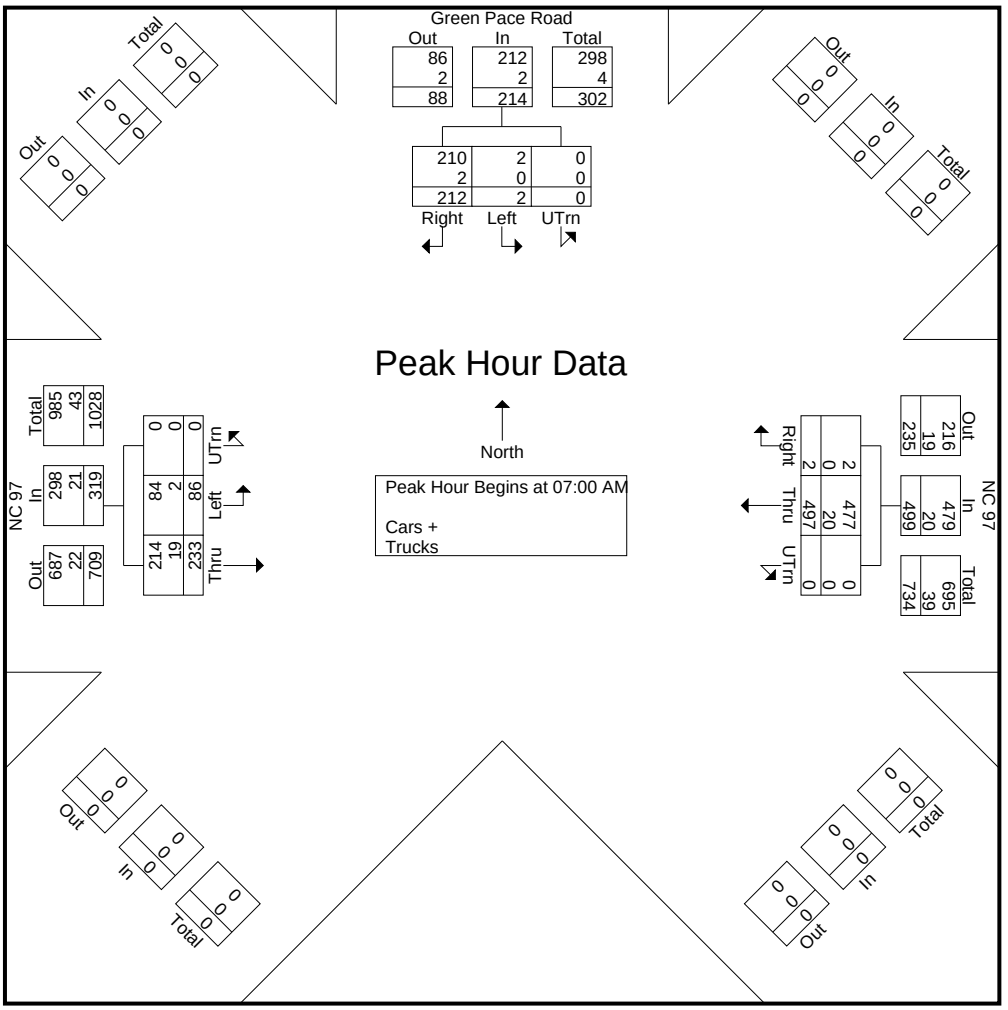
Groups Printed- Cars + - Trucks

	Green Pace Road Southbound				NC 97 Westbound				NC 97 Eastbound				
Start Time	UTrn	Left	Right	App. Total	UTrn	Thru	Right	App. Total	UTrn	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	83	83	0	152	2	154	0	11	37	48	285
07:15 AM	0	0	41	41	0	119	0	119	0	32	60	92	252
07:30 AM	0	1	42	43	0	115	0	115	0	18	72	90	248
07:45 AM	0	1	46	47	0	111	0	111	0	25	64	89	247
Total	0	2	212	214	0	497	2	499	0	86	233	319	1032
08:00 AM	0	0	43	43	0	94	0	94	0	30	56	86	223
08:15 AM	0	0	40	40	1	96	2	99	0	21	57	78	217
08:30 AM	0	0	23	23	0	88	0	88	0	15	47	62	173
08:45 AM	0	1	31	32	0	71	1	72	0	21	48	69	173
Total	0	1	137	138	1	349	3	353	0	87	208	295	786
Grand Total	0	3	349	352	1	846	5	852	0	173	441	614	1818
Apprch %	0	0.9	99.1		0.1	99.3	0.6		0	28.2	71.8		
Total %	0	0.2	19.2	19.4	0.1	46.5	0.3	46.9	0	9.5	24.3	33.8	
Cars +	0	3	342	345	1	813	5	819	0	170	415	585	1749
% Cars +	0	100	98	98	100	96.1	100	96.1	0	98.3	94.1	95.3	96.2
Trucks	0	0	7	7	0	33	0	33	0	3	26	29	69
% Trucks	0	0	2	2	0	3.9	0	3.9	0	1.7	5.9	4.7	3.8

TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 97 and Green)
Site Code :
Start Date : 9/24/2025
Page No : 2

	Green Pace Road Southbound				NC 97 Westbound				NC 97 Eastbound				
Start Time	UTrn	Left	Right	App. Total	UTrn	Thru	Right	App. Total	UTrn	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:00 AM													
07:00 AM	0	0	**83**	**83**	0	**152**	**2**	**154**	0	11	37	48	**285**
07:15 AM	0	0	41	41	0	119	0	119	0	**32**	60	**92**	252
07:30 AM	0	**1**	42	43	0	115	0	115	0	18	**72**	90	248
07:45 AM	0	1	46	47	0	111	0	111	0	25	64	89	247
Total Volume	0	2	212	214	0	497	2	499	0	86	233	319	1032
% App. Total	0	0.9	99.1		0	99.6	0.4		0	27	73		
PHF	.000	.500	.639	.645	.000	.817	.250	.810	.000	.672	.809	.867	.905
Cars +	0	2	210	212	0	477	2	479	0	84	214	298	989
% Cars +	0	100	99.1	99.1	0	96.0	100	96.0	0	97.7	91.8	93.4	95.8
Trucks	0	0	2	2	0	20	0	20	0	2	19	21	43
% Trucks	0	0	0.9	0.9	0	4.0	0	4.0	0	2.3	8.2	6.6	4.2



TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 97 and Green)
Site Code :
Start Date : 9/24/2025
Page No : 1

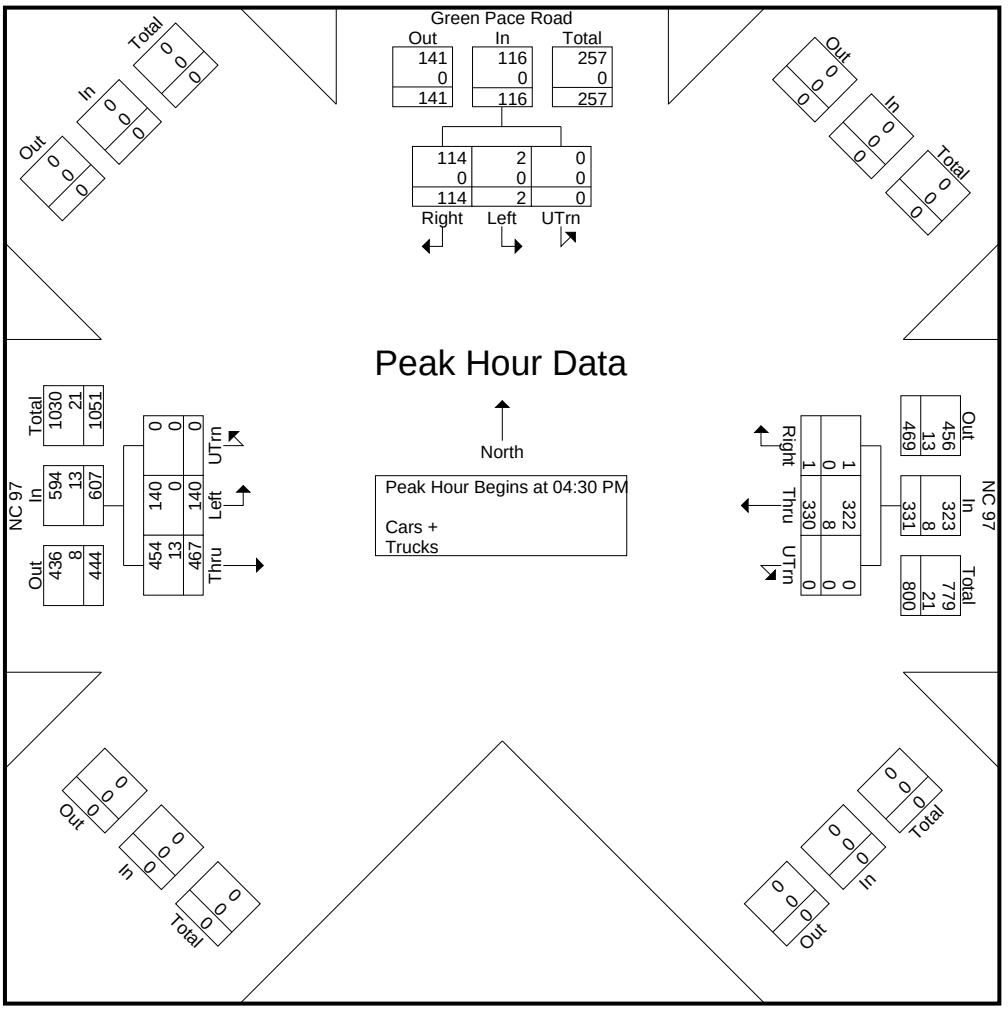
Groups Printed- Cars + - Trucks

	Green Pace Road Southbound				NC 97 Westbound				NC 97 Eastbound				
Start Time	UTrn	Left	Right	App. Total	UTrn	Thru	Right	App. Total	UTrn	Left	Thru	App. Total	Int. Total
04:00 PM	0	1	39	40	0	75	2	77	0	40	105	145	262
04:15 PM	0	1	28	29	0	74	0	74	0	37	111	148	251
04:30 PM	0	1	26	27	0	82	0	82	0	26	118	144	253
04:45 PM	0	1	29	30	0	78	0	78	0	39	109	148	256
Total	0	4	122	126	0	309	2	311	0	142	443	585	1022
05:00 PM	0	0	28	28	0	84	0	84	0	36	119	155	267
05:15 PM	0	0	31	31	0	86	1	87	0	39	121	160	278
05:30 PM	0	0	32	32	0	65	1	66	0	29	120	149	247
05:45 PM	0	1	23	24	0	63	0	63	0	45	121	166	253
Total	0	1	114	115	0	298	2	300	0	149	481	630	1045
Grand Total	0	5	236	241	0	607	4	611	0	291	924	1215	2067
Apprch %	0	2.1	97.9		0	99.3	0.7		0	24	76		
Total %	0	0.2	11.4	11.7	0	29.4	0.2	29.6	0	14.1	44.7	58.8	
Cars +	0	5	236	241	0	593	4	597	0	291	901	1192	2030
% Cars +	0	100	100	100	0	97.7	100	97.7	0	100	97.5	98.1	98.2
Trucks	0	0	0	0	0	14	0	14	0	0	23	23	37
% Trucks	0	0	0	0	0	2.3	0	2.3	0	0	2.5	1.9	1.8

TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 97 and Green)
Site Code :
Start Date : 9/24/2025
Page No : 2

	Green Pace Road Southbound				NC 97 Westbound				NC 97 Eastbound				
Start Time	UTrn	Left	Right	App. Total	UTrn	Thru	Right	App. Total	UTrn	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	0	**1**	26	27	0	82	0	82	0	26	118	144	253
04:45 PM	0	1	29	30	0	78	0	78	0	**39**	109	148	256
05:00 PM	0	0	28	28	0	84	0	84	0	36	119	155	267
05:15 PM	0	0	**31**	**31**	0	**86**	**1**	**87**	0	39	**121**	**160**	**278**
Total Volume	0	2	114	116	0	330	1	331	0	140	467	607	1054
% App. Total	0	1.7	98.3		0	99.7	0.3		0	23.1	76.9		
PHF	.000	.500	.919	.935	.000	.959	.250	.951	.000	.897	.965	.948	.948
Cars +	0	2	114	116	0	322	1	323	0	140	454	594	1033
% Cars +	0	100	100	100	0	97.6	100	97.6	0	100	97.2	97.9	98.0
Trucks	0	0	0	0	0	8	0	8	0	0	13	13	21
% Trucks	0	0	0	0	0	2.4	0	2.4	0	0	2.8	2.1	2.0



TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 97 and Water)
Site Code :
Start Date : 9/24/2025
Page No : 1

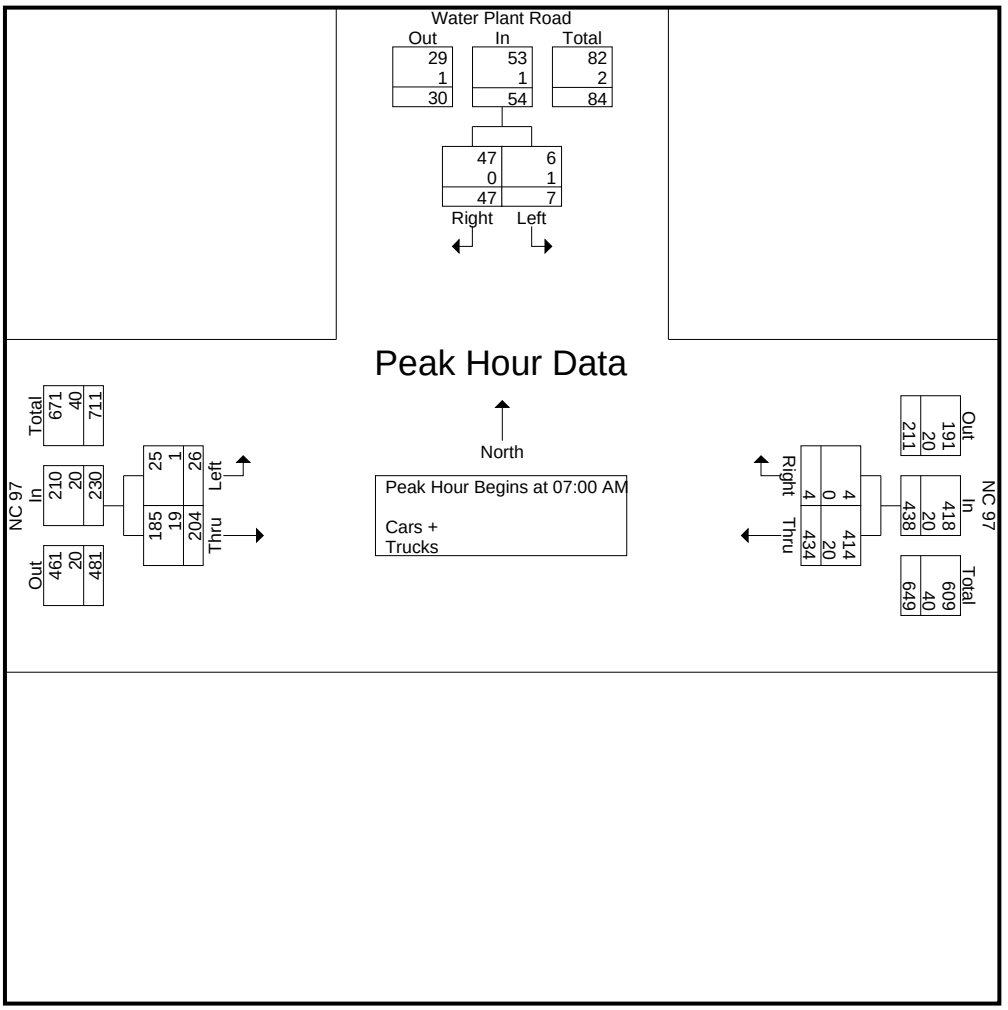
Groups Printed- Cars + - Trucks

	Water Plant Road Southbound			NC 97 Westbound			NC 97 Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	1	14	15	138	0	138	4	36	40	193
07:15 AM	3	12	15	94	2	96	9	50	59	170
07:30 AM	2	12	14	103	0	103	7	61	68	185
07:45 AM	1	9	10	99	2	101	6	57	63	174
Total	7	47	54	434	4	438	26	204	230	722
08:00 AM	0	8	8	79	0	79	5	59	64	151
08:15 AM	3	5	8	100	4	104	3	53	56	168
08:30 AM	3	10	13	72	1	73	5	42	47	133
08:45 AM	0	6	6	70	2	72	6	46	52	130
Total	6	29	35	321	7	328	19	200	219	582
Grand Total	13	76	89	755	11	766	45	404	449	1304
Apprch %	14.6	85.4		98.6	1.4		10	90		
Total %	1	5.8	6.8	57.9	0.8	58.7	3.5	31	34.4	
Cars +	12	76	88	722	11	733	43	378	421	1242
% Cars +	92.3	100	98.9	95.6	100	95.7	95.6	93.6	93.8	95.2
Trucks	1	0	1	33	0	33	2	26	28	62
% Trucks	7.7	0	1.1	4.4	0	4.3	4.4	6.4	6.2	4.8

TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 97 and Water)
Site Code :
Start Date : 9/24/2025
Page No : 2

	Water Plant Road Southbound			NC 97 Westbound			NC 97 Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	1	**14**	**15**	**138**	0	**138**	4	36	40	**193**
07:15 AM	**3**	12	15	94	**2**	96	**9**	50	59	170
07:30 AM	2	12	14	103	0	103	7	**61**	**68**	185
07:45 AM	1	9	10	99	2	101	6	57	63	174
Total Volume	7	47	54	434	4	438	26	204	230	722
% App. Total	13	87		99.1	0.9		11.3	88.7		
PHF	.583	.839	.900	.786	.500	.793	.722	.836	.846	.935
Cars +	6	47	53	414	4	418	25	185	210	681
% Cars +	85.7	100	98.1	95.4	100	95.4	96.2	90.7	91.3	94.3
Trucks	1	0	1	20	0	20	1	19	20	41
% Trucks	14.3	0	1.9	4.6	0	4.6	3.8	9.3	8.7	5.7



TRAFFIC DATA COLLECTION

File Name : Zebulon(NC 97 and Water)
Site Code :
Start Date : 9/24/2025
Page No : 1

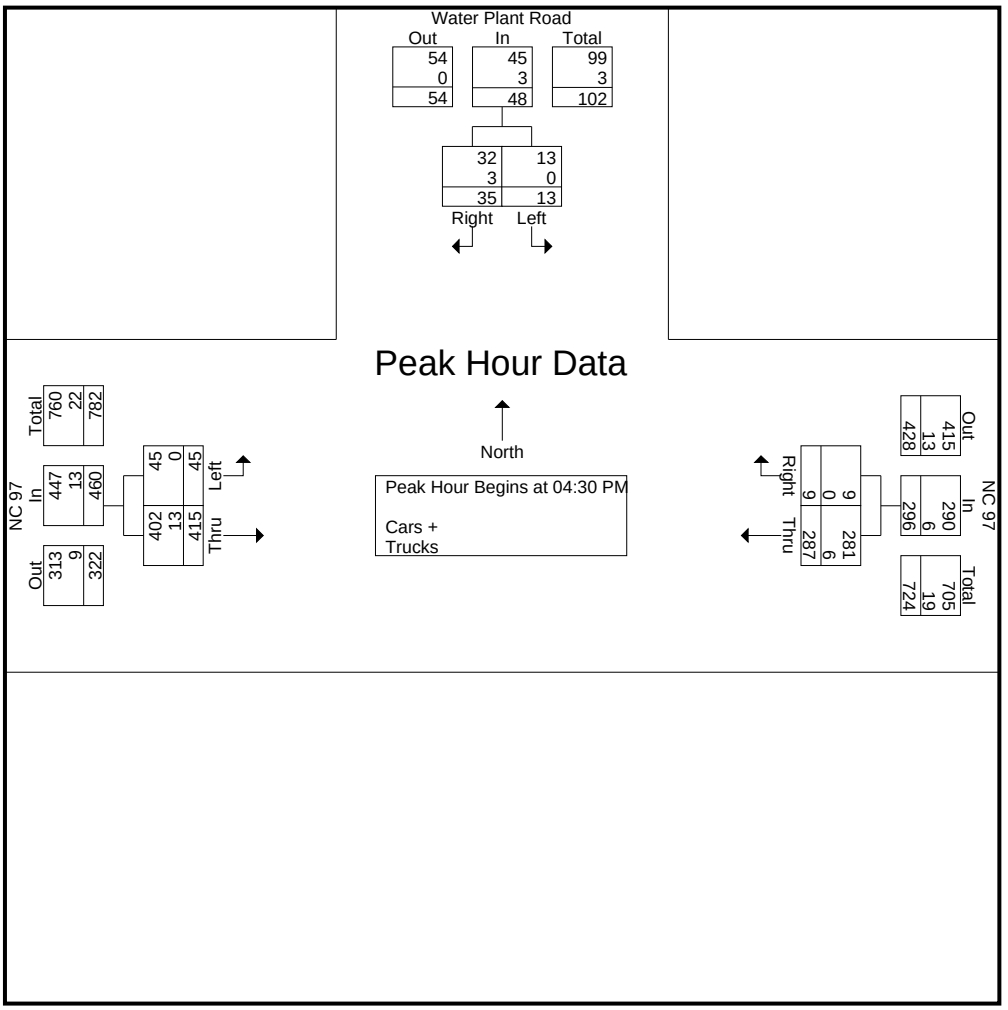
Groups Printed- Cars + - Trucks

	Water Plant Road Southbound			NC 97 Westbound			NC 97 Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	3	4	7	75	2	77	8	96	104	188
04:15 PM	1	5	6	75	5	80	11	102	113	199
04:30 PM	2	10	12	71	0	71	9	104	113	196
04:45 PM	4	9	13	67	2	69	14	94	108	190
Total	10	28	38	288	9	297	42	396	438	773
05:00 PM	4	9	13	77	6	83	11	106	117	213
05:15 PM	3	7	10	72	1	73	11	111	122	205
05:30 PM	1	9	10	54	2	56	11	112	123	189
05:45 PM	2	7	9	61	0	61	12	101	113	183
Total	10	32	42	264	9	273	45	430	475	790
Grand Total	20	60	80	552	18	570	87	826	913	1563
Apprch %	25	75		96.8	3.2		9.5	90.5		
Total %	1.3	3.8	5.1	35.3	1.2	36.5	5.6	52.8	58.4	
Cars +	19	55	74	542	18	560	85	805	890	1524
% Cars +	95	91.7	92.5	98.2	100	98.2	97.7	97.5	97.5	97.5
Trucks	1	5	6	10	0	10	2	21	23	39
% Trucks	5	8.3	7.5	1.8	0	1.8	2.3	2.5	2.5	2.5

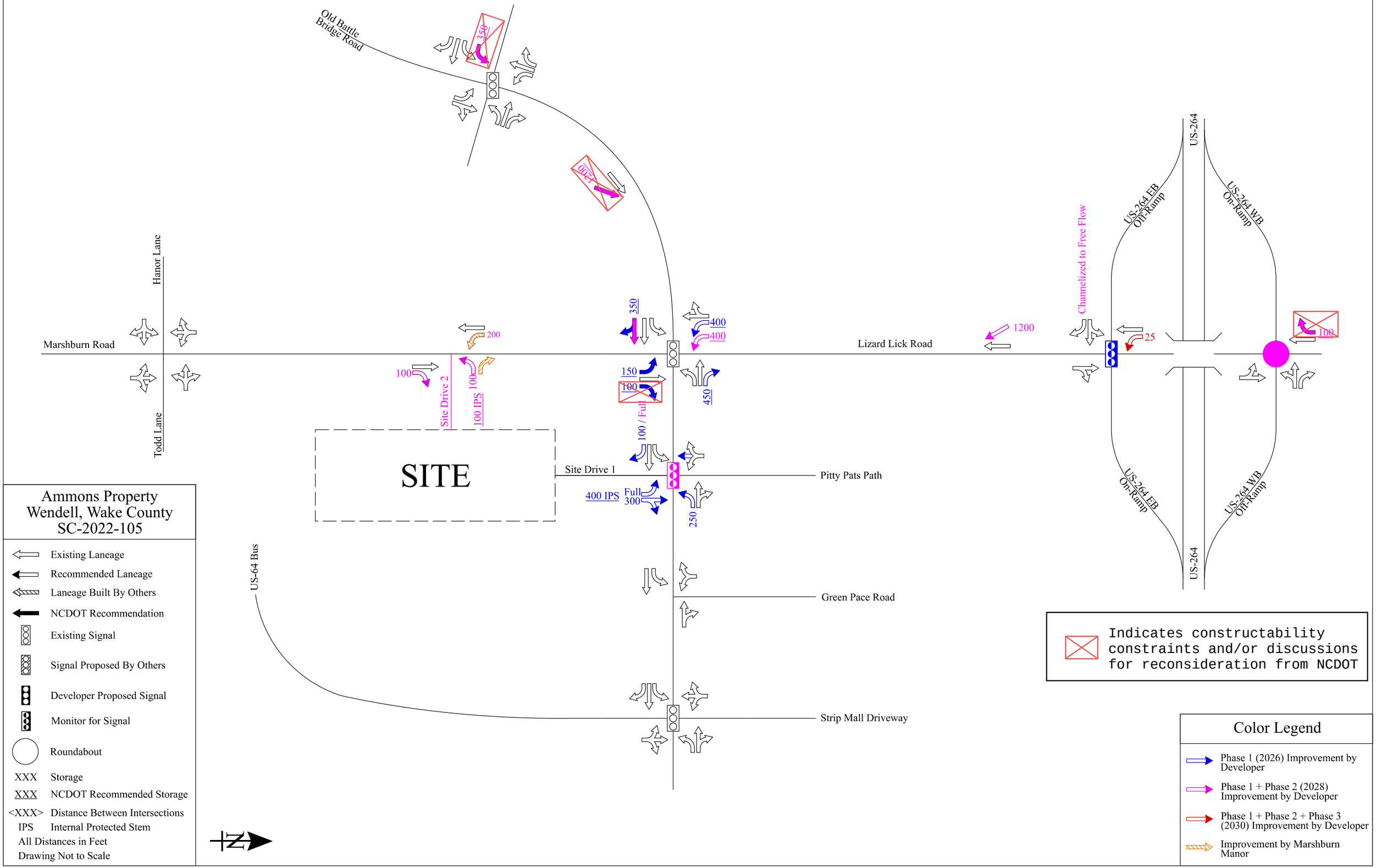
TRAFFIC DATA COLLECTION

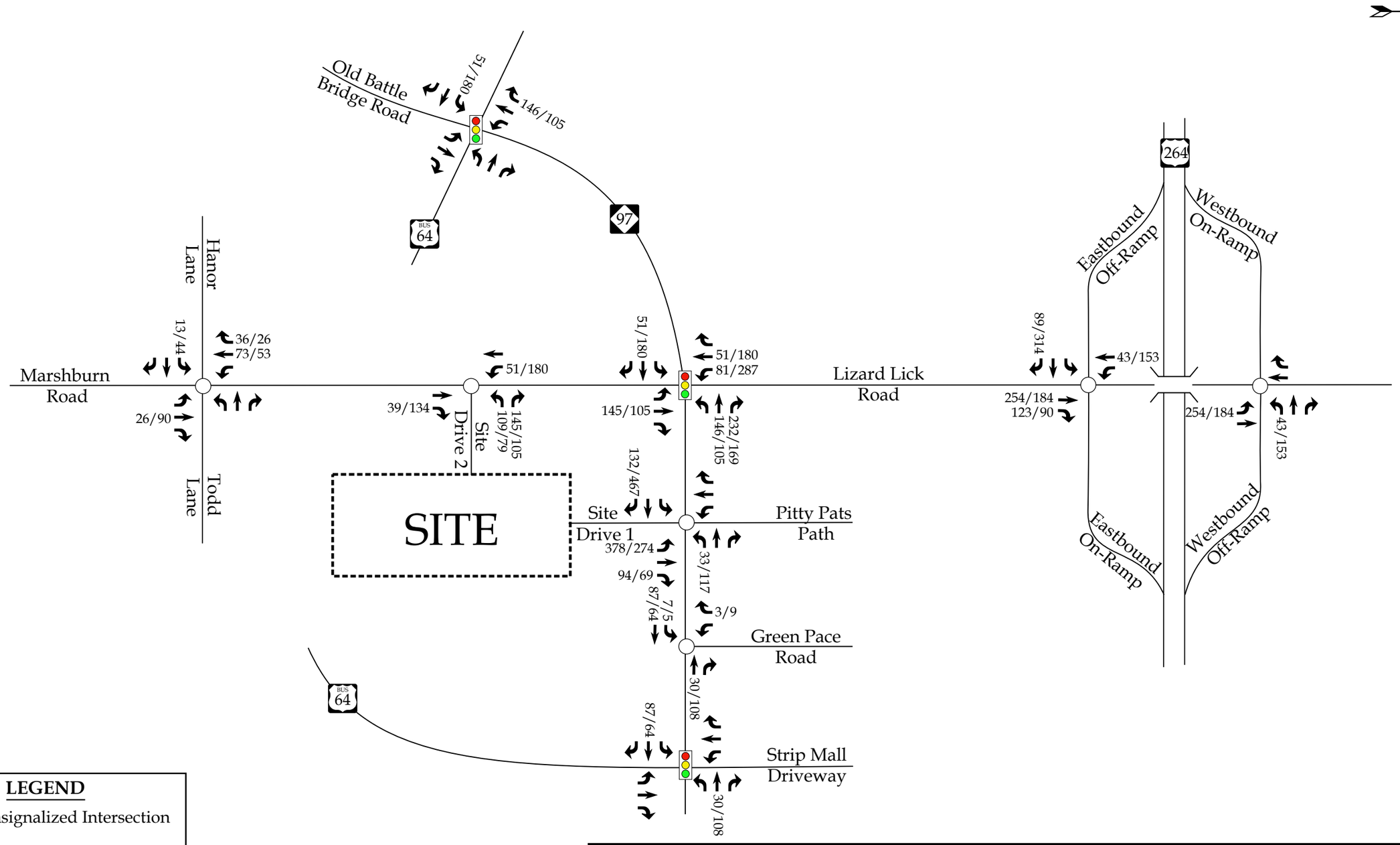
File Name : Zebulon(NC 97 and Water)
Site Code :
Start Date : 9/24/2025
Page No : 2

	Water Plant Road Southbound			NC 97 Westbound			NC 97 Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	2	**10**	12	71	0	71	9	104	113	196
04:45 PM	**4**	9	**13**	67	2	69	**14**	94	108	190
05:00 PM	4	9	13	**77**	**6**	**83**	11	106	117	**213**
05:15 PM	3	7	10	72	1	73	11	**111**	**122**	205
Total Volume	13	35	48	287	9	296	45	415	460	804
% App. Total	27.1	72.9		97	3		9.8	90.2		
PHF	.813	.875	.923	.932	.375	.892	.804	.935	.943	.944
Cars +	13	32	45	281	9	290	45	402	447	782
% Cars +	100	91.4	93.8	97.9	100	98.0	100	96.9	97.2	97.3
Trucks	0	3	3	6	0	6	0	13	13	22
% Trucks	0	8.6	6.3	2.1	0	2.0	0	3.1	2.8	2.7

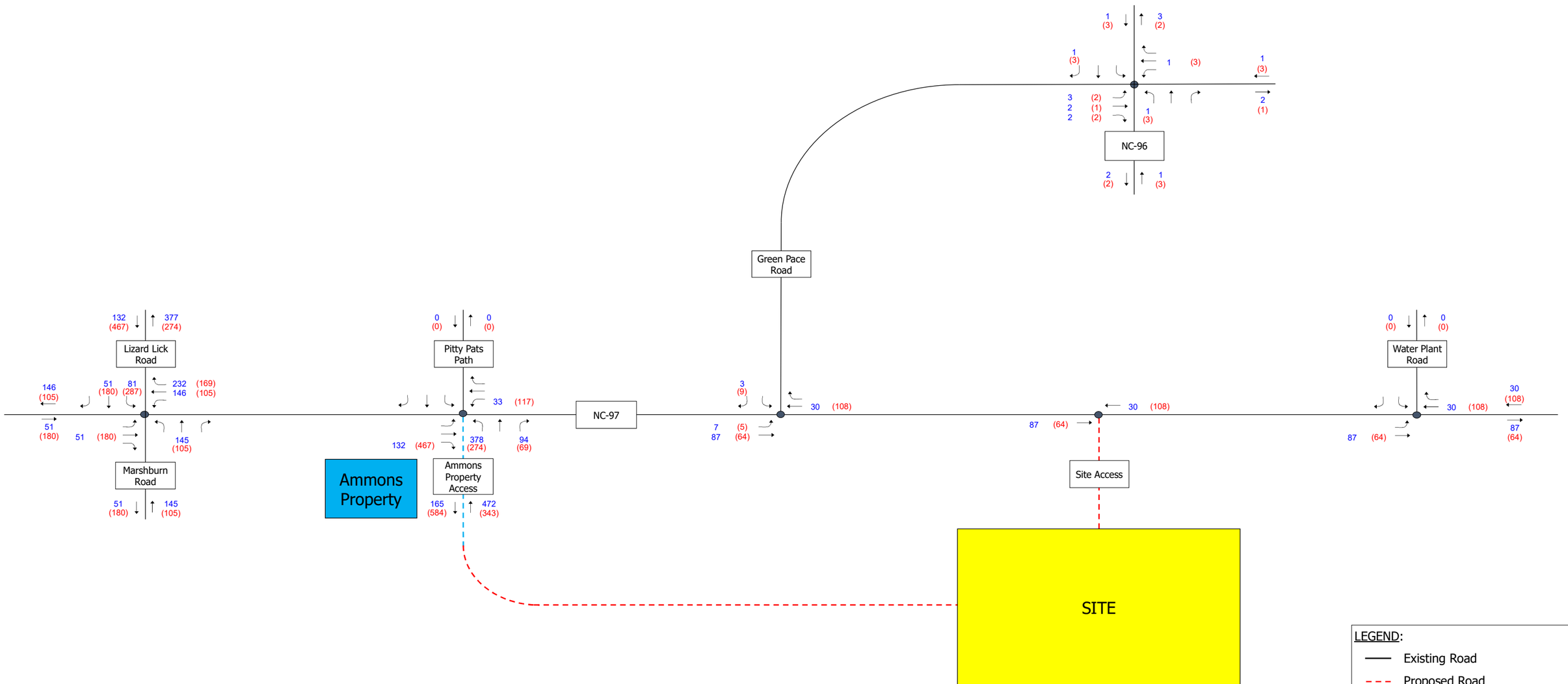


Appendix B – Approved Area Developments


Old Battle Bridge Road
350
1200
Hanor Lane
Marshburn Road
Todd Lane
200
100
Site Drive 2
100
100 IPS
SITE
350
400
400
150
100
450
100 / Full
Site Drive 1
400 IPS
Full
300
250
Pitty Pats Path
Green Pace Road
Strip Mall Driveway
US-64 Bus
Lizard Lick Road
1200
Channelized to Free Flow
US-264
US-264 EB Off-Ramp
US-264 WB Off-Ramp
25
100
US-264 EB On-Ramp
US-264 WB On-Ramp
US-264
Ammons Property
Wendell, Wake County
SC-2022-105
Existing Laneage
Recommended Laneage
Laneage Built By Others
NCDOT Recommendation
Existing Signal
Signal Proposed By Others
Developer Proposed Signal
Monitor for Signal
Roundabout
XXX Storage
XXX NCDOT Recommended Storage
<XXX> Distance Between Intersections
IPS Internal Protected Stem
All Distances in Feet
Drawing Not to Scale
Indicates constructability constraints and/or discussions for reconsideration from NCDOT
Color Legend
Phase 1 (2026) Improvement by Developer
Phase 1 + Phase 2 (2028) Improvement by Developer
Phase 1 + Phase 2 + Phase 3 (2030) Improvement by Developer
Improvement by Marshburn Manor


N
Old Battle Bridge Road
51/180
146/105
BUS 64
97
264
Eastbound Off-Ramp
Westbound On-Ramp
Hanor Lane
13/44
36/26
73/53
Marshburn Road
26/90
Todd Lane
51/180
39/134
Site Drive 2
145/105
109/79
SITE
51/180
51/180
81/287
145/105
232/169
146/105
132/467
Site Drive 1
Pitty Pats Path
378/274
94/69
87/64
7/5
33/117
3/9
Green Pace Road
30/108
87/64
Strip Mall Driveway
30/108
Lizard Lick Road
89/314
43/153
254/184
123/90
254/184
43/153
Eastbound On-Ramp
Westbound Off-Ramp
LEGEND
Unsignalized Intersection
Signalized Intersection
X / Y
Weekday AM / PM Peak Hour Site Trips
RAMEY KEMP ASSOCIATES
Ammons Property Update - Phasing Study
Wendell, NC
Site Trip Assignment - Full Build
Scale: Not to Scale
Figure 9d

NOT TO SCALE



TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Faison Tract Traffic Impact Analysis

Approved Development Trip Distribution Volumes
Ammons Property

B-1

Figure 11: Recommended Improvements

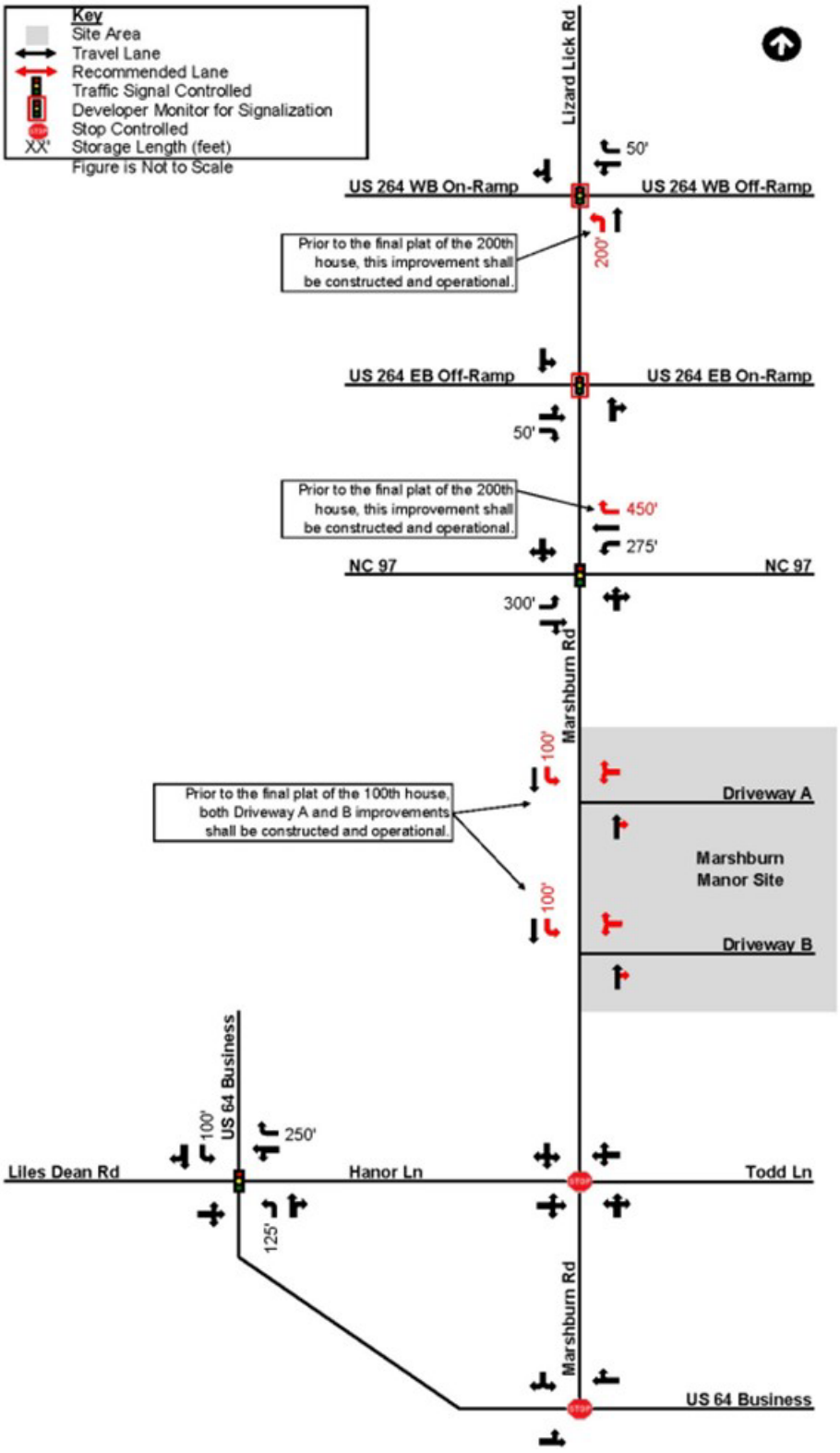
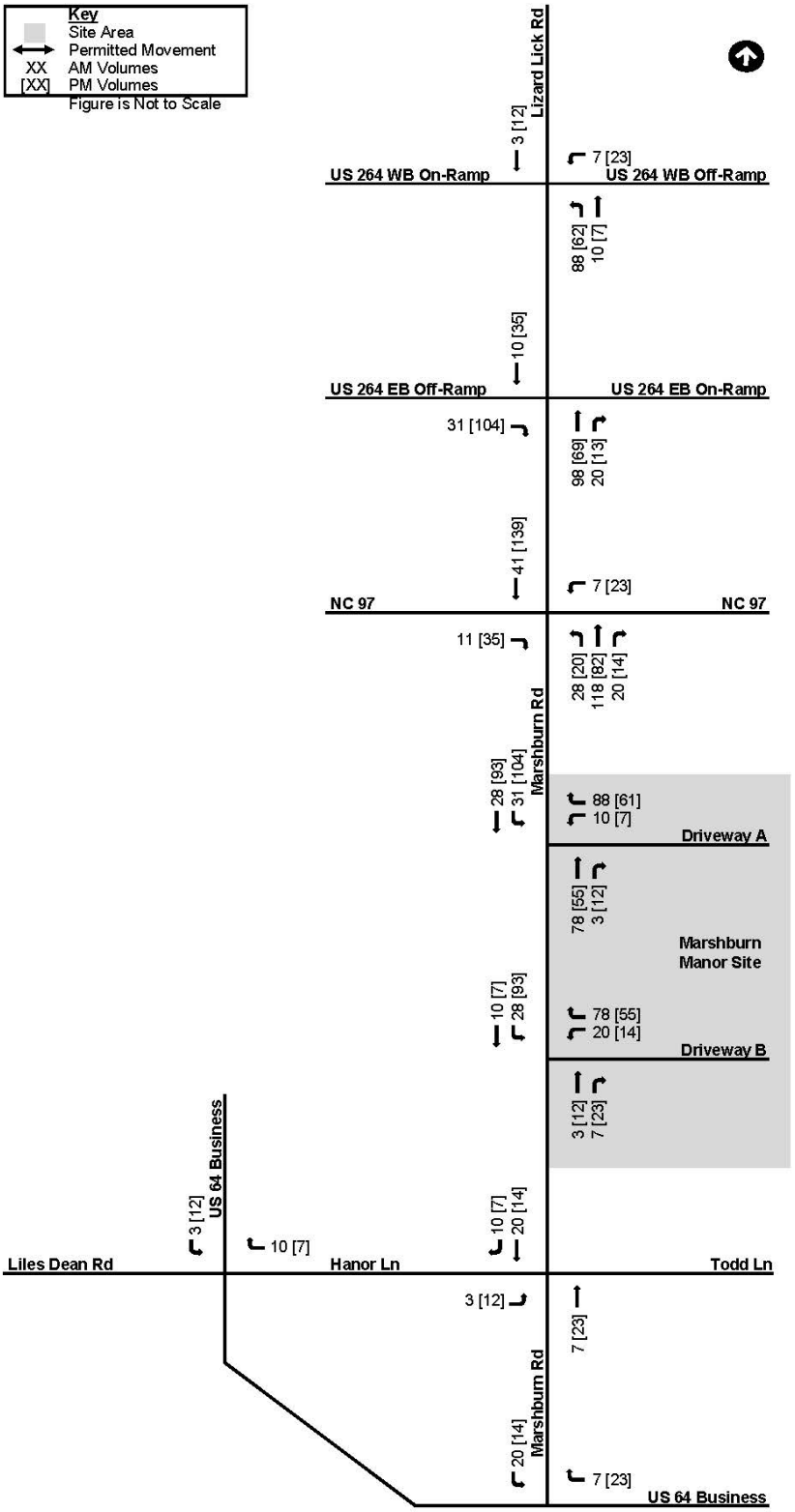


Figure 5: Site Trip Assignment



NOT TO SCALE

NC-96

NC-97

Green Pace Road

Lizard Lick Road

Marshburn Road

Pitty Pats Path

Ammons Property Access

Water Plant Road

Site Access

Marshburn Manor

SITE

LEGEND:

- Existing Road
- Proposed Road
- Future Road (By Others)
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Faison Tract Traffic Impact Analysis

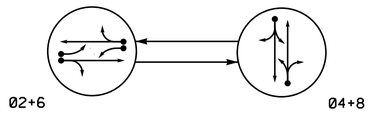
Approved Development Trip Distribution Volumes
Marshburn Manor

B-2

Appendix C – Traffic Signal Plans

PROJECT REFERENCE NO.	SHEET NO.
36249.4202	Sig. 1.0

PHASING DIAGRAM



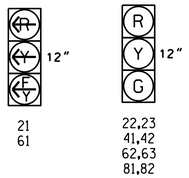
PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION			
SIGNAL FACE	PHASE 02+6	PHASE 04+8	FLASH
21	~~G~~ Y	~~R~~	~~Y~~
22,23	G	R	Y
41,42	R	G	R
61	~~G~~ Y	~~R~~	~~Y~~
62,63	G	R	Y
81,82	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.



OASIS 2070 LOOP & DETECTOR INSTALLATION CHART												
INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
2A/S12	6X6	200	5	Y	2	Y	Y	-	-	-	Y	Y
2B	6X40	0	2-4-2	Y	2	Y	Y	Y	-	3	-	Y
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	5	-	Y
6A/S13	6X6	200	5	Y	6	Y	Y	-	-	-	Y	Y
6B	6X40	0	2-4-2	Y	6	Y	Y	Y	-	3	-	Y
8A	6X40	0	2-4-2	Y	8	Y	Y	-	-	5	-	Y

2 Phase
Fully Actuated
(NC 96 - N. Arendell Ave. CLS)
Signal System #: D05-30_Zebulon

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
4. Set all detector units to presence mode.
5. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
6. Closed loop system data:
   Controller asset #: 0886

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	

OASIS 2070 TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 6	PHASE 8
Min Green 1 *	10	7	10	7
Extension 1 *	5.0	2.0	5.0	2.0
Max Green 1 *	45	20	45	20
Yellow Clearance	4.0	3.8	4.0	3.9
Red Clearance	1.3	1.5	1.3	1.2
Walk 1 *	-	-	-	-
Don't Walk 1	-	-	-	-
Seconds Per Actuation *	2.5	-	2.5	-
Max Variable Initial *	24	-	24	-
Time Before Reduction *	15	-	15	-
Time To Reduce *	30	-	30	-
Minimum Gap	3.0	-	3.0	-
Recall Mode	MIN RECALL	-	MIN RECALL	-
Vehicle Call Memory	YELLOW	-	YELLOW	-
Dual Entry	-	ON	-	ON
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

NC Dept of Transportation
Division of Highways
Final Drawing Date: 04/25/2022
DocuSigned by: Phillip S. Tarpley
ITS & Signals Unit

New Installation

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of:
SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
320 Executive Court
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

Prepared For:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

SCALE 0 40 1"=40'

NC 96 (N. Arendell Avenue)
at
SR 2368 (Green Pace Road)

Division 5 Wake County Zebulon

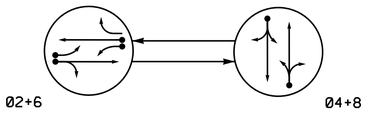
PLAN DATE:	November 2021	REVIEWED BY:	E. Sirgany
PREPARED BY:	M. Parker	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 018174 ENGINEER EDWARD W. SIRGANY
DocuSigned by: Edward W Sirgany 4/12/2022
SIGNATURE DATE
SIG. INVENTORY NO. 05-0886

PROJECT REFERENCE NO.	SHEET NO.
36249.4932	Sig. 1.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

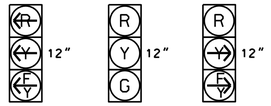
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 02+6	PHASE 04+8	FLASH
21,22	G	R	R
23	~~FY~~	~~R~~	~~R~~
41,42	R	G	R
61,62	G	R	R
63	~~FY~~	~~R~~	~~R~~
64	~~FY~~	~~R~~	~~R~~
81,82	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.



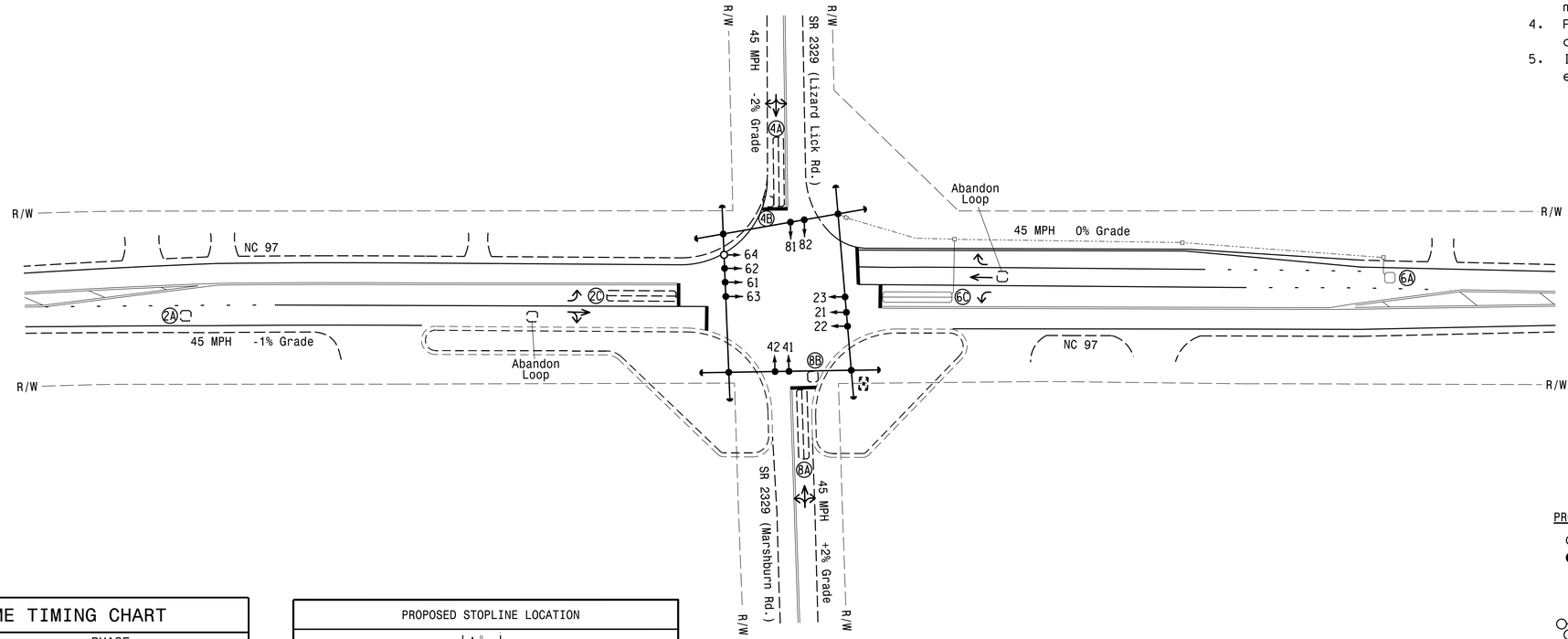
MAXTIME DETECTOR INSTALLATION CHART

DETECTOR					PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
2A	6X6	300	5	-	2	-	-	X	X	X	-	-
2B	6X6	90	EXIST	-	DISCONNECT AND ABANDON							
2C	6X40	0	2-4-2	-	2	3.0	-	X	-	X	X	-
4A	6X40	0	2-4-2	-	4	5.0	-	X	-	X	-	-
4B	6X6	0	3	-	4	10.0	-	X	-	X	-	-
6A	6X6	300	5	X	6	-	-	X	X	X	-	-
6B	6X6	90	EXIST	-	DISCONNECT AND ABANDON							
6C	6X40	0	2-4-2	X	6	3.0	·	X	-	X	X	·
8A	6X40	0	2-4-2	·	8	5.0	·	X	·	X	·	·
8B	6X6	+5	3	-	8	10.0	-	X	-	X	-	-

2 Phase
Fully Actuated
(Isolated)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2024 and "Standard Specifications for Roads and Structures" dated January 2024. The PSP can be accessed at the following website: https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. Pavement markings are existing unless otherwise noted.
5. Install new 2070 LX controller in existing signal cabinet.



LEGEND

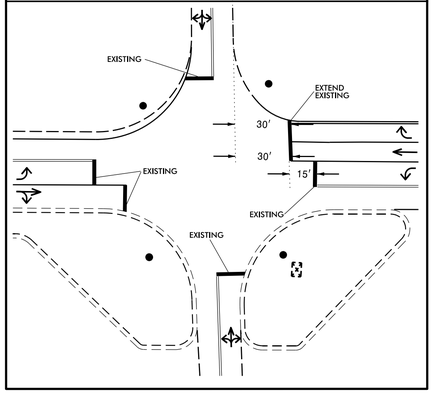
PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	

MAXTIME TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 6	PHASE 8
Walk *	–	–	–	–
Ped Clear	–	–	–	–
Min Green *	12	7	12	7
Passage *	6.0	2.0	6.0	2.0
Max 1 *	60	25	60	25
Yellow Change	4.6	4.7	4.6	4.7
Red Clear	1.0	1.3	1.0	1.3
Added Initial *	2.5	–	2.5	–
Maximum Initial *	34	–	34	–
Time Before Reduction *	15	–	15	–
Time To Reduce *	30	–	30	–
Minimum Gap	3.0	–	3.0	–
Advance Walk	–	–	–	–
Non Lock Detector	–	X	–	X
Vehicle Recall	MIN RECALL	–	MIN RECALL	–
Dual Entry	–	X	–	X

* These values may be field adjusted. Do not adjust Min Green and Passage times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

PROPOSED STOPLINE LOCATION



NC Dept of Transportation
Division of Highways

Final Drawing Date: 03/21/2025

DocuSigned by: Chang Baek

TSMO Unit

Signal Upgrade

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Office of:

SUMMIT DESIGN AND ENGINEERING SERVICES

NC FIRM LICENSE No: P-0339
320 Executive Court
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

Prepared for:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SCALE 0 40 1"=40'

NC 97
at
SR 2329 (Marshburn Road / Lizard Lick Road)

Division 5 Wake County Lizard Lick

PLAN DATE: April 2024 REVIEWED BY: E. Sirgany

PREPARED BY: J. Smith REVIEWED BY:

REVISIONS	INIT.	DATE

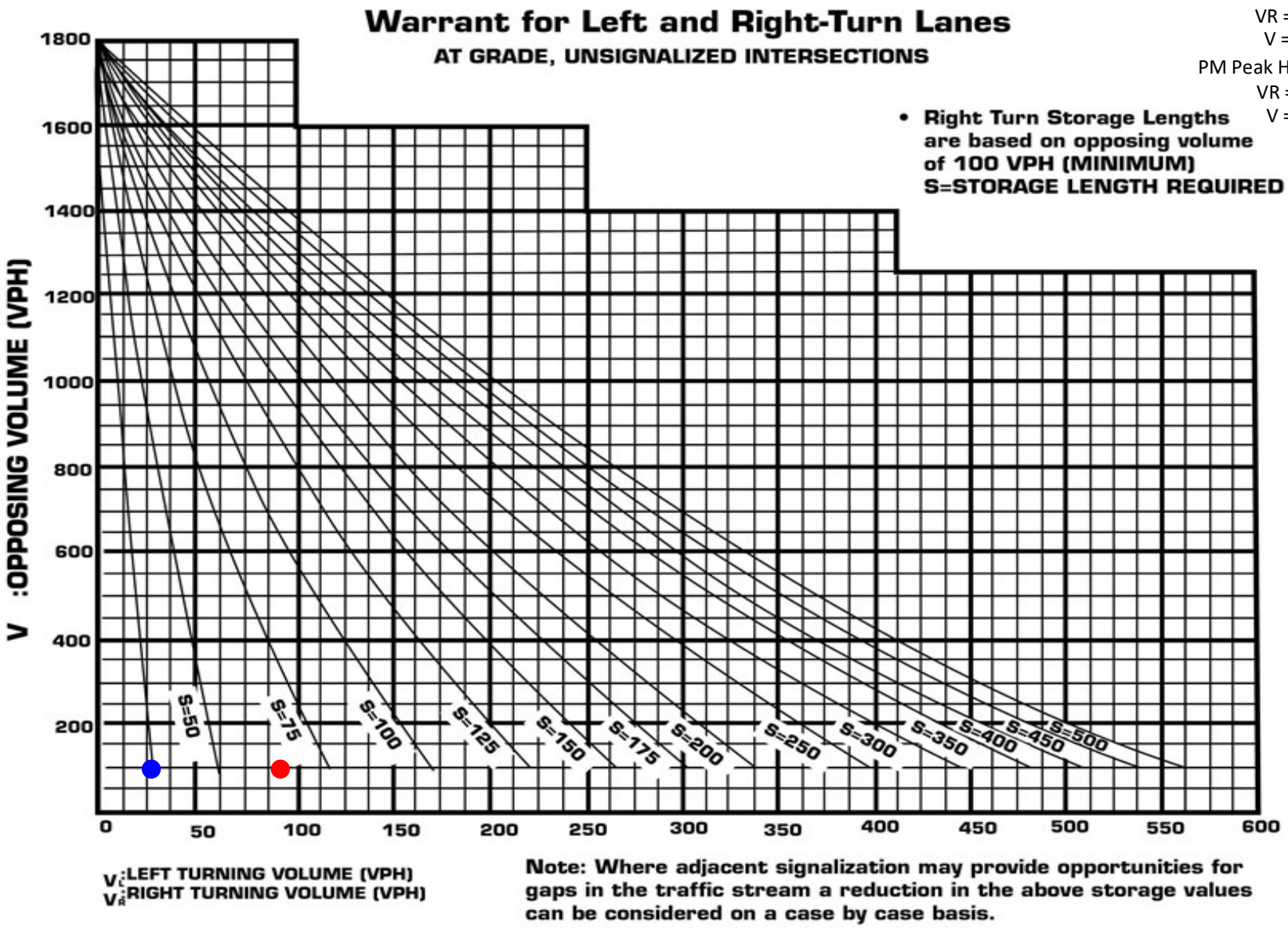
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 018174 EDWARD W. SIRGANY

DocuSigned by: Edward W Sirgany 3/20/2025
DATE

SIG. INVENTORY NO. 05-0740

Appendix D – NCDOT Turn Lane Warrants

AM Peak Hour
VR = 27
V = 100
PM Peak Hour
VR = 94
V = 100



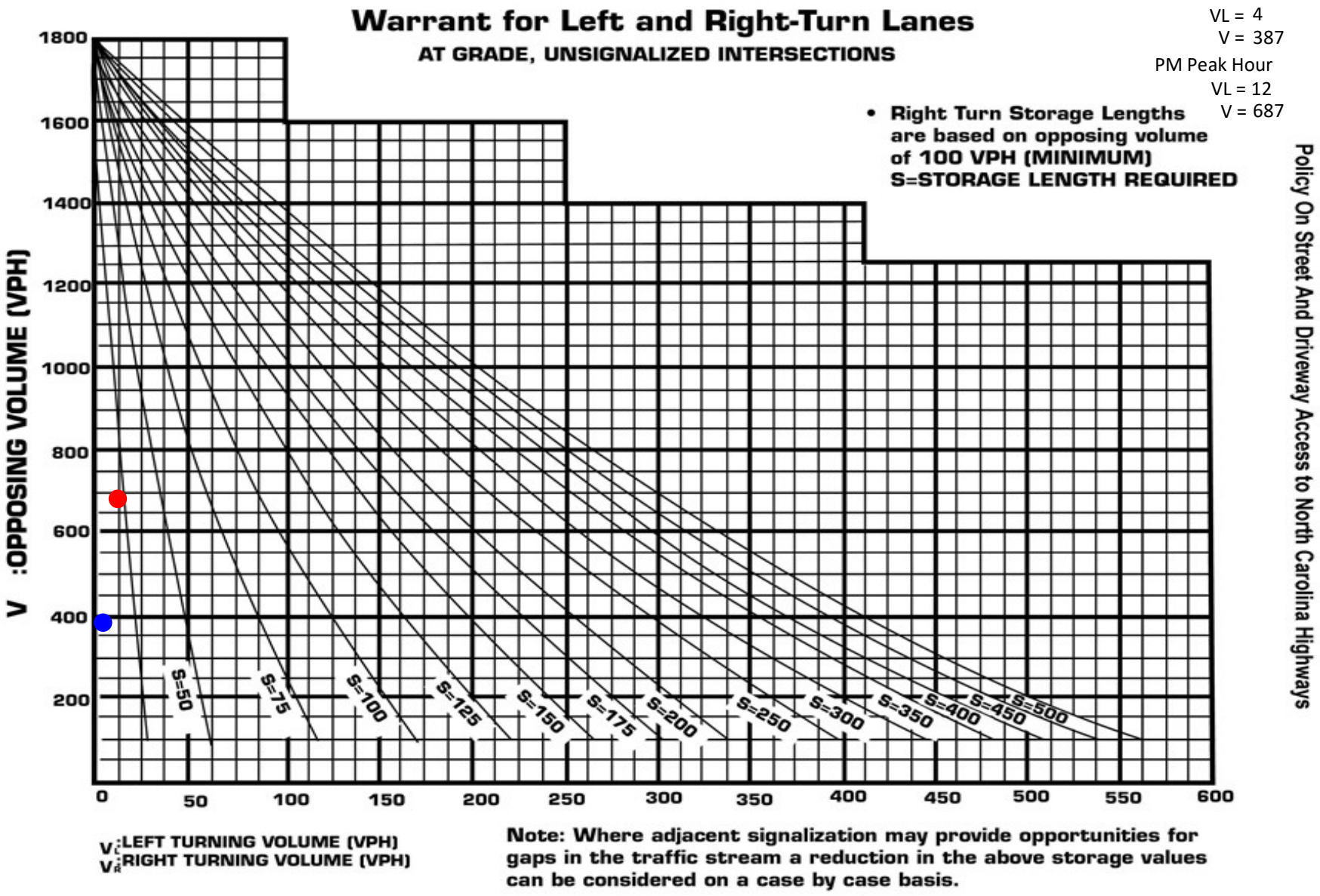
NC-97 / Site Access

Eastbound Right-Turn

2030 Build AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak

AM Peak Hour
VL = 4
V = 387
PM Peak Hour
VL = 12
V = 687



NC-97 / Site Access

Westbound Left-Turn

2030 Build AM and PM Peak Hours

LEGEND
● = AM Peak
● = PM Peak

Appendix E – Synchro Outputs

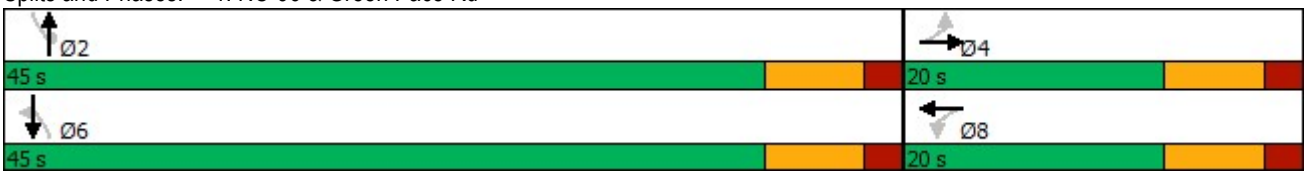
2025 Existing Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	30	48	14	105	45	84	531	10	8	535	105
Future Volume (vph)	44	30	48	14	105	45	84	531	10	8	535	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			2%			-2%	
Storage Length (ft)	0		0	0		0	225		0	175		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.947			0.963			0.997			0.975	
Flt Protected		0.982			0.996		0.950			0.950		
Satd. Flow (prot)	0	1724	0	0	1796	0	1752	1839	0	1787	1834	0
Flt Permitted		0.821			0.962		0.292			0.367		
Satd. Flow (perm)	0	1441	0	0	1734	0	538	1839	0	690	1834	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		2133			1091			1641			1385	
Travel Time (s)		32.3			16.5			32.0			27.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	49	33	53	16	117	50	93	590	11	9	594	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	135	0	0	183	0	93	601	0	9	711	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.01	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		D.Pm	NA		D.Pm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	2		2	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		17.0	17.0		17.0	17.0	
Total Split (s)	20.0	20.0		20.0	20.0		45.0	45.0		45.0	45.0	
Total Split (%)	30.8%	30.8%		30.8%	30.8%		69.2%	69.2%		69.2%	69.2%	
Maximum Green (s)	13.0	13.0		13.0	13.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0			-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		5.0	5.0		5.0	5.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		15.0	15.0		15.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		30.0	30.0		30.0	30.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		11.8			11.8		31.5	31.5		31.5	31.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.24			0.24		0.65	0.65		0.65	0.65	
v/c Ratio		0.39			0.44		0.27	0.50		0.02	0.60	
Control Delay		21.9			21.8		8.5	8.5		5.1	10.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		21.9			21.8		8.5	8.5		5.1	10.0	
LOS		C			C		A	A		A	A	
Approach Delay		21.9			21.8			8.5			9.9	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		31			42		12	95		1	124	
Queue Length 95th (ft)		92			117		39	192		6	251	
Internal Link Dist (ft)		2053			1011			1561			1305	
Turn Bay Length (ft)							225			175		
Base Capacity (vph)		467			562		449	1538		577	1533	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.29			0.33		0.21	0.39		0.02	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 48.5			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 74.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: NC-96 & Green Pace Rd

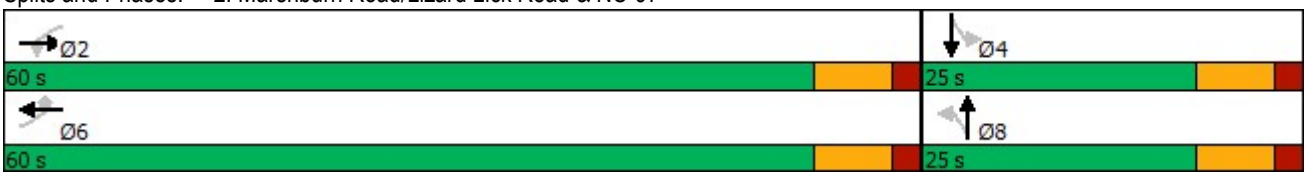


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	155	44	61	376	299	28	118	26	142	104	51
Future Volume (vph)	44	155	44	61	376	299	28	118	26	142	104	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			2%			-2%	
Storage Length (ft)	300		0	275		250	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967				0.850		0.980			0.977	
Flt Protected	0.950			0.950				0.992			0.977	
Satd. Flow (prot)	1778	1810	0	1770	1863	1583	0	1793	0	0	1796	0
Flt Permitted	0.418			0.620				0.906			0.782	
Satd. Flow (perm)	783	1810	0	1155	1863	1583	0	1637	0	0	1437	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1439			2718			1375			1367	
Travel Time (s)		21.8			41.2			20.8			20.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	49	172	49	68	418	332	31	131	29	158	116	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	221	0	68	418	332	0	191	0	0	331	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	1.01	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	D.Pm	NA		D.Pm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	6			2		6	8			4		
Detector Phase	6	2		2	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	19.0	19.0		19.0	19.0	19.0	14.0	14.0		14.0	14.0	
Total Split (s)	60.0	60.0		60.0	60.0	60.0	25.0	25.0		25.0	25.0	
Total Split (%)	70.6%	70.6%		70.6%	70.6%	70.6%	29.4%	29.4%		29.4%	29.4%	
Maximum Green (s)	53.0	53.0		53.0	53.0	53.0	18.0	18.0		18.0	18.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0			-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0	6.0	2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	2.0	2.0		2.0	2.0	
Time Before Reduce (s)	15.0	15.0		15.0	15.0	15.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	30.0	30.0		30.0	30.0	30.0	0.0	0.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min	Min	None	None		None	None	
Act Effct Green (s)	21.4	21.4		21.4	21.4	21.4		20.3			20.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.41	0.41		0.41	0.41	0.41		0.39			0.39	
v/c Ratio	0.15	0.30		0.14	0.54	0.51		0.30			0.59	
Control Delay	10.0	10.7		9.5	14.0	13.8		14.4			20.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay	10.0	10.7		9.5	14.0	13.8		14.4			20.3	
LOS	A	B		A	B	B		B			C	
Approach Delay		10.6			13.5			14.4			20.3	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	9	42		12	90	70		38			76	
Queue Length 95th (ft)	25	77		30	152	124		99			#210	
Internal Link Dist (ft)		1359			2638			1295			1287	
Turn Bay Length (ft)	300			275		250						
Base Capacity (vph)	767	1773		1131	1825	1551		640			562	
Starvation Cap Reductn	0	0		0	0	0		0			0	
Spillback Cap Reductn	0	0		0	0	0		0			0	
Storage Cap Reductn	0	0		0	0	0		0			0	
Reduced v/c Ratio	0.06	0.12		0.06	0.23	0.21		0.30			0.59	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 51.8			
Natural Cycle: 40			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 14.5		Intersection LOS: B	
Intersection Capacity Utilization 72.2%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 2: Marshburn Road/Lizard Lick Road & NC-97



Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	313	4	4	713	4	4	4	4	5	4	10
Future Vol, veh/h	5	313	4	4	713	4	4	4	4	5	4	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	348	4	4	792	4	4	4	4	6	4	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	796	0	0	352	0	0	1172	1166	350	1168	1166	794
Stage 1	-	-	-	-	-	-	362	362	-	802	802	-
Stage 2	-	-	-	-	-	-	810	804	-	366	364	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	826	-	-	1207	-	-	169	194	693	170	194	388
Stage 1	-	-	-	-	-	-	657	625	-	378	396	-
Stage 2	-	-	-	-	-	-	374	396	-	653	624	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	826	-	-	1207	-	-	160	191	693	164	191	388
Mov Cap-2 Maneuver	-	-	-	-	-	-	160	191	-	164	191	-
Stage 1	-	-	-	-	-	-	652	621	-	375	394	-
Stage 2	-	-	-	-	-	-	357	394	-	639	620	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	21.5	21
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	232	826	-	-	1207	-	-	246
HCM Lane V/C Ratio	0.057	0.007	-	-	0.004	-	-	0.086
HCM Control Delay (s)	21.5	9.4	-	-	8	0	-	21
HCM Lane LOS	C	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	86	233	497	4	4	212
Future Vol, veh/h	86	233	497	4	4	212
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	96	259	552	4	4	236

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	556	0	-	0	1005	554
Stage 1	-	-	-	-	554	-
Stage 2	-	-	-	-	451	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1015	-	-	-	268	532
Stage 1	-	-	-	-	575	-
Stage 2	-	-	-	-	642	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1015	-	-	-	243	532
Mov Cap-2 Maneuver	-	-	-	-	243	-
Stage 1	-	-	-	-	520	-
Stage 2	-	-	-	-	642	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	17.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1015	-	-	-	521
HCM Lane V/C Ratio	0.094	-	-	-	0.461
HCM Control Delay (s)	8.9	-	-	-	17.7
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	2.4

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	204	434	4	7	47
Future Vol, veh/h	26	204	434	4	7	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	75	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	227	482	4	8	52

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	486	0	-	0	767	482
Stage 1	-	-	-	-	482	-
Stage 2	-	-	-	-	285	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1077	-	-	-	370	584
Stage 1	-	-	-	-	621	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1077	-	-	-	359	584
Mov Cap-2 Maneuver	-	-	-	-	359	-
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	763	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	12.5
HCM LOS			B

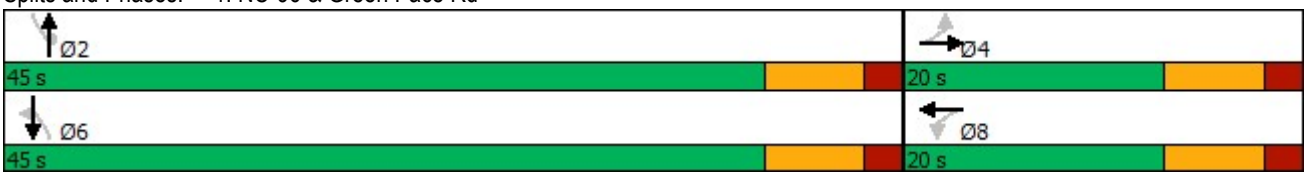
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1077	-	-	-	540
HCM Lane V/C Ratio	0.027	-	-	-	0.111
HCM Control Delay (s)	8.4	0	-	-	12.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	92	75	10	40	6	81	674	21	13	630	87
Future Volume (vph)	86	92	75	10	40	6	81	674	21	13	630	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			2%			-2%	
Storage Length (ft)	0		0	0		0	225		0	175		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.960			0.985			0.996			0.982	
Flt Protected		0.983			0.991		0.950			0.950		
Satd. Flow (prot)	0	1749	0	0	1827	0	1752	1837	0	1787	1848	0
Flt Permitted		0.862			0.926		0.194			0.211		
Satd. Flow (perm)	0	1534	0	0	1708	0	358	1837	0	397	1848	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		2133			1091			1641			1385	
Travel Time (s)		32.3			16.5			32.0			27.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	96	102	83	11	44	7	90	749	23	14	700	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	281	0	0	62	0	90	772	0	14	797	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.01	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		D.Pm	NA		D.Pm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	2		2	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		17.0	17.0		17.0	17.0	
Total Split (s)	20.0	20.0		20.0	20.0		45.0	45.0		45.0	45.0	
Total Split (%)	30.8%	30.8%		30.8%	30.8%		69.2%	69.2%		69.2%	69.2%	
Maximum Green (s)	13.0	13.0		13.0	13.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0			-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		5.0	5.0		5.0	5.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		15.0	15.0		15.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		30.0	30.0		30.0	30.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		14.1			14.1		30.2	30.2		30.2	30.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.26			0.26		0.55	0.55		0.55	0.55	
v/c Ratio		0.71			0.14		0.45	0.76		0.06	0.78	
Control Delay		33.1			19.1		15.8	15.0		6.1	15.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		33.1			19.1		15.8	15.0		6.1	15.8	
LOS		C			B		B	B		A	B	
Approach Delay		33.1			19.1			15.1			15.6	
Approach LOS		C			B			B			B	
Queue Length 50th (ft)		80			15		16	176		2	185	
Queue Length 95th (ft)		#220			47		51	291		8	307	
Internal Link Dist (ft)		2053			1011			1561			1305	
Turn Bay Length (ft)							225			175		
Base Capacity (vph)		432			481		269	1379		298	1388	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.65			0.13		0.33	0.56		0.05	0.57	

Intersection Summary	
Area Type:	Other
Cycle Length: 65	
Actuated Cycle Length: 54.6	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 17.9	Intersection LOS: B
Intersection Capacity Utilization 80.1%	ICU Level of Service D
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 1: NC-96 & Green Pace Rd

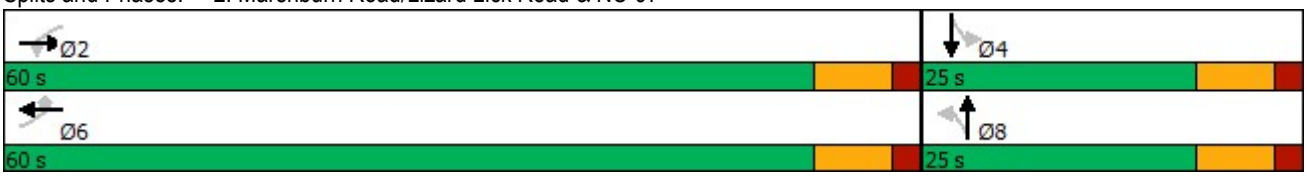


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	383	44	53	163	202	28	139	51	188	118	70
Future Volume (vph)	83	383	44	53	163	202	28	139	51	188	118	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			2%			-2%	
Storage Length (ft)	300		0	275		250	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985				0.850		0.968			0.975	
Flt Protected	0.950			0.950				0.994			0.976	
Satd. Flow (prot)	1778	1844	0	1770	1863	1583	0	1774	0	0	1790	0
Flt Permitted	0.643			0.349				0.912			0.746	
Satd. Flow (perm)	1204	1844	0	650	1863	1583	0	1628	0	0	1368	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1439			2718			1375			1367	
Travel Time (s)		21.8			41.2			20.8			20.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	92	426	49	59	181	224	31	154	57	209	131	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	475	0	59	181	224	0	242	0	0	418	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	1.01	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	D.Pm	NA		D.Pm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	6			2		6	8			4		
Detector Phase	6	2		2	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	12.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	19.0	19.0		19.0	19.0	19.0	14.0	14.0		14.0	14.0	
Total Split (s)	60.0	60.0		60.0	60.0	60.0	25.0	25.0		25.0	25.0	
Total Split (%)	70.6%	70.6%		70.6%	70.6%	70.6%	29.4%	29.4%		29.4%	29.4%	
Maximum Green (s)	53.0	53.0		53.0	53.0	53.0	18.0	18.0		18.0	18.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0		-2.0			-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0	6.0	2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	3.0	2.0	2.0		2.0	2.0	
Time Before Reduce (s)	15.0	15.0		15.0	15.0	15.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	30.0	30.0		30.0	30.0	30.0	0.0	0.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min	Min	None	None		None	None	
Act Effct Green (s)	20.0	20.0		20.0	20.0	20.0		20.2			20.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.40	0.40		0.40	0.40	0.40		0.40			0.40	
v/c Ratio	0.19	0.65		0.23	0.24	0.36		0.37			0.76	
Control Delay	10.5	16.7		12.0	10.6	12.0		14.0			27.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	
Total Delay	10.5	16.7		12.0	10.6	12.0		14.0			27.0	
LOS	B	B		B	B	B		B			C	
Approach Delay		15.7			11.4			14.0			27.0	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	17	107		11	34	44		48			102	
Queue Length 95th (ft)	39	182		31	65	83		113			#274	
Internal Link Dist (ft)		1359			2638			1295			1287	
Turn Bay Length (ft)	300			275		250						
Base Capacity (vph)	1198	1834		646	1853	1574		653			549	
Starvation Cap Reductn	0	0		0	0	0		0			0	
Spillback Cap Reductn	0	0		0	0	0		0			0	
Storage Cap Reductn	0	0		0	0	0		0			0	
Reduced v/c Ratio	0.08	0.26		0.09	0.10	0.14		0.37			0.76	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 50.2			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 17.1		Intersection LOS: B	
Intersection Capacity Utilization 82.3%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 2: Marshburn Road/Lizard Lick Road & NC-97



Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	608	4	4	438	4	4	4	4	4	4	7
Future Vol, veh/h	5	608	4	4	438	4	4	4	4	4	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	676	4	4	487	4	4	4	4	4	4	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	491	0	0	680	0	0	1193	1189	678	1191	1189	489
Stage 1	-	-	-	-	-	-	690	690	-	497	497	-
Stage 2	-	-	-	-	-	-	503	499	-	694	692	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1072	-	-	912	-	-	164	188	452	164	188	579
Stage 1	-	-	-	-	-	-	435	446	-	555	545	-
Stage 2	-	-	-	-	-	-	551	544	-	433	445	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1072	-	-	912	-	-	157	186	452	158	186	579
Mov Cap-2 Maneuver	-	-	-	-	-	-	157	186	-	158	186	-
Stage 1	-	-	-	-	-	-	432	443	-	552	542	-
Stage 2	-	-	-	-	-	-	536	541	-	422	442	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	22.8	20.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	215	1072	-	-	912	-	-	255
HCM Lane V/C Ratio	0.062	0.005	-	-	0.005	-	-	0.065
HCM Control Delay (s)	22.8	8.4	-	-	9	0	-	20.1
HCM Lane LOS	C	A	-	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	140	467	330	4	4	114
Future Vol, veh/h	140	467	330	4	4	114
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	156	519	367	4	4	127

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	371	0	-	0	1200	369
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	831	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1188	-	-	-	204	677
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	428	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1188	-	-	-	177	677
Mov Cap-2 Maneuver	-	-	-	-	177	-
Stage 1	-	-	-	-	607	-
Stage 2	-	-	-	-	428	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1188	-	-	-	618
HCM Lane V/C Ratio	0.131	-	-	-	0.212
HCM Control Delay (s)	8.5	-	-	-	12.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.5	-	-	-	0.8

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	415	287	9	13	35
Future Vol, veh/h	45	415	287	9	13	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	75	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	461	319	10	14	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	329	0	-	0	880	319
Stage 1	-	-	-	-	319	-
Stage 2	-	-	-	-	561	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1231	-	-	-	318	722
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	571	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1231	-	-	-	301	722
Mov Cap-2 Maneuver	-	-	-	-	301	-
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	571	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1231	-	-	-	524
HCM Lane V/C Ratio	0.041	-	-	-	0.102
HCM Control Delay (s)	8	0	-	-	12.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

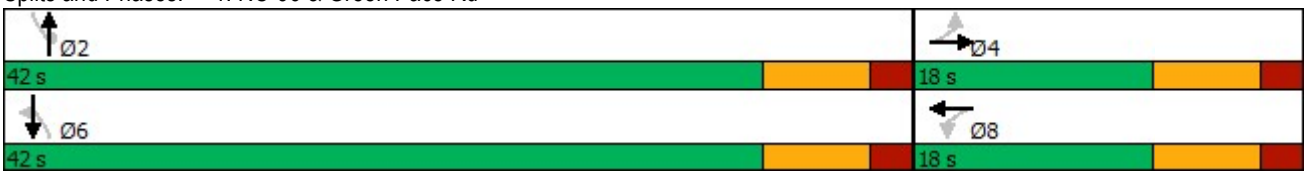
2030 Background Traffic Volumes

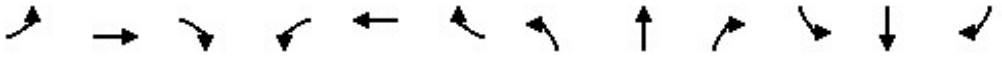
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	37	57	15	118	50	94	586	11	9	591	118
Future Volume (vph)	54	37	57	15	118	50	94	586	11	9	591	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			2%			-2%	
Storage Length (ft)	0		0	0		0	225		0	175		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.948			0.963			0.997			0.975	
Flt Protected		0.982			0.996		0.950			0.950		
Satd. Flow (prot)	0	1725	0	0	1796	0	1752	1839	0	1787	1834	0
Flt Permitted		0.781			0.962		0.247			0.328		
Satd. Flow (perm)	0	1372	0	0	1734	0	455	1839	0	617	1834	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		2133			1091			1641			1385	
Travel Time (s)		32.3			16.5			32.0			27.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	60	41	63	17	131	56	104	651	12	10	657	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	164	0	0	204	0	104	663	0	10	788	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.01	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		D.Pm	NA		D.Pm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	2		2	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		17.0	17.0		17.0	17.0	
Total Split (s)	18.0	18.0		18.0	18.0		42.0	42.0		42.0	42.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		70.0%	70.0%		70.0%	70.0%	
Maximum Green (s)	11.0	11.0		11.0	11.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0			-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		5.0	5.0		5.0	5.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		15.0	15.0		15.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		30.0	30.0		30.0	30.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		11.6			11.6		32.8	32.8		32.8	32.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.23			0.23		0.66	0.66		0.66	0.66	
v/c Ratio		0.51			0.50		0.35	0.54		0.02	0.65	
Control Delay		25.4			23.6		10.1	8.8		4.9	10.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		25.4			23.6		10.1	8.8		4.9	10.7	
LOS		C			C		B	A		A	B	
Approach Delay		25.4			23.6			9.0			10.6	
Approach LOS		C			C			A			B	
Queue Length 50th (ft)		41			51		16	119		1	158	
Queue Length 95th (ft)		107			124		46	205		6	279	
Internal Link Dist (ft)		2053			1011			1561			1305	
Turn Bay Length (ft)							225			175		
Base Capacity (vph)		374			472		349	1414		474	1410	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.44			0.43		0.30	0.47		0.02	0.56	

Intersection Summary	
Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 49.5	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay: 12.6	Intersection LOS: B
Intersection Capacity Utilization 81.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: NC-96 & Green Pace Rd



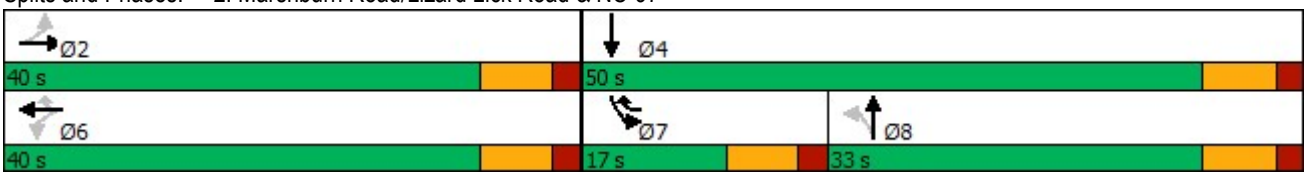


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	222	60	74	561	562	59	393	49	238	207	56
Future Volume (vph)	49	222	60	74	561	562	59	393	49	238	207	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			2%			-2%	
Storage Length (ft)	300		350	275		450	150		0	400		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.968				0.850		0.984			0.968	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	3443	0	1770	1863	1583	1752	1815	0	3467	1821	0
Flt Permitted	0.125			0.555			0.581			0.950		
Satd. Flow (perm)	234	3443	0	1034	1863	1583	1071	1815	0	3467	1821	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1439			2718			1375			1367	
Travel Time (s)		21.8			41.2			20.8			20.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	54	247	67	82	623	624	66	437	54	264	230	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	314	0	82	623	624	66	491	0	264	292	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	1.01	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		2			6	7		8		7	4	
Permitted Phases	2			6		6	8					
Detector Phase	2	2		6	6	7	8	8		7	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	19.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	
Total Split (s)	40.0	40.0		40.0	40.0	17.0	33.0	33.0		17.0	50.0	
Total Split (%)	44.4%	44.4%		44.4%	44.4%	18.9%	36.7%	36.7%		18.9%	55.6%	
Maximum Green (s)	33.0	33.0		33.0	33.0	10.0	26.0	26.0		10.0	43.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lead	Lag	Lag		Lead		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Vehicle Extension (s)	6.0	6.0		6.0	6.0	2.0	2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	2.0	2.0	2.0		2.0	2.0	
Time Before Reduce (s)	15.0	15.0		15.0	15.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	30.0	30.0		30.0	30.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min	None	None	None		None	None	
Act Effct Green (s)	32.0	32.0		32.0	32.0	48.4	26.3	26.3		11.3	42.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.38	0.38		0.38	0.38	0.57	0.31	0.31		0.13	0.50	
v/c Ratio	0.61	0.24		0.21	0.89	0.69	0.20	0.87		0.57	0.32	
Control Delay	55.6	18.9		20.2	41.7	18.1	24.7	46.8		41.0	14.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	55.6	18.9		20.2	41.7	18.1	24.7	46.8		41.0	14.2	
LOS	E	B		C	D	B	C	D		D	B	
Approach Delay		24.3			29.3			44.2			26.9	
Approach LOS		C			C			D			C	
Queue Length 50th (ft)	24	62		30	319	229	27	262		73	94	
Queue Length 95th (ft)	#85	92		64	#517	356	61	#439		113	149	
Internal Link Dist (ft)		1359			2638			1295			1287	
Turn Bay Length (ft)	300			275		450	150			400		
Base Capacity (vph)	98	1439		432	778	918	358	606		497	978	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.55	0.22		0.19	0.80	0.68	0.18	0.81		0.53	0.30	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 84.8			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 31.1		Intersection LOS: C	
Intersection Capacity Utilization 86.6%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 2: Marshburn Road/Lizard Lick Road & NC-97



Intersection	
Int Delay, s/veh	286.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	366	132	34	794	4	378	4	94	6	4	11
Future Vol, veh/h	6	366	132	34	794	4	378	4	94	6	4	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175	-	0	250	-	-	0	-	300	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	407	147	38	882	4	420	4	104	7	4	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	886	0	0	554	0	0	1389	1383	407	1509	1528	884
Stage 1	-	-	-	-	-	-	421	421	-	960	960	-
Stage 2	-	-	-	-	-	-	968	962	-	549	568	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	764	-	-	1016	-	-	~ 120	144	644	99	117	344
Stage 1	-	-	-	-	-	-	610	589	-	308	335	-
Stage 2	-	-	-	-	-	-	~ 305	334	-	520	506	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	764	-	-	1016	-	-	~ 108	137	644	78	112	344
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 108	137	-	78	112	-
Stage 1	-	-	-	-	-	-	605	584	-	305	323	-
Stage 2	-	-	-	-	-	-	~ 279	322	-	428	501	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	$ 1100	34.5
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	108	559	764	-	-	1016	-	-	145
HCM Lane V/C Ratio	3.889	0.195	0.009	-	-	0.037	-	-	0.161
HCM Control Delay (s)	$ 1381.8	13	9.8	-	-	8.7	-	-	34.5
HCM Lane LOS	F	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	42.7	0.7	0	-	-	0.1	-	-	0.6

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

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	108	358	584	4	4	239
Future Vol, veh/h	108	358	584	4	4	239
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	398	649	4	4	266

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	653	0	-	0	1289	651
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	638	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	934	-	-	-	181	469
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	526	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	934	-	-	-	158	469
Mov Cap-2 Maneuver	-	-	-	-	158	-
Stage 1	-	-	-	-	453	-
Stage 2	-	-	-	-	526	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	23.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	934	-	-	-	454
HCM Lane V/C Ratio	0.128	-	-	-	0.595
HCM Control Delay (s)	9.4	-	-	-	23.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.4	-	-	-	3.8

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	29	326	514	4	8	52
Future Vol, veh/h	29	326	514	4	8	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	75	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	362	571	4	9	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	575	0	-	0	997	571
Stage 1	-	-	-	-	571	-
Stage 2	-	-	-	-	426	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	998	-	-	-	271	520
Stage 1	-	-	-	-	565	-
Stage 2	-	-	-	-	659	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	998	-	-	-	260	520
Mov Cap-2 Maneuver	-	-	-	-	260	-
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	659	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	14.2
HCM LOS			B

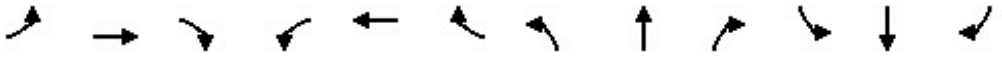
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	998	-	-	-	459
HCM Lane V/C Ratio	0.032	-	-	-	0.145
HCM Control Delay (s)	8.7	0	-	-	14.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	104	86	11	48	7	94	744	23	14	696	102
Future Volume (vph)	98	104	86	11	48	7	94	744	23	14	696	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			2%			-2%	
Storage Length (ft)	0		0	0		0	225		0	175		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.960			0.985			0.995			0.981	
Flt Protected		0.983			0.992		0.950			0.950		
Satd. Flow (prot)	0	1749	0	0	1829	0	1752	1835	0	1787	1846	0
Flt Permitted		0.858			0.923		0.132			0.155		
Satd. Flow (perm)	0	1527	0	0	1702	0	243	1835	0	292	1846	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		2133			1091			1641			1385	
Travel Time (s)		32.3			16.5			32.0			27.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	109	116	96	12	53	8	104	827	26	16	773	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	321	0	0	73	0	104	853	0	16	886	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.01	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		D.Pm	NA		D.Pm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	2		2	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		17.0	17.0		17.0	17.0	
Total Split (s)	20.0	20.0		20.0	20.0		40.0	40.0		40.0	40.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		66.7%	66.7%		66.7%	66.7%	
Maximum Green (s)	13.0	13.0		13.0	13.0		33.0	33.0		33.0	33.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0			-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		5.0	5.0		5.0	5.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		15.0	15.0		15.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		30.0	30.0		30.0	30.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		14.5			14.5		31.0	31.0		31.0	31.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.26			0.26		0.56	0.56		0.56	0.56	
v/c Ratio		0.81			0.16		0.77	0.83		0.10	0.86	
Control Delay		39.9			18.7		51.4	19.3		7.3	21.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		39.9			18.7		51.4	19.3		7.3	21.3	
LOS		D			B		D	B		A	C	
Approach Delay		39.9			18.7			22.8			21.1	
Approach LOS		D			B			C			C	
Queue Length 50th (ft)		110			21		24	211		2	225	
Queue Length 95th (ft)		#236			49		#109	#394		10	#468	
Internal Link Dist (ft)		2053			1011			1561			1305	
Turn Bay Length (ft)							225			175		
Base Capacity (vph)		417			465		154	1170		186	1176	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.77			0.16		0.68	0.73		0.09	0.75	

Intersection Summary	
Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 55.7	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 24.4	Intersection LOS: C
Intersection Capacity Utilization 86.5%	ICU Level of Service E
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 1: NC-96 & Green Pace Rd



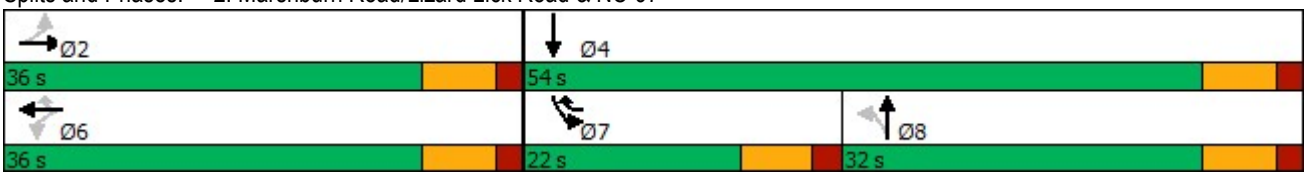
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	603	84	82	285	392	51	340	70	495	449	77
Future Volume (vph)	92	603	84	82	285	392	51	340	70	495	449	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			2%			-2%	
Storage Length (ft)	300		350	275		450	150		0	400		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.982				0.850		0.974			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	3493	0	1770	1863	1583	1752	1796	0	3467	1840	0
Flt Permitted	0.416			0.208			0.444			0.950		
Satd. Flow (perm)	779	3493	0	387	1863	1583	819	1796	0	3467	1840	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1439			2718			1375			1367	
Travel Time (s)		21.8			41.2			20.8			20.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	102	670	93	91	317	436	57	378	78	550	499	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	102	763	0	91	317	436	57	456	0	550	585	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	1.01	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		2			6	7		8		7	4	
Permitted Phases	2			6		6	8					
Detector Phase	2	2		6	6	7	8	8		7	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	19.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	
Total Split (s)	36.0	36.0		36.0	36.0	22.0	32.0	32.0		22.0	54.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%	24.4%	35.6%	35.6%		24.4%	60.0%	
Maximum Green (s)	29.0	29.0		29.0	29.0	15.0	25.0	25.0		15.0	47.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lead	Lag	Lag		Lead		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Vehicle Extension (s)	6.0	6.0		6.0	6.0	2.0	2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	2.0	2.0	2.0		2.0	2.0	
Time Before Reduce (s)	15.0	15.0		15.0	15.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	30.0	30.0		30.0	30.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min	None	None	None		None	None	
Act Effct Green (s)	26.3	26.3		26.3	26.3	47.8	24.8	24.8		16.5	46.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.32	0.32		0.32	0.32	0.58	0.30	0.30		0.20	0.56	
v/c Ratio	0.41	0.69		0.74	0.54	0.48	0.23	0.85		0.80	0.57	
Control Delay	28.8	28.5		63.0	27.4	12.5	26.3	44.7		42.9	15.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	28.8	28.5		63.0	27.4	12.5	26.3	44.7		42.9	15.1	
LOS	C	C		E	C	B	C	D		D	B	
Approach Delay		28.5			23.5			42.7			28.6	
Approach LOS		C			C			D			C	
Queue Length 50th (ft)	43	188		44	141	130	23	226		147	186	
Queue Length 95th (ft)	90	251		#125	220	202	57	#407		#238	310	
Internal Link Dist (ft)		1359			2638			1295			1287	
Turn Bay Length (ft)	300			275		450	150			400		
Base Capacity (vph)	296	1326		147	707	929	270	593		721	1104	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.34	0.58		0.62	0.45	0.47	0.21	0.77		0.76	0.53	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 82.7	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 29.4	Intersection LOS: C
Intersection Capacity Utilization 82.3%	ICU Level of Service E
Analysis Period (min) 15	

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

Splits and Phases: 2: Marshburn Road/Lizard Lick Road & NC-97



Intersection	
Int Delay, s/veh	245

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	685	467	117	507	4	275	4	70	4	4	8
Future Vol, veh/h	6	685	467	117	507	4	275	4	70	4	4	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175	-	0	250	-	-	0	-	300	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	761	519	130	563	4	306	4	78	4	4	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	567	0	0	1280	0	0	1607	1602	761	1901	2119	565
Stage 1	-	-	-	-	-	-	775	775	-	825	825	-
Stage 2	-	-	-	-	-	-	832	827	-	1076	1294	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1005	-	-	542	-	-	~ 85	106	405	52	50	524
Stage 1	-	-	-	-	-	-	391	408	-	367	387	-
Stage 2	-	-	-	-	-	-	363	386	-	266	233	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1005	-	-	542	-	-	~ 62	80	405	33	38	524
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 62	80	-	33	38	-
Stage 1	-	-	-	-	-	-	388	405	-	364	294	-
Stage 2	-	-	-	-	-	-	~ 267	293	-	211	231	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.6	$ 1502	78.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	62	332	1005	-	-	542	-	-	66
HCM Lane V/C Ratio	4.928	0.248	0.007	-	-	0.24	-	-	0.269
HCM Control Delay (s)	$ 1900.9	19.4	8.6	-	-	13.7	-	-	78.6
HCM Lane LOS	F	C	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	33.8	1	0	-	-	0.9	-	-	1

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

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	163	591	489	4	4	141
Future Vol, veh/h	163	591	489	4	4	141
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	181	657	543	4	4	157

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	547	0	-	0	1564	545
Stage 1	-	-	-	-	545	-
Stage 2	-	-	-	-	1019	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1022	-	-	-	123	538
Stage 1	-	-	-	-	581	-
Stage 2	-	-	-	-	348	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1022	-	-	-	101	538
Mov Cap-2 Maneuver	-	-	-	-	101	-
Stage 1	-	-	-	-	478	-
Stage 2	-	-	-	-	348	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1022	-	-	-	481
HCM Lane V/C Ratio	0.177	-	-	-	0.335
HCM Control Delay (s)	9.3	-	-	-	16.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.6	-	-	-	1.5

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	533	442	10	14	39
Future Vol, veh/h	50	533	442	10	14	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	-	-	-	75	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	592	491	11	16	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	502	0	-	0	1195	491
Stage 1	-	-	-	-	491	-
Stage 2	-	-	-	-	704	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1062	-	-	-	206	578
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	490	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1062	-	-	-	190	578
Mov Cap-2 Maneuver	-	-	-	-	190	-
Stage 1	-	-	-	-	566	-
Stage 2	-	-	-	-	490	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	16.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1062	-	-	-	375
HCM Lane V/C Ratio	0.052	-	-	-	0.157
HCM Control Delay (s)	8.6	0	-	-	16.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6

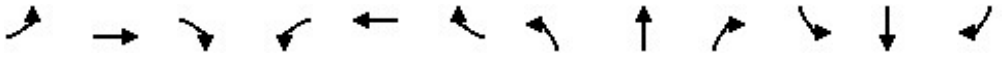
2030 Build Traffic Volumes

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	42	67	15	120	50	98	586	11	9	591	122
Future Volume (vph)	64	42	67	15	120	50	98	586	11	9	591	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			2%			-2%	
Storage Length (ft)	0		0	0		0	225		0	175		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.948			0.963			0.997			0.974	
Flt Protected		0.982			0.996		0.950			0.950		
Satd. Flow (prot)	0	1725	0	0	1796	0	1752	1839	0	1787	1832	0
Flt Permitted		0.778			0.960		0.238			0.323		
Satd. Flow (perm)	0	1367	0	0	1731	0	439	1839	0	608	1832	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		2133			1091			1641			1385	
Travel Time (s)		32.3			16.5			32.0			27.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	71	47	74	17	133	56	109	651	12	10	657	136
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	192	0	0	206	0	109	663	0	10	793	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.01	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		D.Pm	NA		D.Pm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	2		2	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		17.0	17.0		17.0	17.0	
Total Split (s)	19.0	19.0		19.0	19.0		41.0	41.0		41.0	41.0	
Total Split (%)	31.7%	31.7%		31.7%	31.7%		68.3%	68.3%		68.3%	68.3%	
Maximum Green (s)	12.0	12.0		12.0	12.0		34.0	34.0		34.0	34.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0			-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		5.0	5.0		5.0	5.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		15.0	15.0		15.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		30.0	30.0		30.0	30.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		12.6			12.6		33.0	33.0		33.0	33.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.25			0.25		0.66	0.66		0.66	0.66	
v/c Ratio		0.56			0.48		0.38	0.55		0.03	0.66	
Control Delay		26.8			22.8		11.6	9.3		5.2	11.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		26.8			22.8		11.6	9.3		5.2	11.5	
LOS		C			C		B	A		A	B	
Approach Delay		26.8			22.8			9.7			11.4	
Approach LOS		C			C			A			B	
Queue Length 50th (ft)		53			55		18	130		1	175	
Queue Length 95th (ft)		#134			122		54	217		6	299	
Internal Link Dist (ft)		2053			1011			1561			1305	
Turn Bay Length (ft)							225			175		
Base Capacity (vph)		402			509		321	1347		445	1342	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.48			0.40		0.34	0.49		0.02	0.59	

Intersection Summary	
Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 50.2	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 13.4	Intersection LOS: B
Intersection Capacity Utilization 83.6%	ICU Level of Service E
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 1: NC-96 & Green Pace Rd



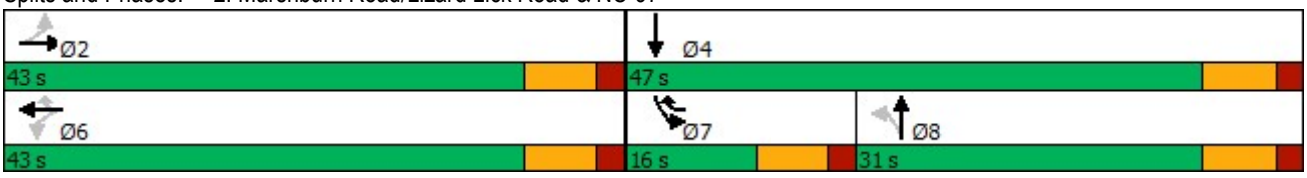
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	230	60	84	587	594	59	393	52	248	207	56
Future Volume (vph)	49	230	60	84	587	594	59	393	52	248	207	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			2%			-2%	
Storage Length (ft)	300		350	275		450	150		0	400		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.969				0.850		0.982			0.968	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	3447	0	1770	1863	1583	1752	1811	0	3467	1821	0
Flt Permitted	0.123			0.551			0.581			0.950		
Satd. Flow (perm)	230	3447	0	1026	1863	1583	1071	1811	0	3467	1821	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1439			2718			1375			1367	
Travel Time (s)		21.8			41.2			20.8			20.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	54	256	67	93	652	660	66	437	58	276	230	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	323	0	93	652	660	66	495	0	276	292	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	1.01	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		2			6	7		8		7	4	
Permitted Phases	2			6		6	8					
Detector Phase	2	2		6	6	7	8	8		7	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	19.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	
Total Split (s)	43.0	43.0		43.0	43.0	16.0	31.0	31.0		16.0	47.0	
Total Split (%)	47.8%	47.8%		47.8%	47.8%	17.8%	34.4%	34.4%		17.8%	52.2%	
Maximum Green (s)	36.0	36.0		36.0	36.0	9.0	24.0	24.0		9.0	40.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lead	Lag	Lag		Lead		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Vehicle Extension (s)	6.0	6.0		6.0	6.0	2.0	2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	2.0	2.0	2.0		2.0	2.0	
Time Before Reduce (s)	15.0	15.0		15.0	15.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	30.0	30.0		30.0	30.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min	None	None	None		None	None	
Act Effct Green (s)	34.1	34.1		34.1	34.1	49.8	25.5	25.5		10.7	41.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.40	0.40		0.40	0.40	0.58	0.30	0.30		0.13	0.48	
v/c Ratio	0.59	0.23		0.23	0.88	0.72	0.21	0.92		0.63	0.33	
Control Delay	50.0	17.4		18.6	38.5	18.0	26.2	54.4		43.8	15.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	50.0	17.4		18.6	38.5	18.0	26.2	54.4		43.8	15.8	
LOS	D	B		B	D	B	C	D		D	B	
Approach Delay		22.0			27.5			51.1			29.4	
Approach LOS		C			C			D			C	
Queue Length 50th (ft)	23	60		33	320	236	28	275		78	102	
Queue Length 95th (ft)	#82	88		67	#517	368	63	#468		119	161	
Internal Link Dist (ft)		1359			2638			1295			1287	
Turn Bay Length (ft)	300			275		450	150			400		
Base Capacity (vph)	103	1544		459	834	929	328	555		449	901	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.52	0.21		0.20	0.78	0.71	0.20	0.89		0.61	0.32	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 85.4	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay: 31.7	Intersection LOS: C
Intersection Capacity Utilization 88.5%	ICU Level of Service E
Analysis Period (min) 15	

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

Splits and Phases: 2: Marshburn Road/Lizard Lick Road & NC-97



Intersection	
Int Delay, s/veh	345.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	383	136	34	852	4	388	4	94	6	4	11
Future Vol, veh/h	6	383	136	34	852	4	388	4	94	6	4	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175	-	0	250	-	-	0	-	300	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	426	151	38	947	4	431	4	104	7	4	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	951	0	0	577	0	0	1473	1467	426	1595	1616	949
Stage 1	-	-	-	-	-	-	440	440	-	1025	1025	-
Stage 2	-	-	-	-	-	-	1033	1027	-	570	591	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	722	-	-	996	-	-	~ 105	128	628	86	104	316
Stage 1	-	-	-	-	-	-	596	578	-	284	312	-
Stage 2	-	-	-	-	-	-	~ 281	312	-	506	494	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	722	-	-	996	-	-	~ 94	122	628	67	99	316
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 94	122	-	67	99	-
Stage 1	-	-	-	-	-	-	590	572	-	281	300	-
Stage 2	-	-	-	-	-	-	~ 256	300	-	415	489	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	$ 1363.7	39.6
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	94	537	722	-	-	996	-	-	127
HCM Lane V/C Ratio	4.586	0.203	0.009	-	-	0.038	-	-	0.184
HCM Control Delay (s)	$ 1704.7	13.4	10	-	-	8.8	-	-	39.6
HCM Lane LOS	F	B	B	-	-	A	-	-	E
HCM 95th %tile Q(veh)	45.7	0.8	0	-	-	0.1	-	-	0.6

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

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	108	375	642	27	12	239
Future Vol, veh/h	108	375	642	27	12	239
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	417	713	30	13	266

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	743	0	-	0	1385	728
Stage 1	-	-	-	-	728	-
Stage 2	-	-	-	-	657	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	864	-	-	-	158	423
Stage 1	-	-	-	-	478	-
Stage 2	-	-	-	-	516	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	864	-	-	-	136	423
Mov Cap-2 Maneuver	-	-	-	-	136	-
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	516	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	35.6
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	864	-	-	-	384
HCM Lane V/C Ratio	0.139	-	-	-	0.726
HCM Control Delay (s)	9.8	-	-	-	35.6
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.5	-	-	-	5.6

Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	360	27	4	586	83	10
Future Vol, veh/h	360	27	4	586	83	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	400	30	4	651	92	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	430	0	1074	415
Stage 1	-	-	-	-	415	-
Stage 2	-	-	-	-	659	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1129	-	243	637
Stage 1	-	-	-	-	666	-
Stage 2	-	-	-	-	515	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1129	-	242	637
Mov Cap-2 Maneuver	-	-	-	-	242	-
Stage 1	-	-	-	-	666	-
Stage 2	-	-	-	-	512	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	27.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	259	-	-	1129	-
HCM Lane V/C Ratio	0.399	-	-	0.004	-
HCM Control Delay (s)	27.8	-	-	8.2	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	1.8	-	-	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	29	336	518	4	8	52
Future Vol, veh/h	29	336	518	4	8	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	75	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	373	576	4	9	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	580	0	-	0	1013	576
Stage 1	-	-	-	-	576	-
Stage 2	-	-	-	-	437	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	994	-	-	-	265	517
Stage 1	-	-	-	-	562	-
Stage 2	-	-	-	-	651	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	994	-	-	-	254	517
Mov Cap-2 Maneuver	-	-	-	-	254	-
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	651	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	14.3
HCM LOS			B

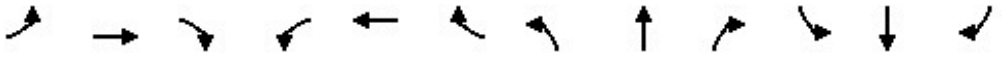
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	994	-	-	-	454
HCM Lane V/C Ratio	0.032	-	-	-	0.147
HCM Control Delay (s)	8.7	0	-	-	14.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	108	93	11	54	7	106	744	23	14	696	114
Future Volume (vph)	105	108	93	11	54	7	106	744	23	14	696	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			2%			-2%	
Storage Length (ft)	0		0	0		0	225		0	175		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.986			0.995			0.979	
Flt Protected		0.983			0.993		0.950			0.950		
Satd. Flow (prot)	0	1747	0	0	1833	0	1752	1835	0	1787	1842	0
Flt Permitted		0.854			0.927		0.127			0.154		
Satd. Flow (perm)	0	1518	0	0	1711	0	234	1835	0	290	1842	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		2133			1091			1641			1385	
Travel Time (s)		32.3			16.5			32.0			27.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	117	120	103	12	60	8	118	827	26	16	773	127
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	340	0	0	80	0	118	853	0	16	900	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	0.99	0.99	0.99	1.01	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		D.Pm	NA		D.Pm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	2		2	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	14.0		14.0	14.0		17.0	17.0		17.0	17.0	
Total Split (s)	20.0	20.0		20.0	20.0		40.0	40.0		40.0	40.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		66.7%	66.7%		66.7%	66.7%	
Maximum Green (s)	13.0	13.0		13.0	13.0		33.0	33.0		33.0	33.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.0			-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		5.0	5.0		5.0	5.0	
Minimum Gap (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		15.0	15.0		15.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		30.0	30.0		30.0	30.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Act Effct Green (s)		14.9			14.9		31.5	31.5		31.5	31.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.26			0.26		0.56	0.56		0.56	0.56	
v/c Ratio		0.85			0.18		0.91	0.83		0.10	0.88	
Control Delay		44.9			18.8		78.0	19.3		7.4	22.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		44.9			18.8		78.0	19.3		7.4	22.6	
LOS		D			B		E	B		A	C	
Approach Delay		44.9			18.8			26.4			22.3	
Approach LOS		D			B			C			C	
Queue Length 50th (ft)		119			23		31	211		2	233	
Queue Length 95th (ft)		#256			53		#126	#394		10	#480	
Internal Link Dist (ft)		2053			1011			1561			1305	
Turn Bay Length (ft)							225			175		
Base Capacity (vph)		406			458		146	1146		181	1150	
Starvation Cap Reductn		0			0		0	0		0	0	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.84			0.17		0.81	0.74		0.09	0.78	

Intersection Summary	
Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 56.5	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 27.3	Intersection LOS: C
Intersection Capacity Utilization 88.2%	ICU Level of Service E
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 1: NC-96 & Green Pace Rd



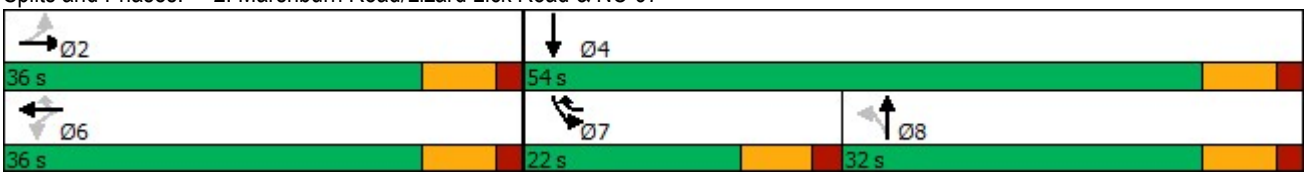
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	633	84	88	303	413	51	340	82	529	449	77
Future Volume (vph)	92	633	84	88	303	413	51	340	82	529	449	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			0%			2%			-2%	
Storage Length (ft)	300		350	275		450	150		0	400		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt		0.982				0.850		0.971			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	3493	0	1770	1863	1583	1752	1791	0	3467	1840	0
Flt Permitted	0.391			0.192			0.444			0.950		
Satd. Flow (perm)	732	3493	0	358	1863	1583	819	1791	0	3467	1840	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1439			2718			1375			1367	
Travel Time (s)		21.8			41.2			20.8			20.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	102	703	93	98	337	459	57	378	91	588	499	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	102	796	0	98	337	459	57	469	0	588	585	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.00	1.00	1.00	1.01	1.01	1.01	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA	pm+ov	Perm	NA		Prot	NA	
Protected Phases		2			6	7		8		7	4	
Permitted Phases	2			6		6	8					
Detector Phase	2	2		6	6	7	8	8		7	4	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	19.0	19.0		19.0	19.0	14.0	14.0	14.0		14.0	14.0	
Total Split (s)	36.0	36.0		36.0	36.0	22.0	32.0	32.0		22.0	54.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%	24.4%	35.6%	35.6%		24.4%	60.0%	
Maximum Green (s)	29.0	29.0		29.0	29.0	15.0	25.0	25.0		15.0	47.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag						Lead	Lag	Lag		Lead		
Lead-Lag Optimize?						Yes	Yes	Yes		Yes		
Vehicle Extension (s)	6.0	6.0		6.0	6.0	2.0	2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0	2.0	2.0	2.0		2.0	2.0	
Time Before Reduce (s)	15.0	15.0		15.0	15.0	0.0	0.0	0.0		0.0	0.0	
Time To Reduce (s)	30.0	30.0		30.0	30.0	0.0	0.0	0.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min	None	None	None		None	None	
Act Effct Green (s)	27.5	27.5		27.5	27.5	49.4	25.4	25.4		16.9	47.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.32	0.32		0.32	0.32	0.58	0.30	0.30		0.20	0.56	
v/c Ratio	0.43	0.71		0.85	0.56	0.50	0.23	0.88		0.85	0.57	
Control Delay	29.6	29.1		82.5	28.0	13.0	26.6	48.1		47.8	15.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	29.6	29.1		82.5	28.0	13.0	26.6	48.1		47.8	15.6	
LOS	C	C		F	C	B	C	D		D	B	
Approach Delay		29.2			26.2			45.8			31.7	
Approach LOS		C			C			D			C	
Queue Length 50th (ft)	44	200		50	152	139	24	252		170	209	
Queue Length 95th (ft)	92	264		#143	235	216	57	#426		#263	310	
Internal Link Dist (ft)		1359			2638			1295			1287	
Turn Bay Length (ft)	300			275		450	150			400		
Base Capacity (vph)	269	1287		132	686	926	262	574		700	1071	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.38	0.62		0.74	0.49	0.50	0.22	0.82		0.84	0.55	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 84.9	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 31.8	Intersection LOS: C
Intersection Capacity Utilization 84.8%	ICU Level of Service E
Analysis Period (min) 15	

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

Splits and Phases: 2: Marshburn Road/Lizard Lick Road & NC-97



Intersection	
Int Delay, s/veh	323.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	749	479	117	545	4	282	4	70	4	4	8
Future Vol, veh/h	6	749	479	117	545	4	282	4	70	4	4	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175	-	0	250	-	-	0	-	300	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	832	532	130	606	4	313	4	78	4	4	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	610	0	0	1364	0	0	1721	1716	832	2021	2246	608
Stage 1	-	-	-	-	-	-	846	846	-	868	868	-
Stage 2	-	-	-	-	-	-	875	870	-	1153	1378	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	969	-	-	504	-	-	~ 70	90	369	43	42	496
Stage 1	-	-	-	-	-	-	357	378	-	347	370	-
Stage 2	-	-	-	-	-	-	344	369	-	240	212	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	969	-	-	504	-	-	~ 49	66	369	26	31	496
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 49	66	-	26	31	-
Stage 1	-	-	-	-	-	-	355	375	-	345	275	-
Stage 2	-	-	-	-	-	-	~ 247	274	-	186	211	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.6	$ 2056.3	101.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	49	296	969	-	-	504	-	-	54
HCM Lane V/C Ratio	6.395	0.278	0.007	-	-	0.258	-	-	0.329
HCM Control Delay (s)	$ 2590.2	21.8	8.7	-	-	14.6	-	-	101.4
HCM Lane LOS	F	C	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	36.3	1.1	0	-	-	1	-	-	1.2

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

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	163	655	527	19	32	141
Future Vol, veh/h	163	655	527	19	32	141
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	181	728	586	21	36	157

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	607	0	-	0	1687	597
Stage 1	-	-	-	-	597	-
Stage 2	-	-	-	-	1090	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	971	-	-	-	103	503
Stage 1	-	-	-	-	550	-
Stage 2	-	-	-	-	322	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	971	-	-	-	84	503
Mov Cap-2 Maneuver	-	-	-	-	84	-
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	322	-

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	49
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	971	-	-	-	262
HCM Lane V/C Ratio	0.187	-	-	-	0.734
HCM Control Delay (s)	9.6	-	-	-	49
HCM Lane LOS	A	-	-	-	E
HCM 95th %tile Q(veh)	0.7	-	-	-	5.2

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	593	94	12	490	56	7
Future Vol, veh/h	593	94	12	490	56	7
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	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	659	104	13	544	62	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	763	0	1281	711
Stage 1	-	-	-	-	711	-
Stage 2	-	-	-	-	570	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	850	-	183	433
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	566	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	850	-	179	433
Mov Cap-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	487	-
Stage 2	-	-	-	-	554	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	34.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	191	-	-	850	-
HCM Lane V/C Ratio	0.366	-	-	0.016	-
HCM Control Delay (s)	34.4	-	-	9.3	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	1.6	-	-	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	50	540	454	10	14	39
Future Vol, veh/h	50	540	454	10	14	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	-	-	-	75	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	600	504	11	16	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	515	0	-	0	1216	504
Stage 1	-	-	-	-	504	-
Stage 2	-	-	-	-	712	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1051	-	-	-	200	568
Stage 1	-	-	-	-	607	-
Stage 2	-	-	-	-	486	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1051	-	-	-	184	568
Mov Cap-2 Maneuver	-	-	-	-	184	-
Stage 1	-	-	-	-	558	-
Stage 2	-	-	-	-	486	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	16.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1051	-	-	-	366
HCM Lane V/C Ratio	0.053	-	-	-	0.161
HCM Control Delay (s)	8.6	0	-	-	16.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6

2030 Build + Improvement Traffic Volumes

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	360	27	4	586	83	10
Future Vol, veh/h	360	27	4	586	83	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	400	30	4	651	92	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	430	0	1059	400
Stage 1	-	-	-	-	400	-
Stage 2	-	-	-	-	659	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1129	-	249	650
Stage 1	-	-	-	-	677	-
Stage 2	-	-	-	-	515	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1129	-	248	650
Mov Cap-2 Maneuver	-	-	-	-	248	-
Stage 1	-	-	-	-	677	-
Stage 2	-	-	-	-	512	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	26.9
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	266	-	-	1129	-
HCM Lane V/C Ratio	0.388	-	-	0.004	-
HCM Control Delay (s)	26.9	-	-	8.2	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	1.8	-	-	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	593	94	12	490	56	7
Future Vol, veh/h	593	94	12	490	56	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	75	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	659	104	13	544	62	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	763	0	1229	659
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	570	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	850	-	196	464
Stage 1	-	-	-	-	515	-
Stage 2	-	-	-	-	566	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	850	-	192	464
Mov Cap-2 Maneuver	-	-	-	-	192	-
Stage 1	-	-	-	-	515	-
Stage 2	-	-	-	-	554	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	31.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	205	-	-	850	-
HCM Lane V/C Ratio	0.341	-	-	0.016	-
HCM Control Delay (s)	31.4	-	-	9.3	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0	-