

TECHNICAL APPENDIX

APPENDIX A

SCOPING DOCUMENTATION



April 23, 2026

**Stephen Wensman
Town of Rolesville Planning Director
502 Southtown Circle
PO Box 250
Rolesville, NC 27571
swensman@rolesvillenc.gov**

**Reference: 1101 Averette Road - Rolesville, North
Carolina**

Subject: Memorandum of Understanding for TIA Report

Dear Mr. Wensman:

The following is a Memorandum of Understanding (MOU) outlining the proposed scope of work and assumptions related to the Traffic Impact Analysis (TIA) for the proposed development to be located at 1101 Averette Road in Rolesville, North Carolina. Access to the parcel is proposed via one (1) full-movement driveway along Averette Road. Refer to the attached site location map.

The proposed development, expected to be completed in 2029, is assumed to consist of the following land uses:

- 76 townhomes
- 5,000 square feet (s.f.) of strip retail space

Study Area

Based on initial conversations with the Town, the study area is assumed to consist of the following intersections:

- Wait Avenue & Averette Road (Signalized)
- Averette Road & Jones Dairy Road (Unsignalized)

Existing Traffic Volumes

Existing peak hour traffic volumes will be determined based on traffic counts conducted at the study intersections below in May 2025 and April 2026 during a typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods, while schools are in session for in-person learning. Traffic counts were already collected at the intersection of Wait Avenue and Averette Road in May of 2025. The annual approved growth rate will be applied to these traffic counts to grow them to the 2026 existing condition:

- Wait Avenue & Averette Road (Signalized)
- Averette Road & Jones Dairy Road (Unsignalized)

A 24-hour tube count at the approximate access location along Averette Road is also proposed to determine peak hour volumes under build conditions.

Background Traffic Volumes

Background traffic volumes will be determined by projecting 2026 existing traffic volumes to the year 2029 using a 2.5% annual growth rate. The following adjacent developments were noted to be considered in the future analysis of the study area:

- Jones Dairy Residential (Prestleigh development – 50% complete)
- Rosedale (50% complete)
- Marquis Homes

Site trips and roadway improvements associated with these developments were considered under all future conditions.

Future Roadway Improvements

Based on the online ArcGis Map, it was determined that there are no future roadway improvements within the study area to consider under future traffic conditions.

Trip Generation

Average weekday daily, AM peak hour, and PM peak hour trips for the proposed development were estimated using methodology contained within the ITE *Trip Generation Manual*, 12th Edition. Refer to Table 1 for a summary of the proposed site trip generation for full buildout of the proposed development.

Table 1: Trip Generation Summary

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	Weekday AM Peak Hour Trips (vph)		Weekday PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Townhomes (215)	76 DU	500	7	23	20	15
Strip Retail (822)	5 KSF	272	11	9	16	15
Total Trips		772	18	32	36	30

It is estimated that the proposed development will generate approximately 772 site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 50 primary trips (18 entering and 32 exiting) will occur during the weekday AM peak hour and 66 primary trips (36 entering and 30 exiting) will occur during the weekday PM peak hour.

Trip Distribution and Assignment

Site trips are distributed based on the locations of existing traffic patterns, population centers adjacent to the study area, and engineering judgment. A summary of the overall distributions is below.

- 60% to/from the south via Averette Road
- 25% to/from the west via Wait Avenue
- 15% to/from the east via Wait Avenue

Refer to the attached site trip distribution figure.

Analysis Scenarios

All capacity analyses will be performed utilizing Synchro (Version 11.1). All study intersections will be analyzed during the weekday AM and PM peak hours under the following proposed traffic scenarios:

- 2026 Existing Traffic Conditions
- 2029 No-Build Traffic Conditions
- 2029 Build Traffic Conditions

Report

The TIA report will be prepared based on the NCDOT and Town requirements.

If you find this memorandum of understanding acceptable, please let me know so that we may include it in the TIA report. If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "C. Seger", written over a light gray rectangular background.

Cameron Seger, EI
Traffic Analysis Project Engineer

DRMP, Inc.

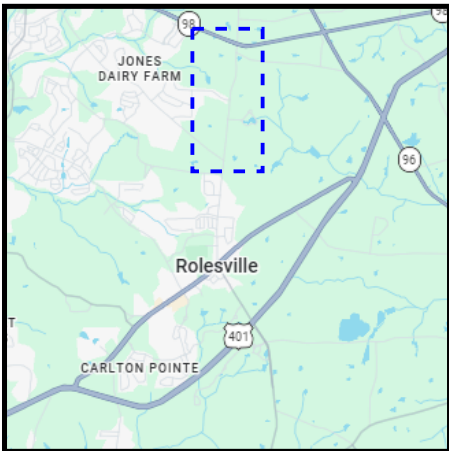
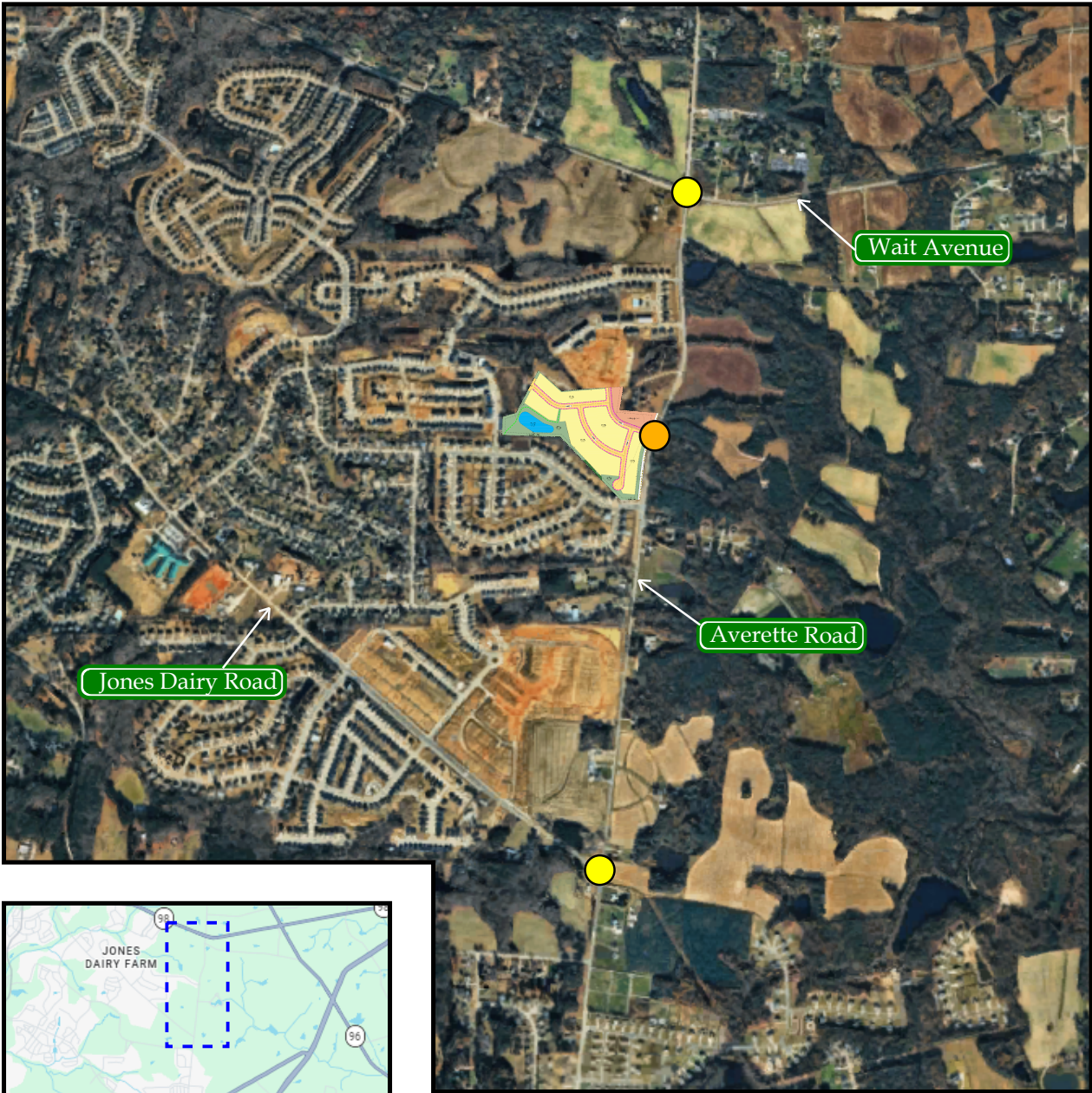
Attachments:

- Site Location Map
- Site Plan
- Trip Generation Table
- Site Trip Distribution

Cc: Michael Elabarger (Town of Rolesville)

Daniel Boulware, PE (NCDOT)

Trevor S. Darnell (NCDOT)



LEGEND

- Study Intersection
- Proposed Site Access
- Study Area



Awerette Road Townhomes
Rolesville, NC

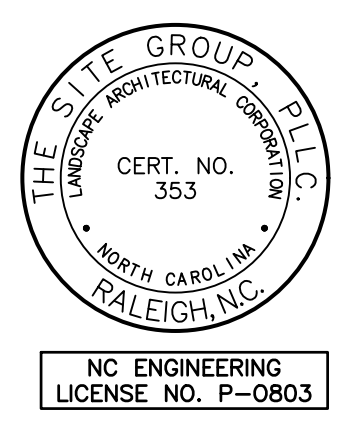
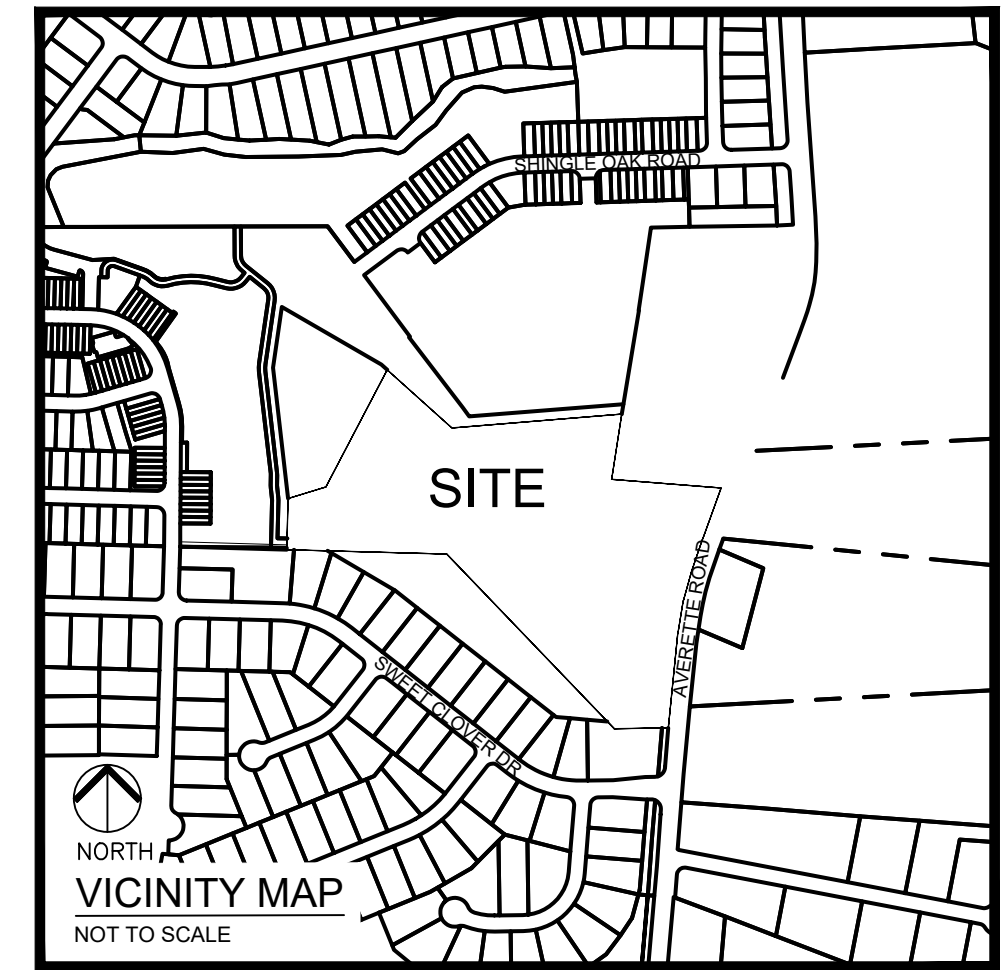
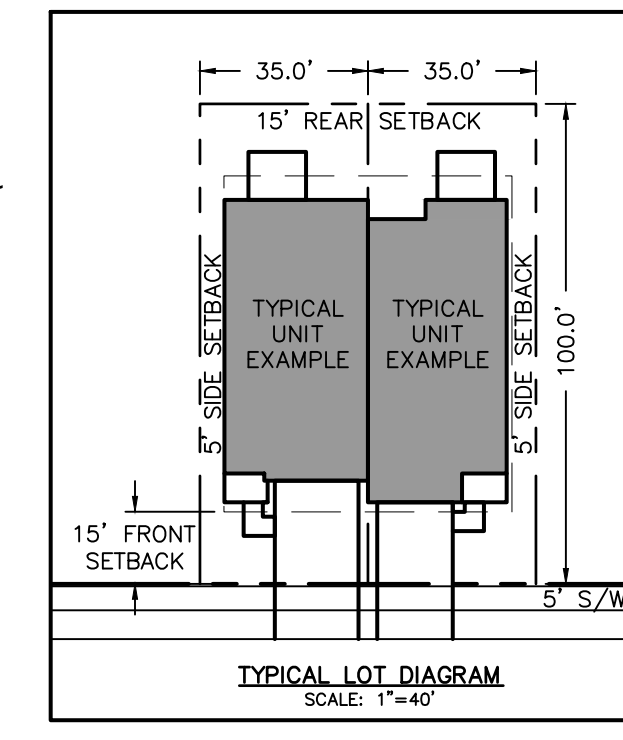
Site Location Map

Scale: Not to Scale Figure 1

Area Calculations	Area (Square Feet)	Area (Acres)
Total Site Area	741,850 SF	17.03 Acres
Existing R/W Dedication	23,052 SF	0.53 Acres
Existing Site Area (Net of R/W)	718,798 SF	16.50 Acres
Additional R/W to be Dedicated	19,260 SF	0.45 Acres
Total R/W to be Dedicated	42,312 SF	0.98 Acres
Proposed Site Area (Net of R/W)	699,538 SF	16.05 Acres
Commercial Area	71,055 SF	1.63 Acres
Residential Area	647,743 SF	14.87 Acres

Open Space	Area (Square Feet)	Area (Acres)
Required Open Space		
15% of 699,538 SF/16.05 AC=	104,931 SF	2.41 Acres
Provided Open Space		
Medium Open Space	83,308 SF	1.91 Acres
SCM	29,027 SF	0.67 Acres
Small Open Space 1	12,967 SF	0.30 Acres

ELIZABETH SPRINGS
PROPERTY OWNERS
ASSOCIATION INC.
PIN: 1860037020
B.M. 2025 P.G. 01134
DB. 019949 P.G. 02117



PROGRESS
25 MAR 2026

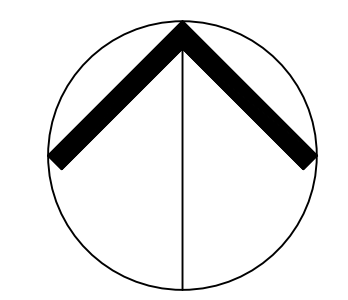
THE SITE GROUP
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS
THE SITE GROUP, PLLC
1111 Oberlin Road
Raleigh, NC 27605-1136 USA
Office: 919.835.4787
Fax: 919.839.2255
E-Mail: SRN@thesitegroup.net

SITE DATA SUMMARY

PROJECT NAME:	AVERETTE ROAD SUBDIVISION
PIN:	1860-02-9417
SITE ADDRESS:	1101 AVERETTE ROAD
EXISTING SITE ACREAGE:	16.50 ACRES
R/W DEDICATION (AREA):	0.45 ACRES
COMMERCIAL ACREAGE:	1.63 ACRES
RESIDENTIAL ACREAGE:	14.87 ACRES
JURISDICTION:	ROLESVILLE
EXISTING ZONING:	RM-CZ
PROPOSED ZONING:	RH-CZ, GC-CZ
CURRENT USE:	VACANT
PROPOSED USE:	DWELLING, SINGLE FAMILY, ATTACHED, COMMERCIAL
RH DEVELOPMENT STANDARDS (LDO 3.1.3.B):	
BUILDING HEIGHT (MAX.):	35'
DENSITY (MAX UNITS PER AC, ATTACHED):	9/ACRE: 9*16.5 = 149 UNITS
NUMBER OF UNITS PROPOSED:	76 UNITS
COVERAGE AREA MIN:	2,000 SF
MIN LOT WIDTH REQUIRED:	20'
MIN LOT WIDTH PROPOSED:	35'
MIN LOT DEPTH PROPOSED:	100'
ATTACHED BLDG SETBACKS:	
FRONT:	15'
SIDE:	0' INTERNAL, 10' END UNIT, MINIMUM 10' BETWEEN STRUCTURES OF 3 UNITS OR LESS
REAR:	15'
CORNER:	15'
GC DEVELOPMENT STANDARDS (LDO 3.2.1.B):	
BUILDING HEIGHT (MAX.):	35'
MIN LOT WIDTH REQUIRED:	100'
MIN LOT AREA REQUIRED:	20,000 SF
COMMERCIAL BLDG SETBACKS:	
FRONT:	20'
SIDE:	15'
REAR:	35'
CORNER:	25'
TOTAL OPEN SPACE REQUIRED:	15% OF DEVELOPMENT SIZE: 15%*16.05 AC = 2.41 AC
ACTIVE OPEN SPACE REQUIRED:	50% OF OPEN SPACE: 50%*2.41 AC = 1.20 AC
PASSIVE OPEN SPACE REQUIRED:	50% OF OPEN SPACE: 50%*2.41 AC = 1.20 AC
OPEN SPACE PROVIDED:	125,302 SF, 2.88 AC
WATERSHED:	LITTLE RIVER

CLIENT:
LOCK 7 DEVELOPMENT, LLC
C/O: DAVID GORMAN, PRINCIPAL
2201 WISCONSIN AVE, NW#200
WASHINGTON, DC 20007
PHONE: (202) 922-6540
E-MAIL: david@lock7.com

CONTACT:
BRANDON MOORE
THE SITE GROUP, PLLC
1111 OBERLIN ROAD
RALEIGH, NC 27605
PHONE: (919) 835-4787
FAX: (919) 839-2255
EMAIL: bdm@thesitegroup.net



NORTH
REZ-26-001
ZONING EXHIBIT

SCALE: 1" = 60' (DRAWING SCALED FOR 24x36 INCH PLOTS)



EXHIBIT FOR
AVERETTE ROAD
SUBDIVISION
1101 AVERETTE ROAD
ROLESVILLE, NORTH CAROLINA

Drawn By: LLF
Checked By: BDM

DATE: 26 FEB 2026
REVISED: 03 MAR 2026

ZONING EXHIBIT

ZONING EXHIBIT

Job Code: L7ARS

Dwg No. EX 1.0

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LINE LEGEND

---	PROPERTY BOUNDARY
---	ADJACENT BOUNDARY
---	EXISTING R/W
---	FUTURE R/W
---	POND/CREEK
SS	EXISTING SANITARY SEWER
W	EXISTING WATER LINE
---	EXISTING STORMWATER
G	EXISTING GAS LINE
OHU	EXISTING OVERHEAD UTILITY
C	EXISTING COMMUNICATION
E	EXISTING UNDERGROUND ELECTRIC
---	EXISTING TOPO MAJOR
---	EXISTING TOPO MINOR
---	PROPOSED TOPO MAJOR
---	PROPOSED TOPO MINOR
---	EXISTING PUBLIC GREENWAY
---	5' SIDEWALK ALONG BOTH SIDES OF PROPOSED INTERNAL STREETS
---	PROPOSED NEIGHBORHOOD TRAIL
---	SIDEPATH
---	BIKE LANE
█	WETLAND
█	SCM
█	OPEN SPACE
█	RESIDENTIAL LOTS
█	OTHER RESIDENTIAL AREA
█	COMMERCIAL

OPEN SPACE #2
PERRY FARMS HOMEOWNERS ASSOCIATION INC
PIN: 1860027139
D.B. 17125 P.G. 223
B.M. 2017 P.G. 2288
0.96 ACRES

OPEN SPACE #3
PERRY FARMS HOMEOWNERS ASSOCIATION INC
PIN: 1860027139
D.B. 17125 P.G. 223
B.M. 2017 P.G. 2287-2288
2.63 ACRES

OPEN SPACE #4
PERRY FARMS HOMEOWNERS ASSOCIATION INC
PIN: 1860117799
D.B. 17828 P.G. 767
B.M. 2017 P.G. 2286
0.85 ACRES

OPEN SPACE
BILL CLARK HOMES OF RALEIGH LLC
PIN: 1860113820
D.B. 18227 P.G. 1802
B.M. 2017 P.G. 2286
0.06 ACRES

TRACT 1
KEVIN M. CROW
JOANNA N. CROW
PIN: 1860022839
B.M. 2007 P.G. 1763
DB. 15769 P.G. 755
125,052 SF
2.8708 ACRES

OPEN SPACE SCM
29,027 SF
0.67 AC

MEDIUM OPEN SPACE
83,308 SF
1.91 AC

LOT AREA
64,854 SF
1.48 AC

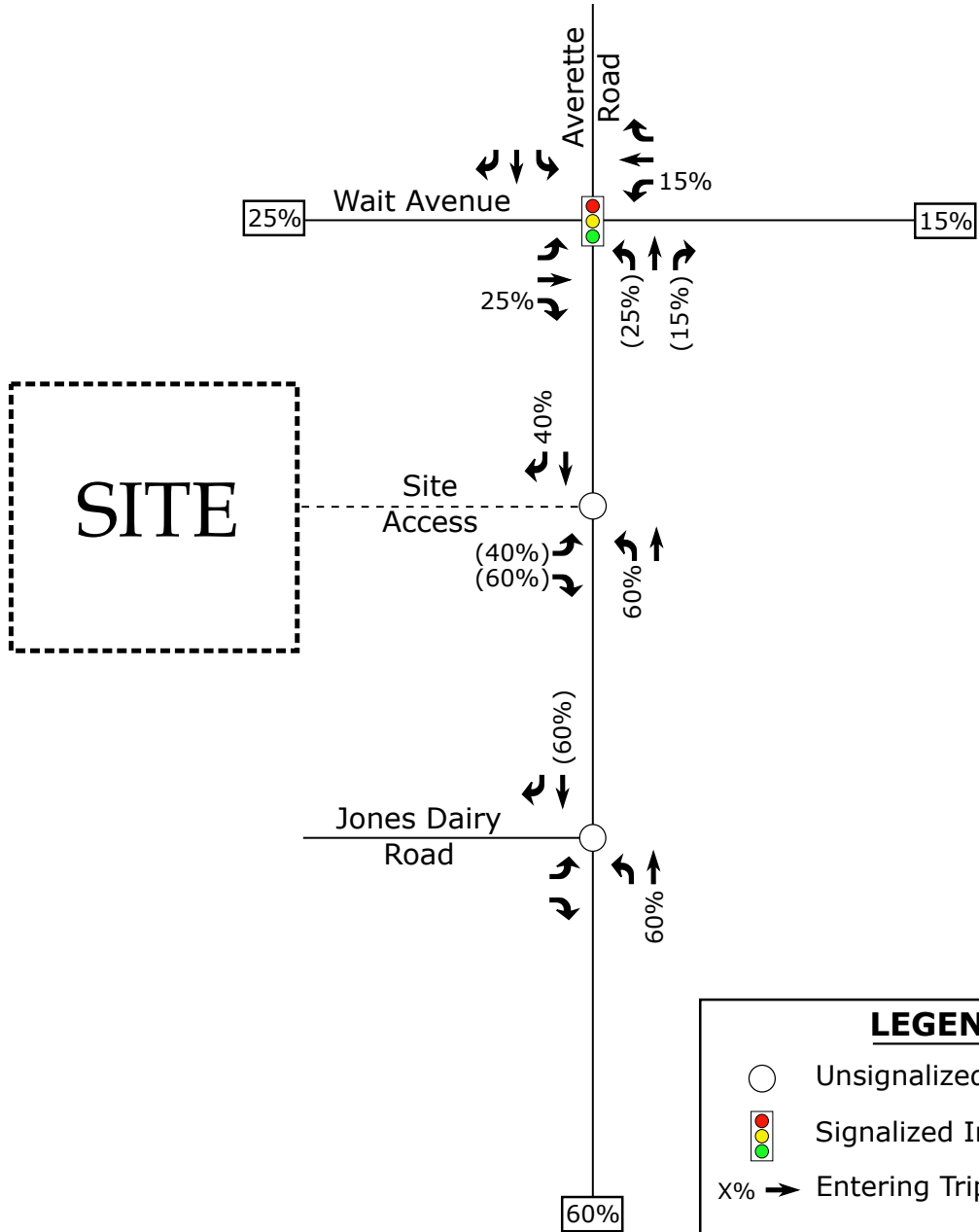
LOT AREA
81,898 SF
1.88 AC

LOT AREA
156,880 SF
3.60 AC

LOT AREA
58,674 SF
1.35 AC

SMALL OPEN SPACE
12,967 SF
0.30 AC

JONES, DOUGLAS BRANCH
PIN: 1860124968
D.B. 2280 P.G. 81
8.45 ACRES



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- X% → Entering Trip Distribution
- (Y%) → Exiting Trip Distribution
- Regional Trip Distribution

From: [Stephen Wensman](#)
To: [Cameron Seger](#); [Michael S Elabarger](#); [Scott Miles](#)
Cc: [Boulware, Daniel](#); [Darnell, Trevor S](#)
Subject: RE: TIA MOU - Averette Road Townhomes
Date: Thursday, April 23, 2026 3:12:22 PM

This Message is from an external sender.



Cameron, Thank you the revised looks good!

Thank-you.

Stephen Wensman
Planning Director
Town of Rolesville
Planning Department
PO Box 250
502 Southtown Circle
Rolesville, NC 27571
Direct: 984-251-2492

** GovWell - <https://app.govwell.com/rolesville> - is Live for all TRC Submittals.

From: Cameron Seger <cseger@drmp.com>
Sent: Thursday, April 23, 2026 2:46 PM
To: Stephen Wensman <swensman@rolesvillenc.gov>; Michael S Elabarger <melabarger@rolesvillenc.gov>; Scott Miles <smiles@rolesvillenc.gov>
Cc: Boulware, Daniel <dboulware@ncdot.gov>; Darnell, Trevor S <tsdarnell@ncdot.gov>
Subject: RE: TIA MOU - Averette Road Townhomes

Good afternoon,

I have updated the MOU based on the coordination we have had over the last couple days.
Please see attached.

Thanks,

Cameron Seger, EI
Traffic Analysis Project Engineer
Main: 704.549.4260 | Direct: [704.208.5440](tel:704.208.5440)
cseger@drmp.com



8210 University Executive Park Drive
Suite 220, Charlotte, NC 28262



From: Cameron Seger <cseger@drmp.com>
Sent: Wednesday, April 22, 2026 12:47 PM
To: Stephen Wensman <swensman@rolesvillenc.gov>; Michael S Elabarger <melabarger@rolesvillenc.gov>
Cc: Boulware, Daniel <dboulware@ncdot.gov>; Darnell, Trevor S <tsdarnell@ncdot.gov>
Subject: RE: TIA MOU - Averette Road Townhomes

Good afternoon,

Hope your weeks are going well so far! We have gotten our traffic count data back and pulled together trip distributions for your review. I went ahead and updated the MOU to include these distributions and also attached the traffic count data. Please let us know if you are in agreement with our distributions. Once we have your thumbs up, we will proceed with wrapping up the report. Let me know if you have any questions!

Thanks,

Cameron Seger, EI
Traffic Analysis Project Engineer
Main: 704.549.4260 | Direct: [704.208.5440](tel:704.208.5440)
cseger@drmp.com



8210 University Executive Park Drive
Suite 220, Charlotte, NC 28262



From: Stephen Wensman <swensman@rolesvillenc.gov>
Sent: Tuesday, April 7, 2026 1:33 PM
To: Cameron Seger <cseger@drmp.com>; Michael S Elabarger <melabarger@rolesvillenc.gov>
Cc: Boulware, Daniel <dboulware@ncdot.gov>; Darnell, Trevor S <tsdarnell@ncdot.gov>
Subject: RE: TIA MOU - Averette Road Townhomes

This Message is from an external sender.

Cameron, this look good!

Stephen Wensman

Planning Director

Town of Rolesville

Planning Department

PO Box 250

502 Southtown Circle

Rolesville, NC 27571

Direct: 984-251-2492

** GovWell - <https://app.govwell.com/rolesville> - is Live for all TRC Submittals.

From: Cameron Seger <cseger@drmp.com>

Sent: Tuesday, April 7, 2026 12:37 PM

To: Stephen Wensman <swensman@rolesvillenc.gov>; Michael S Elabarger <melabarger@rolesvillenc.gov>

Cc: Boulware, Daniel <dboulware@ncdot.gov>; Darnell, Trevor S <tsdarnell@ncdot.gov>

Subject: TIA MOU - Averette Road Townhomes

You don't often get email from cseger@drmp.com. [Learn why this is important](#)

Good afternoon,

I hope everyone is doing well! We have been in contact about a potential development west of Averette Road between Wait Avenue and Jones Dairy Road. I have pulled together a MOU for a TIA for the proposed site and attached it for your review. Please let me know if we need to hop on a meeting to further discuss!

Thanks,

Cameron Seger, EI

Traffic Analysis Project Engineer

Main: 704.549.4260 | Direct: [704.208.5440](tel:704.208.5440)

cseger@drmp.com

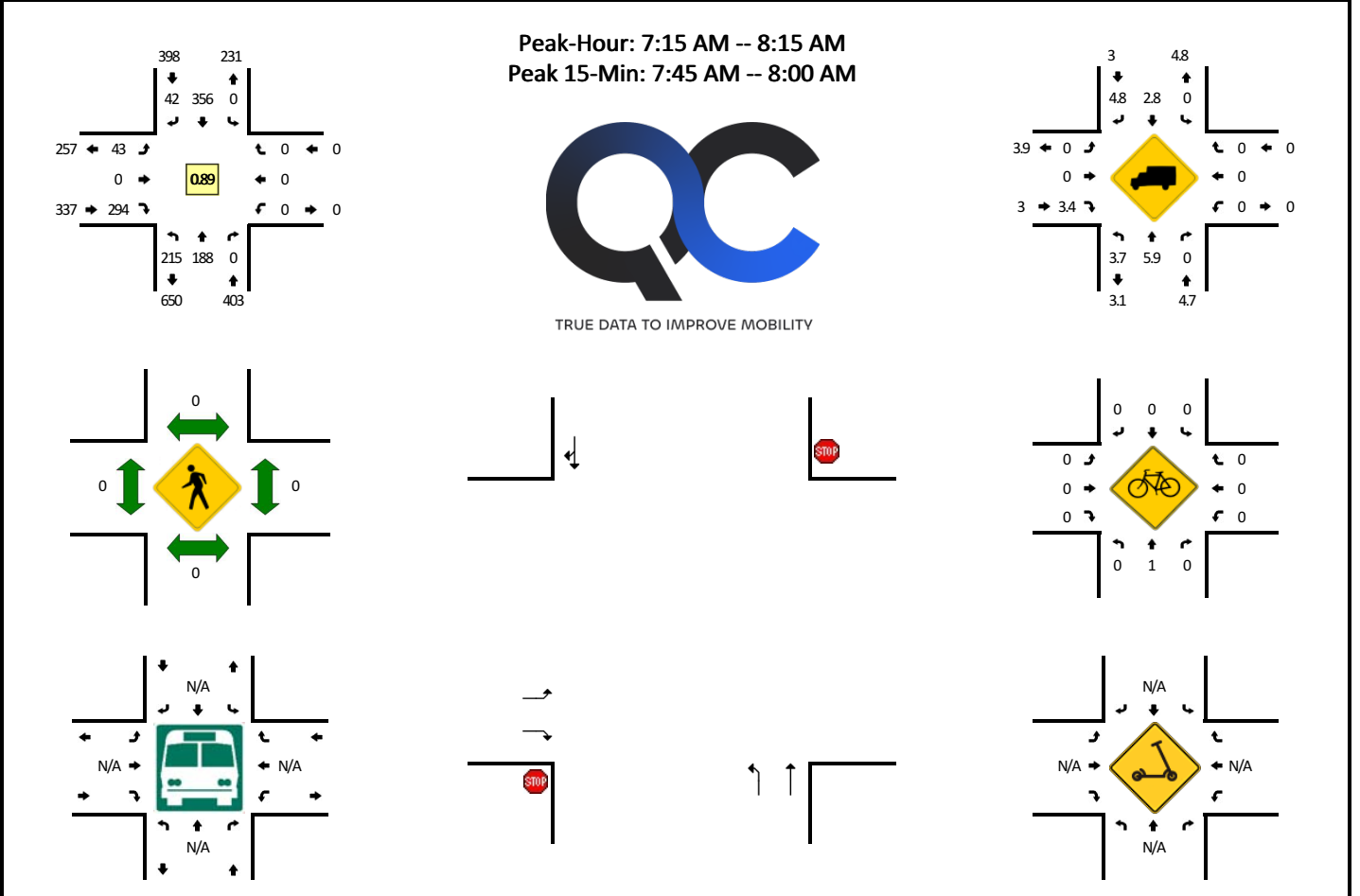
8210 University Executive Park Drive
Suite 220, Charlotte, NC 28262

APPENDIX B

TRAFFIC COUNTS

LOCATION: Averette Rd -- Jones Dairy Rd
CITY/STATE: Rolesville, NC

QC JOB #: 17549401
DATE: Tue, Apr 14 2026

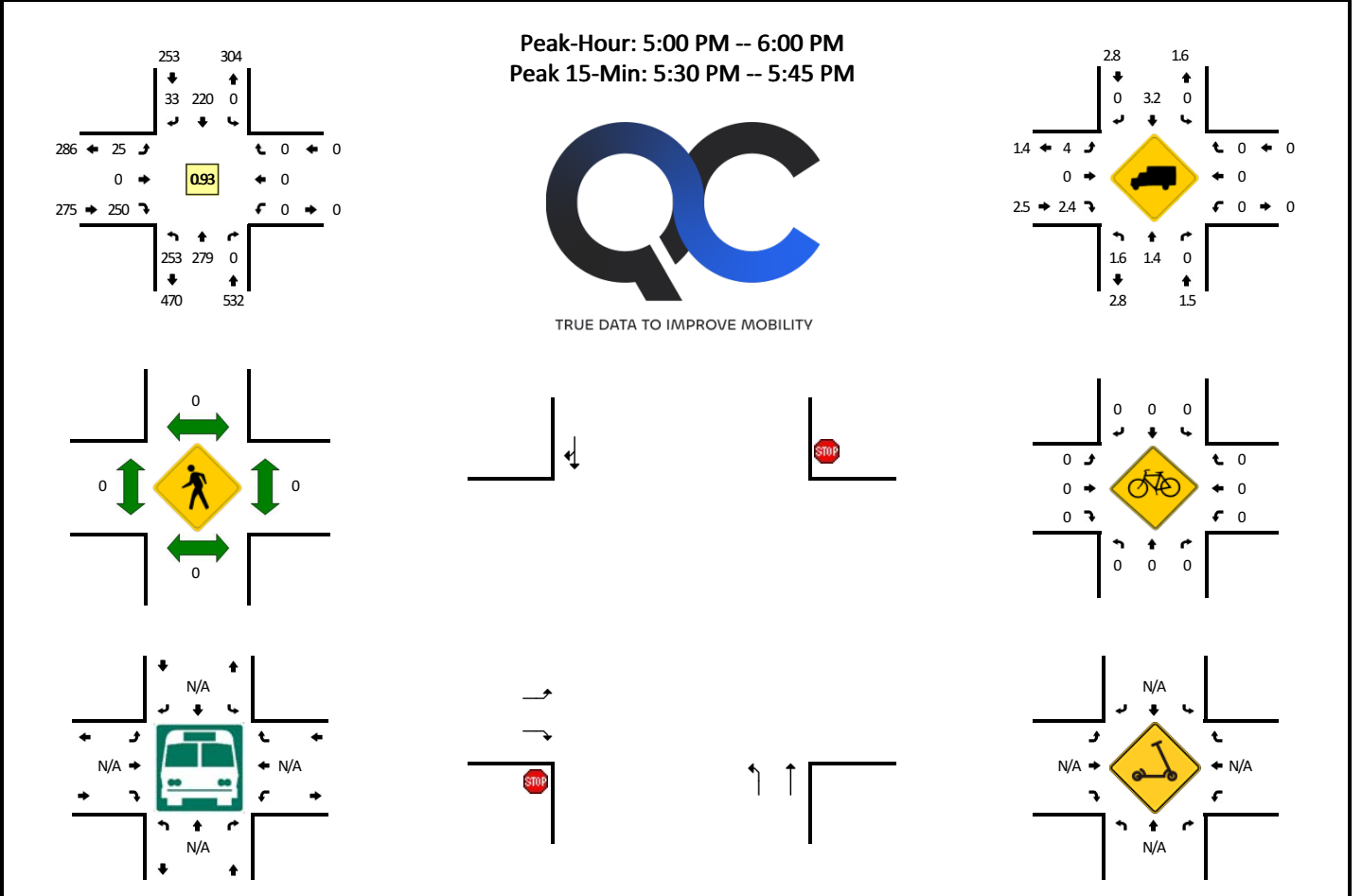


15-Min Count Period Beginning At	Averette Rd (Northbound)				Averette Rd (Southbound)				Jones Dairy Rd (Eastbound)				Jones Dairy Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	36	26	0	0	0	77	5	0	9	0	49	0	0	0	0	0	202	
7:15 AM	50	47	0	0	0	91	13	0	7	0	64	0	0	0	0	0	272	
7:30 AM	49	41	0	0	0	106	12	0	15	0	82	0	0	0	0	0	305	
7:45 AM	69	53	0	0	0	92	11	0	12	0	81	0	0	0	0	0	318	1097
8:00 AM	47	47	0	0	0	67	6	0	9	0	67	0	0	0	0	0	243	1138
8:15 AM	44	25	0	0	0	66	6	0	5	0	73	0	0	0	0	0	219	1085
8:30 AM	40	30	0	0	0	60	8	0	0	0	43	0	0	0	0	0	181	961
8:45 AM	51	39	0	0	0	53	7	0	3	0	53	0	0	0	0	0	206	849
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	276	212	0	0	0	368	44	0	48	0	324	0	0	0	0	0	1272	
Heavy Trucks	16	8	0	0	0	8	4	0	0	0	4	0	0	0	0	0	40	
Buses																		
Pedestrians		0				0					0			0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Averette Rd -- Jones Dairy Rd
CITY/STATE: Rolesville, NC

QC JOB #: 17549402
DATE: Tue, Apr 14 2026



15-Min Count Period Beginning At	Averette Rd (Northbound)				Averette Rd (Southbound)				Jones Dairy Rd (Eastbound)				Jones Dairy Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	66	77	0	0	0	39	2	0	8	0	68	0	0	0	0	0	260	
4:15 PM	65	52	0	0	0	44	6	0	7	0	67	0	0	0	0	0	241	
4:30 PM	65	57	0	0	0	40	6	0	13	0	52	0	0	0	0	0	233	
4:45 PM	66	56	0	0	0	48	8	0	7	0	50	0	0	0	0	0	235	969
5:00 PM	62	84	0	0	0	56	8	0	7	0	60	0	0	0	0	0	277	986
5:15 PM	64	66	0	0	0	52	13	0	4	0	52	0	0	0	0	0	251	996
5:30 PM	67	70	0	0	0	59	7	0	8	0	74	0	0	0	0	0	285	1048
5:45 PM	60	59	0	0	0	53	5	0	6	0	64	0	0	0	0	0	247	1060
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	268	280	0	0	0	236	28	0	32	0	296	0	0	0	0	0	1140	
Heavy Trucks	4	0	0	0	0	8	0	0	4	0	12	0	0	0	0	0	28	
Buses																		
Pedestrians		0				0					0			0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: Averette Road North of Sweetclover Dr SPECIFIC LOCATION: CITY/STATE: Wake Forest, NC							QC JOB #: 17549403 DIRECTION: NB DATE: Apr 14 2026 - Apr 14 2026			
Start Time	Mon	Tue 14 Apr 26	Wed	Thu	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 AM		1				1			1	
12:15 AM		2				2			2	
12:30 AM		1				1			1	
12:45 AM		2				2			2	
01:00 AM		0				0			0	
01:15 AM		2				2			2	
01:30 AM		1				1			1	
01:45 AM		0				0			0	
02:00 AM		0				0			0	
02:15 AM		0				0			0	
02:30 AM		1				1			1	
02:45 AM		0				0			0	
03:00 AM		0				0			0	
03:15 AM		1				1			1	
03:30 AM		1				1			1	
03:45 AM		2				2			2	
04:00 AM		1				1			1	
04:15 AM		1				1			1	
04:30 AM		3				3			3	
04:45 AM		4				4			4	
05:00 AM		4				4			4	
05:15 AM		6				6			6	
05:30 AM		6				6			6	
05:45 AM		10				10			10	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
<i>Comments:</i>										

LOCATION: Averette Road North of Sweetclover Dr							QC JOB #: 17549403			
SPECIFIC LOCATION:							DIRECTION: NB			
CITY/STATE: Wake Forest, NC							DATE: Apr 14 2026 - Apr 14 2026			
Start Time	Mon	Tue 14 Apr 26	Wed	Thu	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 AM		10				10			10	
06:15 AM		13				13			13	
06:30 AM		23				23			23	
06:45 AM		40				40			40	
07:00 AM		44				44			44	
07:15 AM		55				55			55	
07:30 AM		64				64			64	
07:45 AM		67				67			67	
08:00 AM		49				49			49	
08:15 AM		27				27			27	
08:30 AM		26				26			26	
08:45 AM		38				38			38	
09:00 AM		43				43			43	
09:15 AM		23				23			23	
09:30 AM		43				43			43	
09:45 AM		30				30			30	
10:00 AM		47				47			47	
10:15 AM		25				25			25	
10:30 AM		26				26			26	
10:45 AM		29				29			29	
11:00 AM		39				39			39	
11:15 AM		34				34			34	
11:30 AM		38				38			38	
11:45 AM		32				32			32	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
<i>Comments:</i>										

LOCATION: Averette Road North of Sweetclover Dr SPECIFIC LOCATION: CITY/STATE: Wake Forest, NC							QC JOB #: 17549403 DIRECTION: NB DATE: Apr 14 2026 - Apr 14 2026			
Start Time	Mon	Tue 14 Apr 26	Wed	Thu	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 PM		41				41			41	
12:15 PM		33				33			33	
12:30 PM		25				25			25	
12:45 PM		44				44			44	
01:00 PM		47				47			47	
01:15 PM		36				36			36	
01:30 PM		41				41			41	
01:45 PM		47				47			47	
02:00 PM		48				48			48	
02:15 PM		34				34			34	
02:30 PM		48				48			48	
02:45 PM		47				47			47	
03:00 PM		58				58			58	
03:15 PM		63				63			63	
03:30 PM		67				67			67	
03:45 PM		60				60			60	
04:00 PM		84				84			84	
04:15 PM		58				58			58	
04:30 PM		62				62			62	
04:45 PM		56				56			56	
05:00 PM		82				82			82	
05:15 PM		70				70			70	
05:30 PM		71				71			71	
05:45 PM		53				53			53	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
<i>Comments:</i>										

LOCATION: Averette Road North of Sweetclover Dr SPECIFIC LOCATION: CITY/STATE: Wake Forest, NC							QC JOB #: 17549403 DIRECTION: NB DATE: Apr 14 2026 - Apr 14 2026			
Start Time	Mon 14 Apr 26	Tue	Wed	Thu	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 PM		73				73			73	
06:15 PM		72				72			72	
06:30 PM		65				65			65	
06:45 PM		40				40			40	
07:00 PM		55				55			55	
07:15 PM		45				45			45	
07:30 PM		37				37			37	
07:45 PM		31				31			31	
08:00 PM		32				32			32	
08:15 PM		33				33			33	
08:30 PM		30				30			30	
08:45 PM		34				34			34	
09:00 PM		29				29			29	
09:15 PM		18				18			18	
09:30 PM		12				12			12	
09:45 PM		10				10			10	
10:00 PM		11				11			11	
10:15 PM		2				2			2	
10:30 PM		8				8			8	
10:45 PM		7				7			7	
11:00 PM		3				3			3	
11:15 PM		2				2			2	
11:30 PM		6				6			6	
11:45 PM		2				2			2	
Day Total		2846				2846			2846	
% Weekday Average		100%								
% Week Average		100%				100%				
AM Peak 15-min Vol		7:45 AM 67				7:45 AM 67			7:45 AM 67	
PM Peak 15-min Vol		4:00 PM 84				4:00 PM 84			4:00 PM 84	

Comments:

LOCATION: Averette Road North of Sweetclover Dr SPECIFIC LOCATION: CITY/STATE: Wake Forest, NC							QC JOB #: 17549403 DIRECTION: SB DATE: Apr 14 2026 - Apr 14 2026			
Start Time	Mon	Tue 14 Apr 26	Wed	Thu	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 AM		0				0			0	
12:15 AM		1				1			1	
12:30 AM		0				0			0	
12:45 AM		1				1			1	
01:00 AM		1				1			1	
01:15 AM		2				2			2	
01:30 AM		0				0			0	
01:45 AM		0				0			0	
02:00 AM		0				0			0	
02:15 AM		0				0			0	
02:30 AM		1				1			1	
02:45 AM		0				0			0	
03:00 AM		0				0			0	
03:15 AM		0				0			0	
03:30 AM		1				1			1	
03:45 AM		0				0			0	
04:00 AM		1				1			1	
04:15 AM		1				1			1	
04:30 AM		1				1			1	
04:45 AM		7				7			7	
05:00 AM		9				9			9	
05:15 AM		7				7			7	
05:30 AM		17				17			17	
05:45 AM		23				23			23	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
<i>Comments:</i>										

LOCATION: Averette Road North of Sweetclover Dr							QC JOB #: 17549403			
SPECIFIC LOCATION:							DIRECTION: SB			
CITY/STATE: Wake Forest, NC							DATE: Apr 14 2026 - Apr 14 2026			
Start Time	Mon	Tue 14 Apr 26	Wed	Thu	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 AM		24				24			24	
06:15 AM		31				31			31	
06:30 AM		45				45			45	
06:45 AM		59				59			59	
07:00 AM		77				77			77	
07:15 AM		96				96			96	
07:30 AM		109				109			109	
07:45 AM		85				85			85	
08:00 AM		68				68			68	
08:15 AM		64				64			64	
08:30 AM		55				55			55	
08:45 AM		46				46			46	
09:00 AM		48				48			48	
09:15 AM		44				44			44	
09:30 AM		48				48			48	
09:45 AM		49				49			49	
10:00 AM		30				30			30	
10:15 AM		28				28			28	
10:30 AM		28				28			28	
10:45 AM		42				42			42	
11:00 AM		28				28			28	
11:15 AM		29				29			29	
11:30 AM		37				37			37	
11:45 AM		31				31			31	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
Comments:										

LOCATION: Averette Road North of Sweetclover Dr SPECIFIC LOCATION: CITY/STATE: Wake Forest, NC							QC JOB #: 17549403 DIRECTION: SB DATE: Apr 14 2026 - Apr 14 2026			
Start Time	Mon	Tue 14 Apr 26	Wed	Thu	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
12:00 PM		40				40			40	
12:15 PM		35				35			35	
12:30 PM		31				31			31	
12:45 PM		46				46			46	
01:00 PM		32				32			32	
01:15 PM		39				39			39	
01:30 PM		29				29			29	
01:45 PM		41				41			41	
02:00 PM		34				34			34	
02:15 PM		40				40			40	
02:30 PM		52				52			52	
02:45 PM		50				50			50	
03:00 PM		57				57			57	
03:15 PM		62				62			62	
03:30 PM		42				42			42	
03:45 PM		58				58			58	
04:00 PM		38				38			38	
04:15 PM		45				45			45	
04:30 PM		38				38			38	
04:45 PM		47				47			47	
05:00 PM		66				66			66	
05:15 PM		57				57			57	
05:30 PM		60				60			60	
05:45 PM		50				50			50	
Day Total										
% Weekday Average										
% Week Average										
AM Peak 15-min Vol										
PM Peak 15-min Vol										
Comments:										

LOCATION: Averette Road North of Sweetclover Dr SPECIFIC LOCATION: CITY/STATE: Wake Forest, NC							QC JOB #: 17549403 DIRECTION: SB DATE: Apr 14 2026 - Apr 14 2026			
Start Time	Mon 14 Apr 26	Tue	Wed	Thu	Fri	Average Weekday 15-min Traffic	Sat	Sun	Average Week 15-min Traffic	Average Week Profile
06:00 PM		52				52			52	
06:15 PM		60				60			60	
06:30 PM		39				39			39	
06:45 PM		24				24			24	
07:00 PM		32				32			32	
07:15 PM		24				24			24	
07:30 PM		27				27			27	
07:45 PM		16				16			16	
08:00 PM		20				20			20	
08:15 PM		24				24			24	
08:30 PM		15				15			15	
08:45 PM		16				16			16	
09:00 PM		8				8			8	
09:15 PM		14				14			14	
09:30 PM		10				10			10	
09:45 PM		5				5			5	
10:00 PM		6				6			6	
10:15 PM		7				7			7	
10:30 PM		5				5			5	
10:45 PM		5				5			5	
11:00 PM		6				6			6	
11:15 PM		6				6			6	
11:30 PM		3				3			3	
11:45 PM		1				1			1	
Day Total		2788				2788			2788	
% Weekday Average		100%								
% Week Average		100%				100%				
AM Peak 15-min Vol		7:30 AM 109				7:30 AM 109			7:30 AM 109	
PM Peak 15-min Vol		5:00 PM 66				5:00 PM 66			5:00 PM 66	
<i>Comments:</i>										

National Data & Surveying Services

Intersection Turning Movement Count

Location: Averette Rd/CR 1945 & Wait Ave/SR 98
City: Wake Forest
Control: Signalized

Project ID: 25-160032-003
Date: 5/7/2025

Data - Total

NS/EW Streets:	Averette Rd/CR 1945				Averette Rd/CR 1945				Wait Ave/SR 98				Wait Ave/SR 98				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0.5	0.5	1	0	1	0.5	0.5	0	1	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	17	19	12	0	5	23	21	0	11	94	11	0	10	202	2	0	427
7:15 AM	15	13	19	0	13	26	26	0	6	119	20	0	23	226	2	0	508
7:30 AM	25	12	15	0	9	44	38	0	14	137	18	0	10	188	4	0	514
7:45 AM	10	20	13	0	5	30	27	0	15	110	14	0	11	178	1	0	434
8:00 AM	14	4	13	0	6	27	23	0	13	93	12	0	18	166	3	0	392
8:15 AM	10	8	13	0	7	18	16	0	10	104	9	0	13	166	4	0	378
8:30 AM	9	6	9	0	12	18	18	0	9	94	12	0	5	186	3	0	381
8:45 AM	17	12	11	0	3	15	25	0	13	95	10	0	8	181	7	0	397
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	117	94	105	0	60	201	194	0	91	846	106	0	98	1493	26	0	3431
	37.03%	29.75%	33.23%	0.00%	13.19%	44.18%	42.64%	0.00%	8.72%	81.11%	10.16%	0.00%	6.06%	92.33%	1.61%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	67	64	59	0	32	123	112	0	46	460	63	0	54	794	9	0	1883
PEAK HR FACTOR :	0.670	0.800	0.776	0.000	0.615	0.699	0.737	0.000	0.767	0.839	0.788	0.000	0.587	0.878	0.563	0.000	0.916
			0.913				0.734				0.842				0.854		
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0.5	0.5	1	0	1	0.5	0.5	0	1	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	22	14	21	0	0	11	9	0	16	169	18	0	7	117	6	0	410
4:15 PM	16	16	14	0	1	33	19	0	18	183	22	0	7	117	3	0	449
4:30 PM	21	20	16	0	5	14	24	0	13	155	30	0	15	117	8	0	438
4:45 PM	17	18	14	0	0	15	11	0	22	187	31	0	4	140	6	0	465
5:00 PM	18	22	15	0	4	22	19	0	27	137	26	0	8	123	1	0	422
5:15 PM	12	28	14	0	4	23	23	0	37	186	25	0	14	160	11	0	537
5:30 PM	19	18	16	0	7	21	15	0	17	156	16	0	6	123	7	0	421
5:45 PM	11	31	20	0	3	24	21	0	16	154	24	0	21	121	11	0	457
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	136	167	130	0	24	163	141	0	166	1327	192	0	82	1018	53	0	3599
	31.41%	38.57%	30.02%	0.00%	7.32%	49.70%	42.99%	0.00%	9.85%	78.75%	11.39%	0.00%	7.11%	88.29%	4.60%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	68	88	59	0	13	74	77	0	99	665	112	0	41	540	26	0	1862
PEAK HR FACTOR :	0.810	0.786	0.922	0.000	0.650	0.804	0.802	0.000	0.669	0.889	0.903	0.000	0.683	0.844	0.591	0.000	0.867
			0.943				0.820				0.883				0.820		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Averette Rd/CR 1945 & Wait Ave/SR 98
City: Wake Forest
Control: Signalized

Project ID: 25-160032-003
Date: 5/7/2025

Data - Cars

NS/EW Streets:	Averette Rd/CR 1945				Averette Rd/CR 1945				Wait Ave/SR 98				Wait Ave/SR 98				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0.5	0.5	1	0	1	0.5	0.5	0	1	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	17	18	12	0	5	23	21	0	10	91	10	0	9	195	2	0	413
7:15 AM	13	12	17	0	13	26	26	0	6	116	19	0	23	217	2	0	490
7:30 AM	19	11	15	0	9	43	38	0	13	131	16	0	10	185	4	0	494
7:45 AM	10	20	13	0	4	30	27	0	15	105	11	0	9	175	1	0	420
8:00 AM	13	4	10	0	6	25	23	0	11	89	11	0	18	157	2	0	369
8:15 AM	10	8	10	0	7	18	16	0	9	99	9	0	10	162	4	0	362
8:30 AM	7	6	8	0	11	18	18	0	8	93	12	0	5	180	2	0	368
8:45 AM	16	9	10	0	2	15	25	0	11	93	10	0	8	172	7	0	378
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	105	88	95	0	57	198	194	0	83	817	98	0	92	1443	24	0	3294
	36.46%	30.56%	32.99%	0.00%	12.69%	44.10%	43.21%	0.00%	8.32%	81.86%	9.82%	0.00%	5.90%	92.56%	1.54%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	59	61	57	0	31	122	112	0	44	443	56	0	51	772	9	0	1817
PEAK HR FACTOR :	0.776	0.763	0.838	0.000	0.596	0.709	0.737	0.000	0.733	0.845	0.737	0.000	0.554	0.889	0.563	0.000	0.920
	0.941				0.736				0.848				0.860				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0.5	0.5	1	0	1	0.5	0.5	0	1	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	20	14	19	0	0	10	9	0	14	163	18	0	7	113	6	0	393
4:15 PM	16	16	14	0	0	31	18	0	17	177	22	0	7	115	3	0	436
4:30 PM	21	20	16	0	4	14	23	0	12	151	28	0	14	116	6	0	425
4:45 PM	17	17	13	0	0	14	11	0	21	185	29	0	4	138	5	0	454
5:00 PM	18	20	15	0	4	21	18	0	27	135	25	0	8	117	1	0	409
5:15 PM	12	28	13	0	4	21	23	0	36	183	25	0	13	158	11	0	527
5:30 PM	19	18	16	0	6	19	13	0	16	154	16	0	6	122	7	0	412
5:45 PM	11	31	20	0	3	24	21	0	16	142	24	0	21	121	11	0	445
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	134	164	126	0	21	154	136	0	159	1290	187	0	80	1000	50	0	3501
	31.60%	38.68%	29.72%	0.00%	6.75%	49.52%	43.73%	0.00%	9.72%	78.85%	11.43%	0.00%	7.08%	88.50%	4.42%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	68	85	57	0	12	70	75	0	96	654	107	0	39	529	23	0	1815
PEAK HR FACTOR :	0.810	0.759	0.891	0.000	0.750	0.833	0.815	0.000	0.667	0.884	0.922	0.000	0.696	0.837	0.523	0.000	0.861
	0.921				0.818				0.878				0.812				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Averette Rd/CR 1945 & Wait Ave/SR 98
City: Wake Forest
Control: Signalized

Project ID: 25-160032-003
Date: 5/7/2025

Data - HT

NS/EW Streets:	Averette Rd/CR 1945				Averette Rd/CR 1945				Wait Ave/SR 98				Wait Ave/SR 98				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	1	0	0	0.5	0.5	1	0	1	3	1	0	1	7	0	0	14
7:15 AM	2	1	2	0	0	0	0	0	0	3	1	0	0	9	0	0	18
7:30 AM	6	1	0	0	0	1	0	0	1	6	2	0	0	3	0	0	20
7:45 AM	0	0	0	0	1	0	0	0	0	5	3	0	2	3	0	0	14
8:00 AM	1	0	3	0	0	2	0	0	2	4	1	0	0	9	1	0	23
8:15 AM	0	0	3	0	0	0	0	0	1	5	0	0	3	4	0	0	16
8:30 AM	2	0	1	0	1	0	0	0	1	1	0	0	0	6	1	0	13
8:45 AM	1	3	1	0	1	0	0	0	2	2	0	0	0	9	0	0	19
TOTAL VOLUMES :	12	6	10	0	3	3	0	0	8	29	8	0	6	50	2	0	137
APPROACH %'s :	42.86%	21.43%	35.71%	0.00%	50.00%	50.00%	0.00%	0.00%	17.78%	64.44%	17.78%	0.00%	10.34%	86.21%	3.45%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	8	3	2	0	1	1	0	0	2	17	7	0	3	22	0	0	66
PEAK HR FACTOR :	0.333	0.750	0.250	0.000	0.250	0.250	0.000	0.000	0.500	0.708	0.583	0.000	0.375	0.611	0.000	0.000	0.825
			0.464			0.500				0.722				0.694			
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	2	0	2	0	0	1	0	0	2	6	0	0	0	4	0	0	17
4:15 PM	0	0	0	0	1	2	1	0	1	6	0	0	0	2	0	0	13
4:30 PM	0	0	0	0	1	0	1	0	1	4	2	0	1	1	2	0	13
4:45 PM	0	1	1	0	0	1	0	0	1	2	2	0	0	2	1	0	11
5:00 PM	0	2	0	0	0	1	1	0	0	2	1	0	0	6	0	0	13
5:15 PM	0	0	1	0	0	2	0	0	1	3	0	0	1	2	0	0	10
5:30 PM	0	0	0	0	1	2	2	0	1	2	0	0	0	1	0	0	9
5:45 PM	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12
TOTAL VOLUMES :	2	3	4	0	3	9	5	0	7	37	5	0	2	18	3	0	98
APPROACH %'s :	22.22%	33.33%	44.44%	0.00%	17.65%	52.94%	29.41%	0.00%	14.29%	75.51%	10.20%	0.00%	8.70%	78.26%	13.04%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	3	2	0	1	4	2	0	3	11	5	0	2	11	3	0	47
PEAK HR FACTOR :	0.000	0.375	0.500	0.000	0.250	0.500	0.500	0.000	0.750	0.688	0.625	0.000	0.500	0.458	0.375	0.000	0.904
			0.625			0.875				0.679				0.667			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Averette Rd/CR 1945 & Wait Ave/SR 98
City: Wake Forest
Control: Signalized

Project ID: 25-160032-003
Date: 5/7/2025

Data - Bikes

NS/EW Streets:	Averette Rd/CR 1945				Averette Rd/CR 1945				Wait Ave/SR 98				Wait Ave/SR 98				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0.5	0.5	1	0	1	0.5	0.5	0	1	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
APPROACH %'s :																	
PEAK HR :	07:00 AM - 08:00 AM																
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0.5	0.5	1	0	1	0.5	0.5	0	1	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
APPROACH %'s :					0.00%	100.00%	0.00%	0.00%									
PEAK HR :	04:30 PM - 05:30 PM																
PEAK HR VOL :	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250

Project ID: 25-160032-003
 Location: Averette Rd/CR 1945 & Wait Ave/SR 98
 City: Wake Forest

Day: Wednesday
 Date: 5/7/2025

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	Averette Rd/CR 1945							Averette Rd/CR 1945							Wait Ave/SR 98							Wait Ave/SR 98							Int. Total
	Northbound							Southbound							Eastbound							Westbound							
	Left	Thru	Rgt	Uturn	Peds	App.	Total	Left	Thru	Rgt	Uturn	Peds	App.	Total	Left	Thru	Rgt	Uturn	Peds	App.	Total	Left	Thru	Rgt	Uturn	Peds	App.	Total	
7:00 AM	17	19	12	0	0	0	48	5	23	21	0	0	0	49	11	94	11	0	0	0	116	10	202	2	0	0	0	214	427
7:15 AM	15	13	19	0	0	0	47	13	26	26	0	0	0	65	6	119	20	0	0	0	145	23	226	2	0	0	0	251	508
7:30 AM	25	12	15	0	0	0	52	9	44	38	0	0	0	91	14	137	18	0	0	0	169	10	188	4	0	0	0	202	514
7:45 AM	10	20	13	0	0	0	43	5	30	27	0	0	0	62	15	110	14	0	0	0	139	11	178	1	0	0	0	190	434
Total	67	64	59	0	0	0	190	32	123	112	0	0	0	267	46	460	63	0	0	0	569	54	794	9	0	0	0	857	1883
8:00 AM	14	4	13	0	0	0	31	6	27	23	0	0	0	56	13	93	12	0	0	0	118	18	166	3	0	0	0	187	392
8:15 AM	10	8	13	0	0	0	31	7	18	16	0	0	0	41	10	104	9	0	0	0	123	13	166	4	0	0	0	183	378
8:30 AM	9	6	9	0	0	0	24	12	18	18	0	0	0	48	9	94	12	0	0	0	115	5	186	3	0	0	0	194	381
8:45 AM	17	12	11	0	0	0	40	3	15	25	0	0	0	43	13	95	10	0	0	0	118	8	181	7	0	0	0	196	397
Total	50	30	46	0	0	0	126	28	78	82	0	0	0	188	45	386	43	0	0	0	474	44	699	17	0	0	0	760	1548
BREAK																													
4:00 PM	22	14	21	0	0	0	57	0	11	9	0	0	0	20	16	169	18	0	0	0	203	7	117	6	0	0	0	130	410
4:15 PM	16	16	14	0	0	0	46	1	33	19	0	0	0	53	18	183	22	0	0	0	223	7	117	3	0	0	0	127	449
4:30 PM	21	20	16	0	0	0	57	5	14	24	0	0	0	43	13	155	30	0	0	0	198	15	117	8	0	0	0	140	438
4:45 PM	17	18	14	0	0	0	49	0	15	11	0	0	0	26	22	187	31	0	0	0	240	4	140	6	0	0	0	150	465
Total	76	68	65	0	0	0	209	6	73	63	0	0	0	142	69	694	101	0	0	0	864	33	491	23	0	0	0	547	1762
5:00 PM	18	22	15	0	0	0	55	4	22	19	0	0	0	45	27	137	26	0	0	0	190	8	123	1	0	0	0	132	422
5:15 PM	12	28	14	0	0	0	54	4	23	23	0	0	0	50	37	186	25	0	0	0	248	14	160	11	0	0	0	185	537
5:30 PM	19	18	16	0	0	0	53	7	21	15	0	0	0	43	17	156	16	0	0	0	189	6	123	7	0	0	0	136	421
5:45 PM	11	31	20	0	0	0	62	3	24	21	0	0	0	48	16	154	24	0	0	0	194	21	121	11	0	0	0	153	457
Total	60	99	65	0	0	0	224	18	90	78	0	0	0	186	97	633	91	0	0	0	821	49	527	30	0	0	0	606	1837
Grand Total	253	261	235	0	0	0	749	84	364	335	0	0	0	783	257	2173	298	0	0	0	2728	180	2511	79	0	0	0	2770	7030
Apprch %	33.8	34.8	31.4	0.0	0.0	0.0	10.7	10.7	46.5	42.8	0.0	0.0	0.0	11.1	9.4	79.7	10.9	0.0	0.0	0.0	38.8	6.5	90.6	2.9	0.0	0.0	0.0	39.4	
Total %	3.6	3.7	3.3	0.0	0.0	0.0	10.7	1.2	5.2	4.8	0.0	0.0	0.0	11.1	3.7	30.9	4.2	0.0	0.0	0.0	38.8	2.6	35.7	1.1	0.0	0.0	0.0	39.4	
Cars, PU, Vans	239	252	221	0	0	0	712	78	352	330	0	0	0	760	242	2107	285	0	0	0	2634	172	2443	74	0	0	0	2689	6795
% Cars, PU, Vans	94.5	96.6	94.0	0.0	0.0	0.0	95.1	92.9	96.7	98.5	0.0	0.0	0.0	97.1	94.2	97.0	95.6	0.0	0.0	0.0	96.6	95.6	97.3	93.7	0.0	0.0	0.0	97.1	96.7
Heavy trucks	14	9	14	0	0	0	37	6	12	5	0	0	0	23	15	66	13	0	0	0	94	8	68	5	0	0	0	81	235
% Heavy trucks	5.5	3.4	6.0	0.0	0.0	0.0	4.9	7.1	3.3	1.5	0.0	0.0	0.0	2.9	5.8	3.0	4.4	0.0	0.0	0.0	3.4	4.4	2.7	6.3	0.0	0.0	0.0	2.9	3.3

Project ID: 25-160032-003
 Location: Averette Rd/CR 1945 & Wait Ave/SR 98
 City: Wake Forest

PEAK HOURS

Day: Wednesday
 Date: 5/7/2025

AM

Start Time	Averette Rd/CR 1945 Northbound					Averette Rd/CR 1945 Southbound					Wait Ave/SR 98 Eastbound					Wait Ave/SR 98 Westbound					Int. Total
	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	
	7:00 AM	17	19	12	0	48	5	23	21	0	49	11	94	11	0	116	10	202	2	0	
7:15 AM	15	13	19	0	47	13	26	26	0	65	6	119	20	0	145	23	226	2	0	251	508
7:30 AM	25	12	15	0	52	9	44	38	0	91	14	137	18	0	169	10	188	4	0	202	514
7:45 AM	10	20	13	0	43	5	30	27	0	62	15	110	14	0	139	11	178	1	0	190	434
Total Volume	67	64	59	0	190	32	123	112	0	267	46	460	63	0	569	54	794	9	0	857	1883
% App. Total	35.3	33.7	31.1	0.0	100	12.0	46.1	41.9	0.0	100	8.1	80.8	11.1	0.0	100	6.3	92.6	1.1	0.0	100	
PHF	0.913					0.734					0.842					0.854					0.916
Cars, PU, Vans	59	61	57	0	177	31	122	112	0	265	44	443	56	0	543	51	772	9	0	832	1817
% Cars, PU, Vans	88.1	95.3	96.6	0.0	93.2	96.9	99.2	100.0	0.0	99.3	95.7	96.3	88.9	0.0	95.4	94.4	97.2	100.0	0.0	97.1	96.5
Heavy trucks	8	3	2	0	13	1	1	0	0	2	2	17	7	0	26	3	22	0	0	25	66
% Heavy trucks	11.9	4.7	3.4	0.0	6.8	3.1	0.8	0.0	0.0	0.7	4.3	3.7	11.1	0.0	4.6	5.6	2.8	0.0	0.0	2.9	3.5

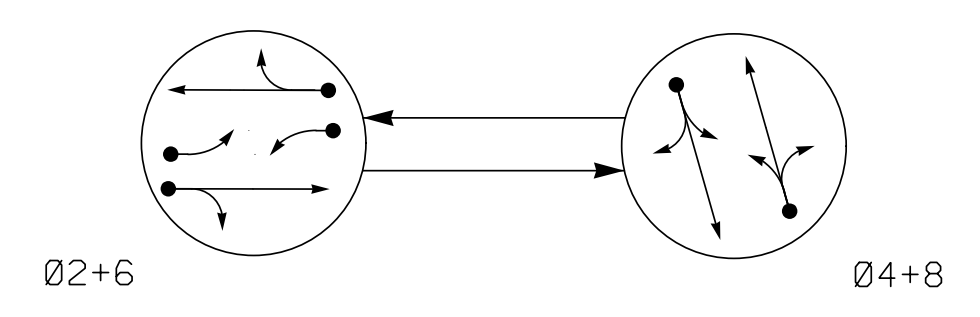
PM

Start Time	Averette Rd/CR 1945 Northbound					Averette Rd/CR 1945 Southbound					Wait Ave/SR 98 Eastbound					Wait Ave/SR 98 Westbound					Int. Total
	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	Left	Thru	Rgt	Uturn	App. Total	
	4:30 PM	21	20	16	0	57	5	14	24	0	43	13	155	30	0	198	15	117	8	0	
4:45 PM	17	18	14	0	49	0	15	11	0	26	22	187	31	0	240	4	140	6	0	150	465
5:00 PM	18	22	15	0	55	4	22	19	0	45	27	137	26	0	190	8	123	1	0	132	422
5:15 PM	12	28	14	0	54	4	23	23	0	50	37	186	25	0	248	14	160	11	0	185	537
Total Volume	68	88	59	0	215	13	74	77	0	164	99	665	112	0	876	41	540	26	0	607	1862
% App. Total	31.6	40.9	27.4	0.0	100	7.9	45.1	47.0	0.0	100	11.3	75.9	12.8	0.0	100	6.8	89.0	4.3	0.0	100	
PHF	0.943					0.820					0.883					0.820					0.867
Cars, PU, Vans	68	85	57	0	210	12	70	75	0	157	96	654	107	0	857	39	529	23	0	591	1815
% Cars, PU, Vans	100.0	96.6	96.6	0.0	97.7	92.3	94.6	97.4	0.0	95.7	97.0	98.3	95.5	0.0	97.8	95.1	98.0	88.5	0.0	97.4	97.5
Heavy trucks	0	3	2	0	5	1	4	2	0	7	3	11	5	0	19	2	11	3	0	16	47
% Heavy trucks	0.0	3.4	3.4	0.0	2.3	7.7	5.4	2.6	0.0	4.3	3.0	1.7	4.5	0.0	2.2	4.9	2.0	11.5	0.0	2.6	2.5

APPENDIX C

SIGNAL PLANS

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

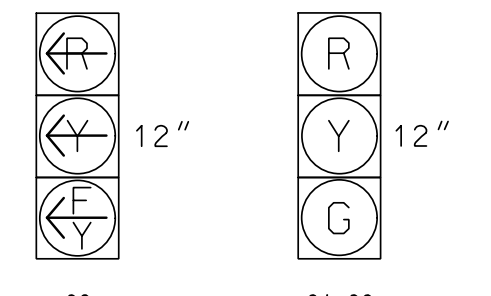
- ←●→ DETECTED MOVEMENT
- ←○→ UNDETECTED MOVEMENT (OVERLAP)
- ←- - -→ UNSIGNALIZED MOVEMENT
- ←- - -> PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE		
	Ø2+6	Ø4+8	FLASH
21,22	G	R	Y
23	F	R	Y
41,42	R	G	R
64	F	R	Y
61,62,63	G	R	Y
81,82	R	G	R

SIGNAL FACE I.D.

All Heads L.E.D.



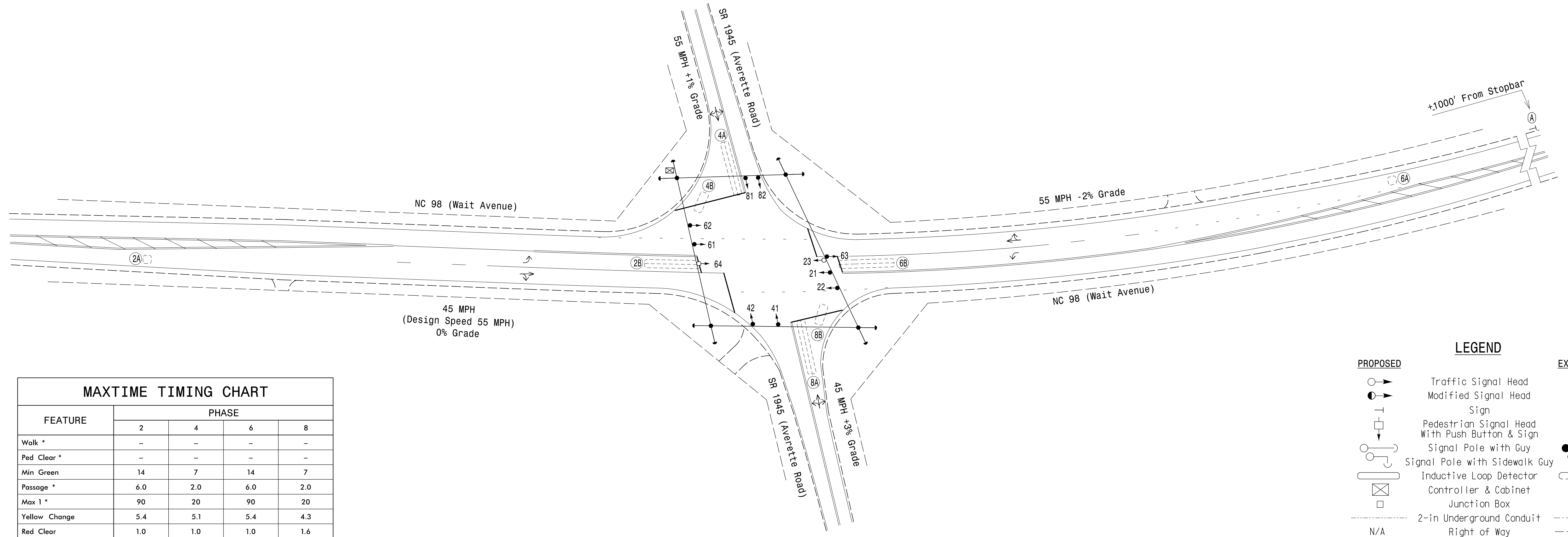
MAXTIME DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PROGRAMMING								
					CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	QUEUE	CALL	DELAY DURING GREEN	NEW CARD
2A	6X6	420	EXIST	-	2	-	-	X	X	-	X	-	X
2B	6X40	0	2-4-2	-	2	3	-	X	-	-	X	X	X
4A	6X40	0	2-4-2	-	4	5	-	X	-	-	X	-	X
4B	6X15	+5	EXIST	-	4	15	-	X	-	-	X	-	X
6A	6X6	420	EXIST	-	6	-	-	X	X	-	X	-	X
6B	6X40	0	2-4-2	-	6	3	-	X	-	-	X	X	X
8A	6X40	0	2-4-2	-	8	5	-	X	-	-	X	-	X
8B	6X15	+5	EXIST	-	8	15	-	X	-	-	X	-	X

2 PHASE FULLY ACTUATED (WAKE FOREST SIGNAL SYSTEM)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Reposition existing signal heads numbered 21, 22, 61, and 62.
- Set all detector units to presence mode.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Pavement markings are existing.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.
- Loop data based on previous plan and/or field observations.
- Install new cabinet on the existing cabinet foundation.



MAXTIME TIMING CHART

FEATURE	PHASE			
	2	4	6	8
Walk *	-	-	-	-
Ped Clear *	-	-	-	-
Min Green	14	7	14	7
Passage *	6.0	2.0	6.0	2.0
Max I *	90	20	90	20
Yellow Change	5.4	5.1	5.4	4.3
Red Clear	1.0	1.0	1.0	1.6
Added Initial *	2.5	-	2.5	-
Maximum Initial *	46	-	46	-
Time Before Reduction *	15	-	15	-
Time To Reduce *	45	-	45	-
Minimum Gap	3.4	-	3.4	-
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.

LEGEND

PROPOSED	EXISTING
	N/A
N/A	

Signal Upgrade

Prepared For:

 750 N. Greenfield Pkwy, Garner, NC 27529
 NC License #0102
 421 Fayetteville Street, Suite 600
 Raleigh, NC 27601
 (919) 677-2000

**NC 98 (Wait Avenue)
at
SR 1945 (Averette Road)**

Division 5 Wake County Wake Forest
 PLAN DATE: December 2022 REVIEWED BY: CF Davis
 PREPARED BY: MC Burke REVIEWED BY: SL Phillips

SCALE: 1" = 40'

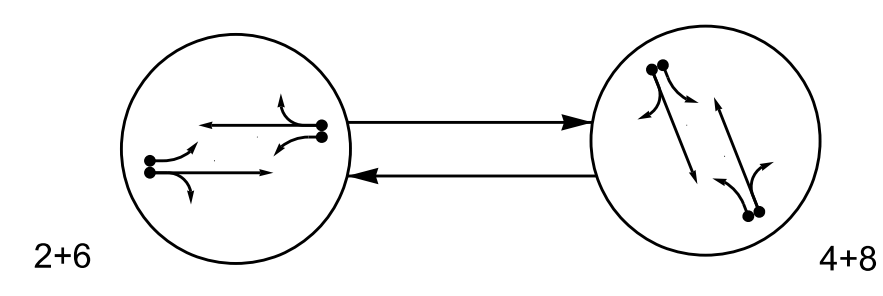
SEAL

 SHANE L. PHILLIPS
 ENGINEER
 STATE OF NORTH CAROLINA
 SEAL 032607

3/2/2023
 DATE
 05-1935
 INVENTORY NO.

K:\RRAL_TPD\K-ITS\011036492_U-6023_Wake_Forest_Signal_System\Task\451\gn1_Design\MS4 - Signal_Design\05-1935.dgn 3/2/2023 11:37:20 AM Mollie Burke

PHASING DIAGRAM



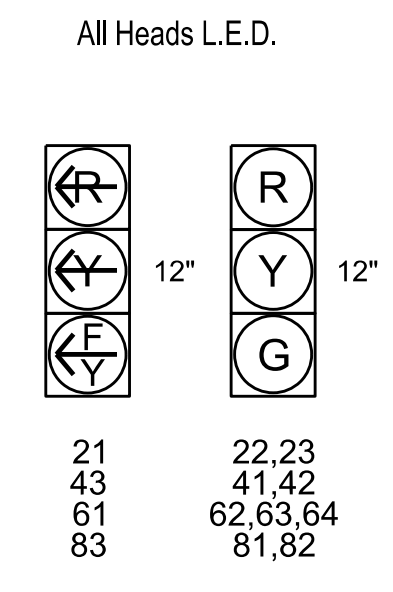
PHASING DIAGRAM DETECTION LEGEND

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

TABLE OF OPERATION

SIGNAL FACE	PHASE		
	2	4	FLASH
21	←	→	→
22,23	G	R	R
41,42	R	G	R
43	←	→	→
61	←	→	→
62,63,64	G	R	R
81,82	R	G	R
83	←	→	→

SIGNAL FACE I.D.



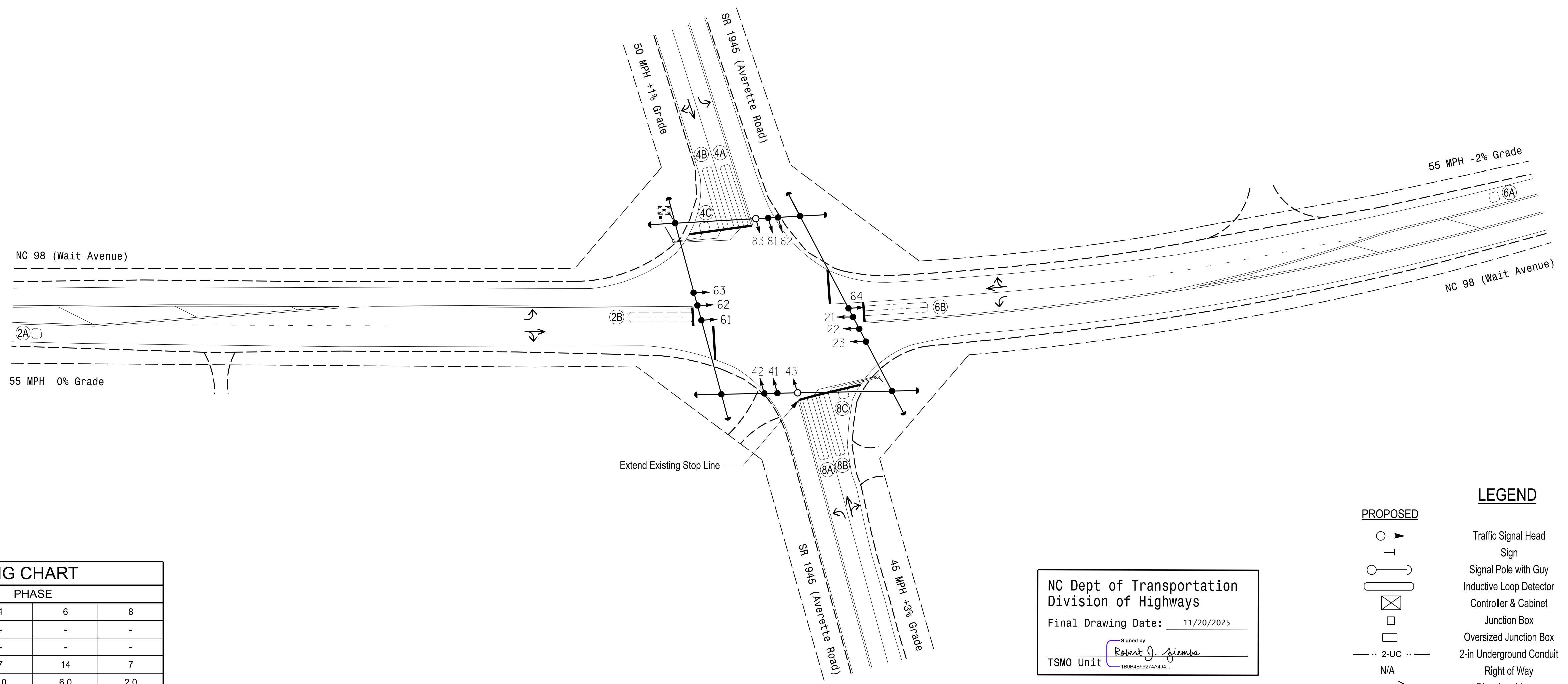
MAXTIME DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	PROGRAMMING								
			DETECTOR	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	
2A	6X6	420	EXIST	-	2	-	-	X	X	X	-
2B	6X40	0	2-4-2	-	2	3.0	-	X	-	X	X
4A	6X40	0	2-4-2	X	4	3.0	-	X	-	X	-
4B	6X40	0	2-4-2	X	4	10.0	-	X	-	X	-
4C	6X6	0	5	X	4	15.0	-	X	-	X	X
6A	6X6	420	EXIST	-	6	-	-	X	X	X	-
6B	6X40	0	2-4-2	-	6	3.0	-	X	-	X	X
8A	6X40	0	2-4-2	X	8	3.0	-	X	-	X	-
8B	6X40	0	2-4-2	X	8	10.0	-	X	-	X	-
8C	6X6	0	5	X	8	15.0	-	X	-	X	X

2 Phase Fully Actuated (Wake Forest Signal System)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2024, "Standard Specifications for Roads and Structures" dated January 2024, and all applicable sections of the latest version of the generic Project Special Provisions. The PSP can be accessed at the following website: <http://connect.ncdot.gov/resources/safety/pages/TSMO-Design-Resources.aspx>
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Reposition existing signal heads 41, 42, 81 and 82 as shown below.
- Set all detector units to presence mode.
- Pavement markings are existing unless otherwise shown.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



MAXTIME TIMING CHART

FEATURE	PHASE			
	2	4	6	8
Walk *	-	-	-	-
Ped Clear	-	-	-	-
Min Green *	14	7	14	7
Passage *	6.0	2.0	6.0	2.0
Max 1 *	90	20	90	20
Yellow Change	5.4	4.7	5.4	4.7
Red Clear	1.0	1.3	1.0	1.3
Added Initial *	2.5	-	2.5	-
Maximum Initial *	46	-	46	-
Time Before Reduction *	15	-	15	-
Time To Reduce *	45	-	45	-
Minimum Gap	3.4	-	3.4	-
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 phase 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

	PROPOSED Traffic Signal Head		EXISTING Traffic Signal Head
	PROPOSED Signal Pole with Guy		EXISTING Signal Pole with Guy
	PROPOSED Inductive Loop Detector		EXISTING Inductive Loop Detector
	PROPOSED Controller & Cabinet		EXISTING Controller & Cabinet
	PROPOSED Junction Box		EXISTING Junction Box
	PROPOSED Oversized Junction Box		EXISTING Oversized Junction Box
	PROPOSED 2-in Underground Conduit		EXISTING 2-in Underground Conduit
	PROPOSED Right of Way		EXISTING Right of Way
	PROPOSED Directional Arrow		EXISTING Directional Arrow

NC Dept of Transportation
Division of Highways
Final Drawing Date: 11/20/2025
Signed by: Robert J. Ziemba
TSMO Unit 109B4898274A404



Signal Upgrade

 Prepared For: TRANSPORTATION MOBILITY AND SAFETY DIVISION DEPARTMENT OF TRANSPORTATION STATE OF NORTH CAROLINA Signal Design Section	NC 98 (Wait Avenue) at SR 1945 (Averette Road)		SEAL ZACHARY M. ESPOSITO ENGINEER 11/10/2025 SIGNED: <i>Zachary M. Esposito</i> DATE: 11/10/2025 SIG. INVENTORY NO. 05-1935
	Division 5 Wake County Wake Forest PLAN DATE: November 2025 REVIEWED BY: ZM Esposito PREPARED BY: AW Poole DRMP PROJ NO: 25738 (040)	REVISIONS INIT. DATE	

APPENDIX D

ADJACENT DEVELOPMENT INFORMATION



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

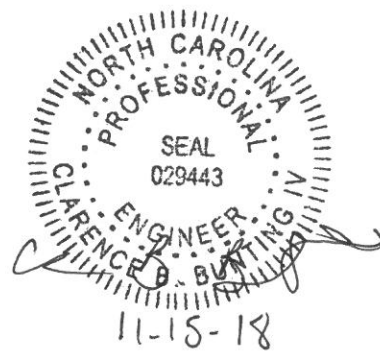
ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

November 15, 2018

Jones Dairy Road Residential
Traffic Impact Analysis Review Report
Congestion Management Section

Division: 5
County: Wake



Clarence B. Bunting, IV, P.E. Project Engineer
Charles V. Sorrell

Jones Dairy Road Residential

SC-2018-143

Wake

November 15, 2018

Per your request, the Congestion Management Section (CMS) of the Transportation Mobility and Safety Division has completed a review of the subject site. The comments and recommendations contained in this review are based on data for background conditions presented in the Traffic Impact Analysis (TIA) and are subject to the approval of the local District Engineer's Office and appropriate local authorities.

Date Initially Received by CMS	10/18/18	Date of Site Plan	N/A
Date of Complete Information	10/18/18	Date of Sealed TIA	10/17/18

Proposed Development

According to the TIA, the proposed Jones Dairy Road Residential is to be located on Jones Dairy Road in Rolesville in Wake County. The TIA states the development is to be constructed by 2024 and is to consist of the following:

Land Use	Land Use Code	Size
Single Family Detached Housing	210	600 units
Townhomes	220	250 units

Trip Generation - Unadjusted Volumes During a Typical Weekday

	IN	OUT	TOTAL
AM Peak Hour	134	411	545
PM Peak Hour	441	259	700
Daily Trips			7,260

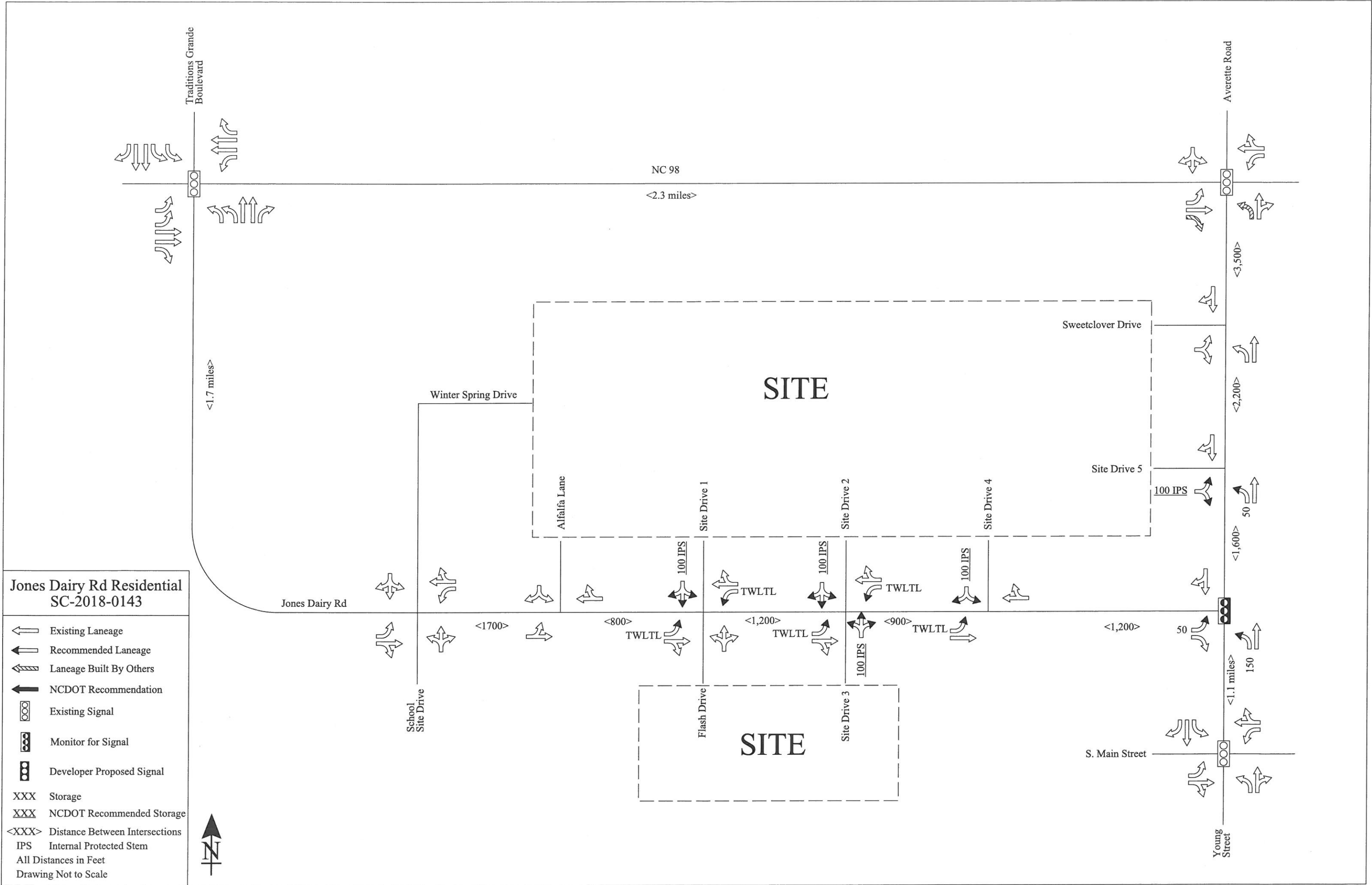
General Reference

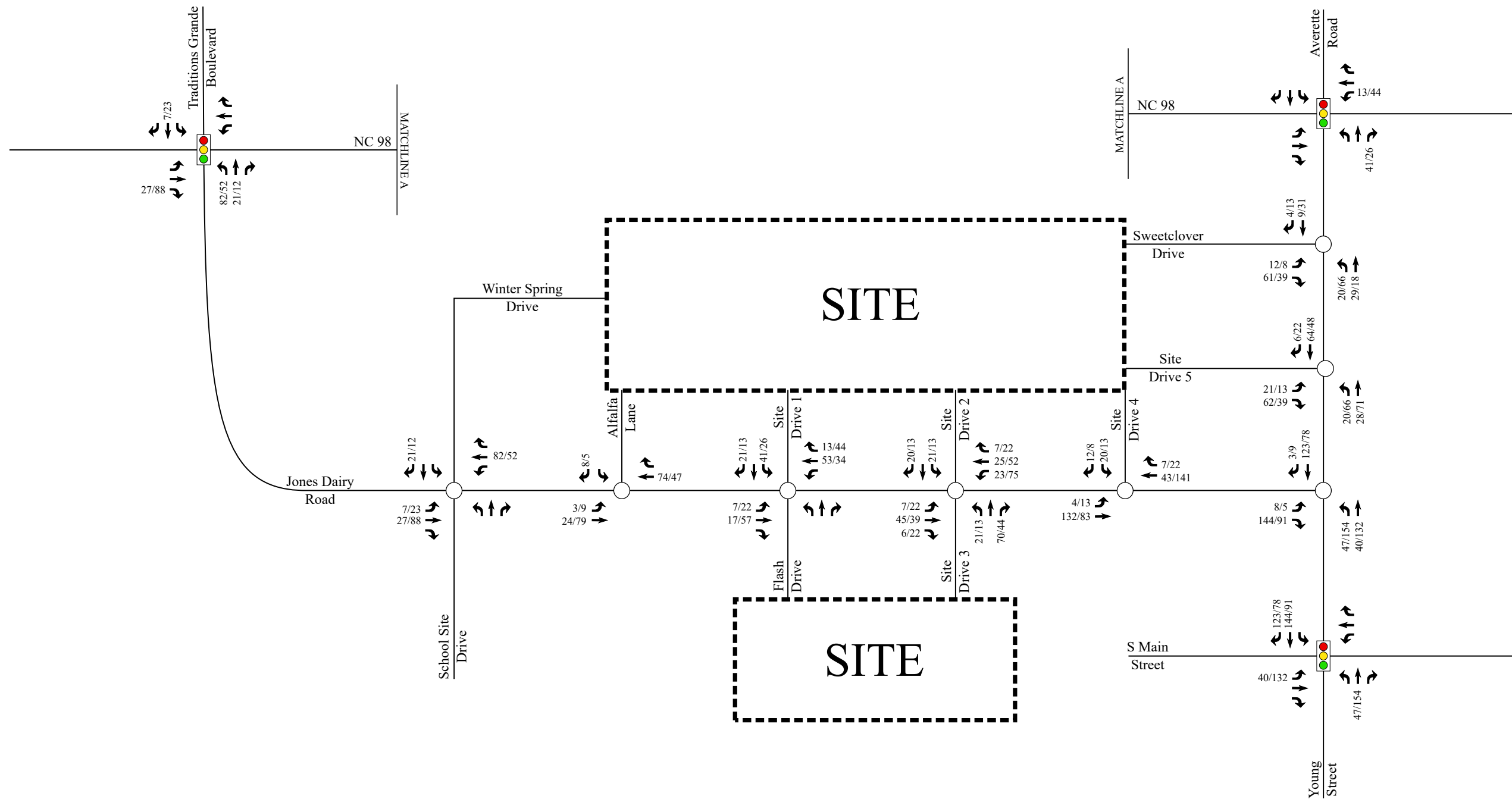
For reference to various documents applicable to this review please reference the following link: <http://www.ncdot.org/doh/preconstruct/traffic/tepp/Topics/C-37/C-37.html>

Once the driveway permit has been approved and issued, a copy of the final driveway permit requirements should be forwarded to this office. If we can provide further assistance, please contact the Congestion Management Section.

Improvements By Others

The analysis includes background improvements by others. If these improvements are not in place at the time of construction, the site should provide these improvements or analysis demonstrating mitigation is not necessary.





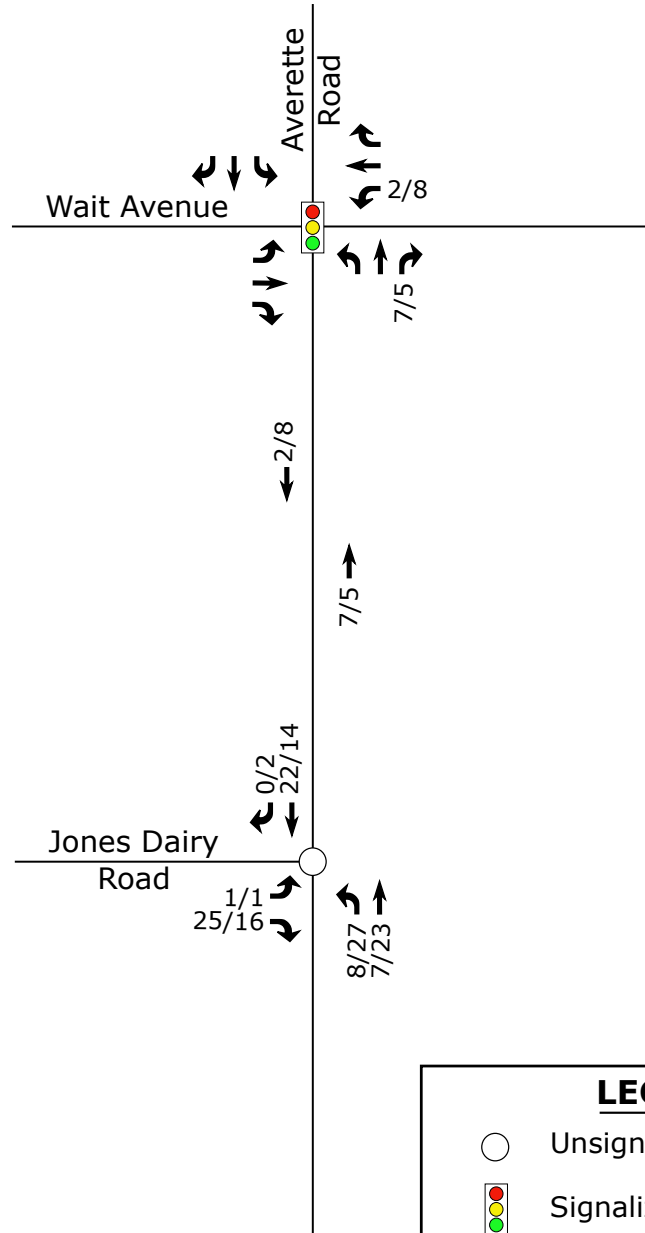
LEGEND	
	Unsignalized Intersection
	Signalized Intersection
X/Y →	Weekday AM / PM Peak Hour Traffic



Jones Dairy Road Residential
Rolesville, NC

Site Trip Assignment

Scale: Not to Scale	Figure 9
---------------------	----------



LEGEND

- Unsignalized Intersection
- ◫ Signalized Intersection
- X / Y → Weekday AM / PM Peak Hour Adjacent Development Trips



1101 Averette Road
Rolesville, NC

Prestleigh Adjacent
Development Trips

Scale: Not to Scale Figure 6a



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

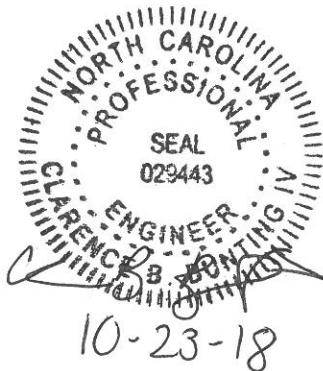
JAMES H. TROGDON, III
SECRETARY

October 23, 2018

Tryon East

**Traffic Impact Analysis Review Report
Congestion Management Section**

TIA Project: SC-2018-129
Division: 5
County: Wake



Clarence B. Bunting, IV, P.E. Project Engineer
Charles V. Sorrell

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
TRANSPORTATION MOBILITY & SAFETY DIVISION
1561 MAIL SERVICE CENTER
RALEIGH, NC 27699-1561

Telephone: (919) 814-5000
Fax: (919) 771-2745
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
750 N. GREENFIELD PARKWAY
GARNER, NC 27529

Tryon East

SC-2018-129

Wake

October 23, 2018

Per your request, the Congestion Management Section (CMS) of the Transportation Mobility and Safety Division has completed a review of the subject site. The comments and recommendations contained in this review are based on data for background conditions presented in the Traffic Impact Analysis (TIA) and are subject to the approval of the local District Engineer's Office and appropriate local authorities.

Date Initially Received by CMS	9/25/18	Date of Site Plan	8/6/18
Date of Complete Information	9/25/18	Date of Sealed TIA	9/25/18

Proposed Development

According to the TIA, the proposed Tryon East Development is to be located on Averette Road in Wake Forest in Wake County. The TIA states the development is to be constructed by 2026 and is to consist of the following:

Land Use	Land Use Code	Size
Single-Family Detached Housing	210	677 units
Multifamily Housing (Low-Rise)	220	288 units

Trip Generation - Unadjusted Volumes During a Typical Weekday

	IN	OUT	TOTAL
AM Peak Hour	151	464	615
PM Peak Hour	496	292	788
Daily Trips			8,300

General Reference

For reference to various documents applicable to this review please reference the following link: <http://www.ncdot.org/doh/preconstruct/traffic/tepl/Topics/C-37/C-37.html>

Once the driveway permit has been approved and issued, a copy of the final driveway permit requirements should be forwarded to this office. If we can provide further assistance, please contact the Congestion Management Section.

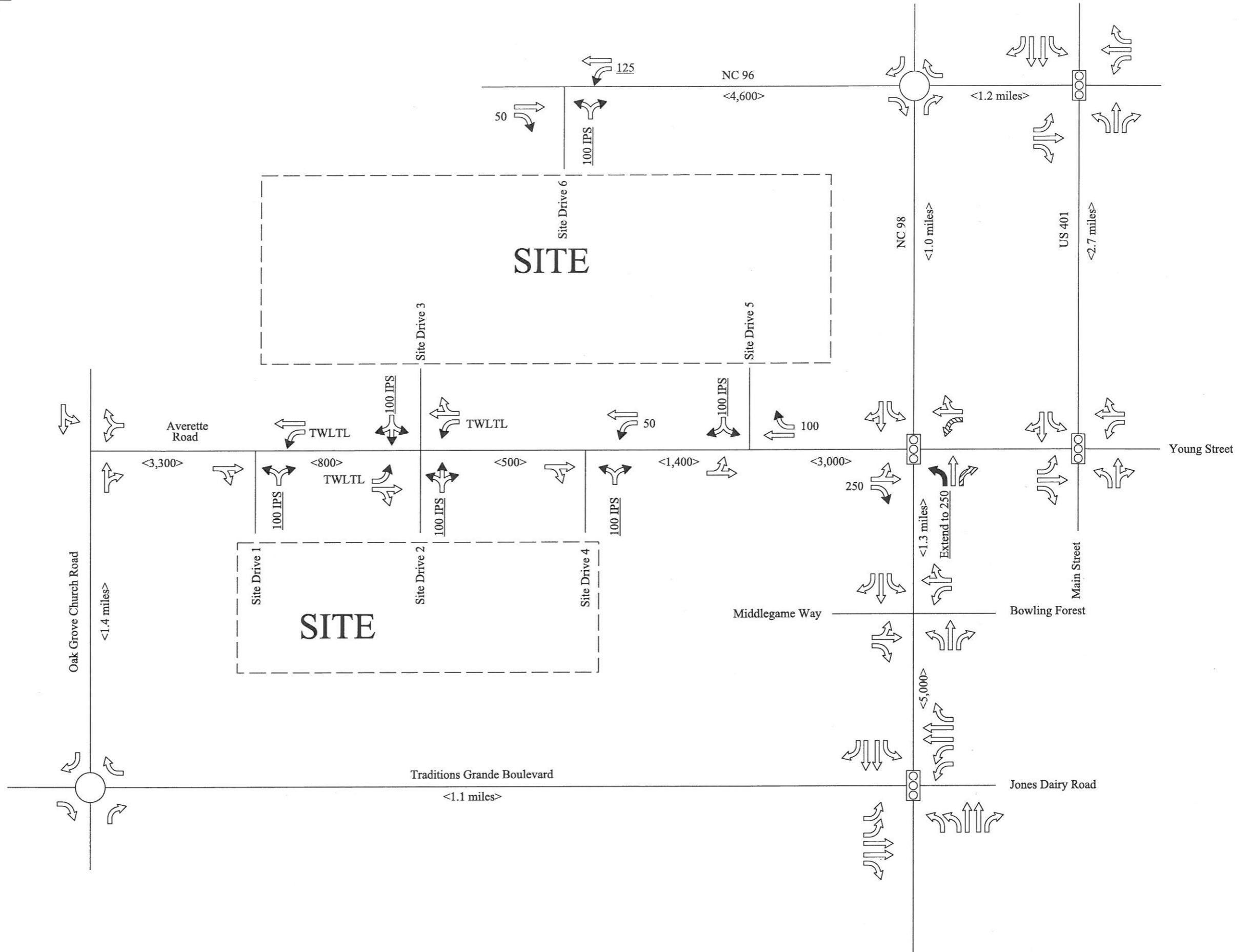
Improvements By Others

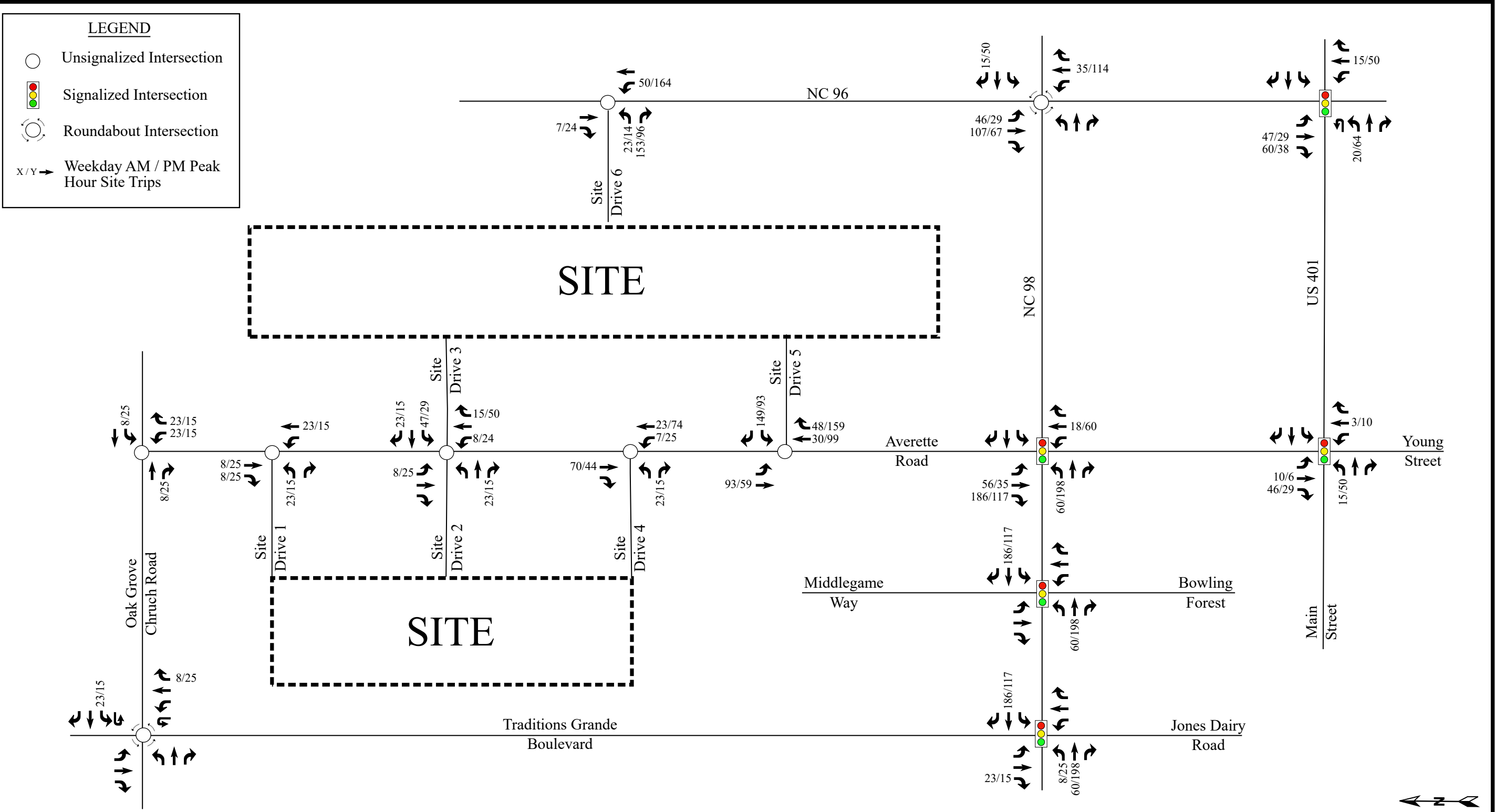
The analysis includes background improvements by others. If these improvements are not in place at the time of construction, the site should provide these improvements or analysis demonstrating mitigation is not necessary.

Tryon East
SC-2018-129



- Existing Laneage
- Recommended Laneage
- Laneage Built By Others
- NCDOT Recommendation
- Existing Signal
- Monitor for Signal
- Developer Proposed Signal
- XXX Storage
- XXX NCDOT Recommended Storage
- <XXX> Distance Between Intersections
- IPS Internal Protected Stem
- All Distances in Feet
- Drawing Not to Scale





LEGEND

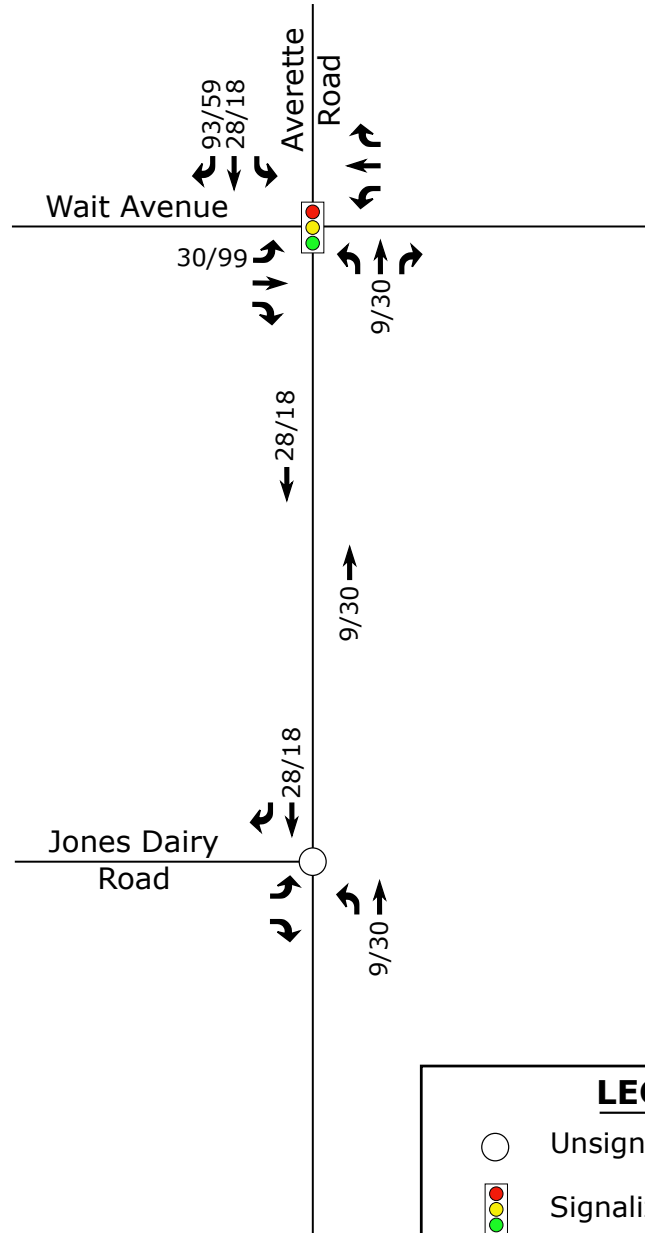
- Unsignalized Intersection
- ◫ Signalized Intersection
- ⊙ Roundabout Intersection
- x/y → Weekday AM / PM Peak Hour Site Trips



Tryon East
Wake Forest, NC

Site Trip Assignment

Scale: Not to Scale Figure 9



LEGEND

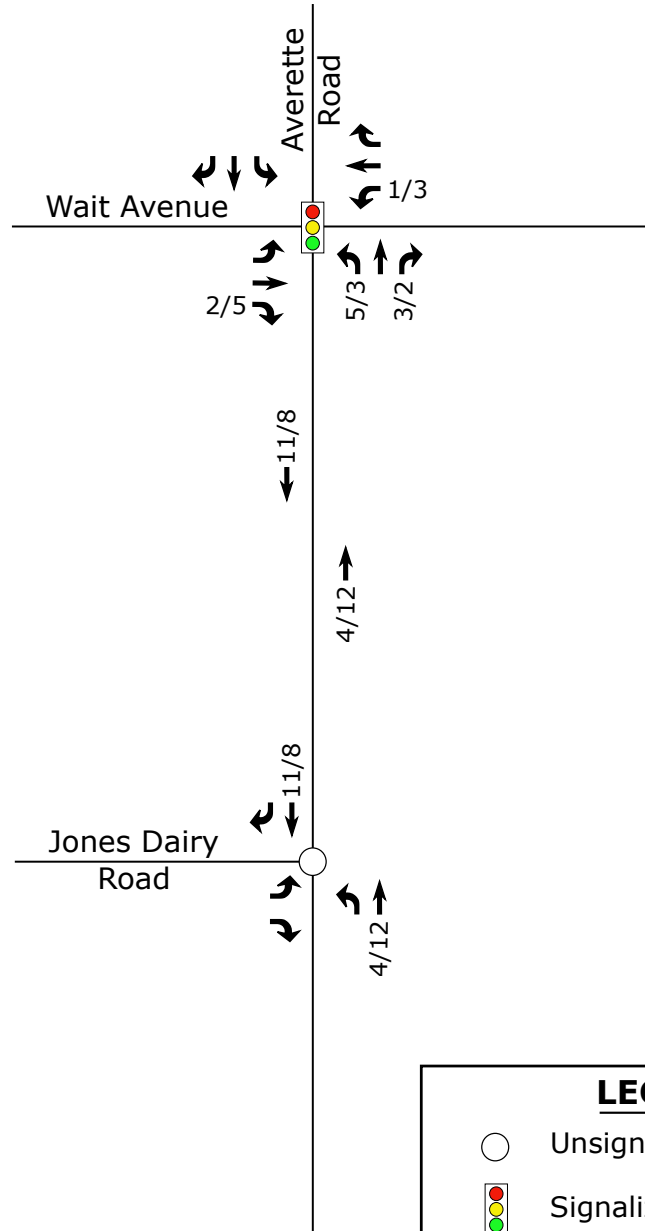
- Unsignalized Intersection
- ◫ Signalized Intersection
- X / Y → Weekday AM / PM Peak Hour Adjacent Development Trips



1101 Averette Road
Rolesville, NC


Rosedale Adjacent
Development Trips

Scale: Not to Scale | Figure 6c



LEGEND

- Unsignalized Intersection
- ◫ Signalized Intersection
- Weekday AM / PM Peak
- X / Y → Hour Adjacent Development Trips

	1101 Averette Road Rolesville, NC	Marquis Homes Adjacent Development Trips	
		Scale: Not to Scale	Figure 6b

APPENDIX E

CAPACITY ANALYSIS CALCULATIONS




















WAIT AVENUE

&

AVERETTE ROAD

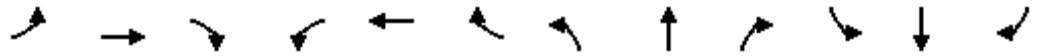
Lanes, Volumes, Timings
1: Averette Road & Wait Avenue

2026 Existing
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	472	65	55	814	9	69	66	60	33	126	115
Future Volume (vph)	47	472	65	55	814	9	69	66	60	33	126	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			3%			1%	
Storage Length (ft)	225		0	200		0	0		0	0		325
Storage Lanes	1		0	1		0	0		0	0		1
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		0.982			0.998			0.958				0.850
Flt Protected	0.950			0.950				0.983			0.990	
Satd. Flow (prot)	1770	1829	0	1787	1878	0	0	1728	0	0	1835	1575
Flt Permitted	0.130			0.345				0.817			0.906	
Satd. Flow (perm)	242	1829	0	649	1878	0	0	1436	0	0	1679	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			50	
Link Distance (ft)		1088			1155			3541			1529	
Travel Time (s)		16.5			17.5			53.7			20.9	
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)	52	524	72	61	904	10	77	73	67	37	140	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	596	0	61	914	0	0	217	0	0	177	128
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	20.4	20.4		20.4	20.4		12.3	12.3		13.1	13.1	13.1
Total Split (s)	90.0	90.0		90.0	90.0		20.0	20.0		20.0	20.0	20.0
Total Split (%)	81.8%	81.8%		81.8%	81.8%		18.2%	18.2%		18.2%	18.2%	18.2%
Maximum Green (s)	83.6	83.6		83.6	83.6		14.7	14.7		13.9	13.9	13.9
Yellow Time (s)	5.4	5.4		5.4	5.4		4.3	4.3		5.1	5.1	5.1
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-1.4	-1.4		-1.4	-1.4		-0.3	-0.3		-1.1	-1.1	-1.1
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 Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		2.0	2.0		2.0	2.0	2.0
Minimum Gap (s)	3.4	3.4		3.4	3.4		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)	45.0	45.0		45.0	45.0		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)	35.2	35.2		35.2	35.2			15.4			15.4	15.4
Actuated g/C Ratio	0.58	0.58		0.58	0.58			0.25			0.25	0.25
v/c Ratio	0.37	0.56		0.16	0.84			0.60			0.42	0.32
Control Delay	14.7	9.8		6.4	18.2			32.4			25.8	24.8
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0

Lanes, Volumes, Timings
1: Averette Road & Wait Avenue

2026 Existing
Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	14.7	9.8		6.4	18.2			32.4			25.8	24.8
LOS	B	A		A	B			C			C	C
Approach Delay		10.2			17.5			32.4			25.4	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	9	117		9	236			67			51	36
Queue Length 95th (ft)	31	181		22	374			#208			139	105
Internal Link Dist (ft)		1008			1075			3461			1449	
Turn Bay Length (ft)	225			200								325
Base Capacity (vph)	242	1829		649	1878			363			424	398
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	0.21	0.33		0.09	0.49			0.60			0.42	0.32

Intersection Summary

Area Type: Other

Cycle Length: 110

Actuated Cycle Length: 60.8

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 17.9 Intersection LOS: B

Intersection Capacity Utilization 77.6% 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: Averette Road & Wait Avenue



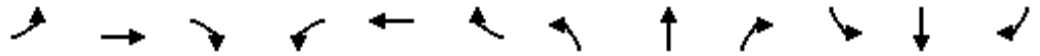
Lanes, Volumes, Timings
1: Averette Road & Wait Avenue

2026 Existing
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	682	115	42	554	27	70	90	60	13	76	79
Future Volume (vph)	101	682	115	42	554	27	70	90	60	13	76	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			3%			1%	
Storage Length (ft)	225		0	200		0	0		0	0		325
Storage Lanes	1		0	1		0	0		0	0		1
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		0.978			0.993			0.963				0.850
Flt Protected	0.950			0.950				0.984			0.993	
Satd. Flow (prot)	1770	1822	0	1787	1868	0	0	1739	0	0	1840	1575
Flt Permitted	0.309			0.148				0.861			0.940	
Satd. Flow (perm)	576	1822	0	278	1868	0	0	1521	0	0	1742	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			50	
Link Distance (ft)		1088			1155			3541			1529	
Travel Time (s)		16.5			17.5			53.7			20.9	
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)	112	758	128	47	616	30	78	100	67	14	84	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	886	0	47	646	0	0	245	0	0	98	88
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	20.4	20.4		20.4	20.4		12.3	12.3		13.1	13.1	13.1
Total Split (s)	90.0	90.0		90.0	90.0		20.0	20.0		20.0	20.0	20.0
Total Split (%)	81.8%	81.8%		81.8%	81.8%		18.2%	18.2%		18.2%	18.2%	18.2%
Maximum Green (s)	83.6	83.6		83.6	83.6		14.7	14.7		13.9	13.9	13.9
Yellow Time (s)	5.4	5.4		5.4	5.4		4.3	4.3		5.1	5.1	5.1
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	-1.4	-1.4		-1.4	-1.4		-0.3	-0.3		-1.1	-1.1	-1.1
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 Optimize?												
Vehicle Extension (s)	6.0	6.0		6.0	6.0		2.0	2.0		2.0	2.0	2.0
Minimum Gap (s)	3.4	3.4		3.4	3.4		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)	45.0	45.0		45.0	45.0		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)	35.2	35.2		35.2	35.2			15.4			15.4	15.4
Actuated g/C Ratio	0.58	0.58		0.58	0.58			0.25			0.25	0.25
v/c Ratio	0.34	0.84		0.29	0.60			0.64			0.22	0.22
Control Delay	9.2	18.5		11.1	10.4			33.5			23.4	23.6
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0

Lanes, Volumes, Timings
1: Averette Road & Wait Avenue

2026 Existing
Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	9.2	18.5		11.1	10.4			33.5			23.4	23.6
LOS	A	B		B	B			C			C	C
Approach Delay		17.4			10.4			33.5			23.5	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	18	228		8	131			76			27	24
Queue Length 95th (ft)	43	366		25	201			#236			83	77
Internal Link Dist (ft)		1008			1075			3461			1449	
Turn Bay Length (ft)	225			200								325
Base Capacity (vph)	576	1822		278	1868			384			440	398
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	0.19	0.49		0.17	0.35			0.64			0.22	0.22

Intersection Summary






















Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	60.8
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	17.5
Intersection LOS:	B
Intersection Capacity Utilization:	86.0%
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: Averette Road & Wait Avenue

 90 s	 20 s
 90 s	 20 s

Lanes, Volumes, Timings
1: Averette Road & Wait Avenue

2029 No-Build
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	508	72	62	877	10	79	80	75	36	164	217
Future Volume (vph)	81	508	72	62	877	10	79	80	75	36	164	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			3%			1%	
Storage Length (ft)	250		0	200		0	200		0	0		325
Storage Lanes	1		0	1		0	1		0	1		1
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		0.981			0.998			0.928			0.915	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1827	0	1787	1878	0	1743	1703	0	1761	1696	0
Flt Permitted	0.110			0.325			0.260			0.636		
Satd. Flow (perm)	205	1827	0	611	1878	0	477	1703	0	1179	1696	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			50	
Link Distance (ft)		1088			1155			3541			1529	
Travel Time (s)		16.5			17.5			53.7			20.9	
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)	90	564	80	69	974	11	88	89	83	40	182	241
Shared Lane Traffic (%)												
Lane Group Flow (vph)	90	644	0	69	985	0	88	172	0	40	423	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	20.4	20.4		20.4	20.4		13.0	13.0		13.0	13.0	
Total Split (s)	90.0	90.0		90.0	90.0		20.0	20.0		20.0	20.0	
Total Split (%)	81.8%	81.8%		81.8%	81.8%		18.2%	18.2%		18.2%	18.2%	
Maximum Green (s)	83.6	83.6		83.6	83.6		14.0	14.0		14.0	14.0	
Yellow Time (s)	5.4	5.4		5.4	5.4		4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.3	1.3		1.3	1.3	
Lost Time Adjust (s)	-1.4	-1.4		-1.4	-1.4		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	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		2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.4	3.4		3.4	3.4		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	
Time To Reduce (s)	45.0	45.0		45.0	45.0		0.0	0.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)	40.2	40.2		40.2	40.2		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.61	0.61		0.61	0.61		0.23	0.23		0.23	0.23	
v/c Ratio	0.73	0.58		0.19	0.86		0.79	0.43		0.14	1.07	
Control Delay	43.8	9.5		6.2	18.8		77.2	29.4		26.9	94.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings
 1: Averette Road & Wait Avenue

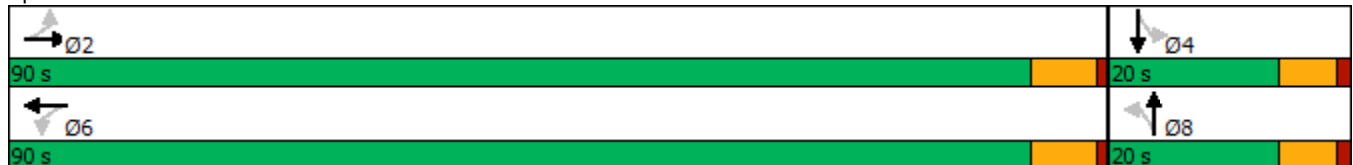
2029 No-Build
 Timing Plan: AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	43.8	9.5		6.2	18.8		77.2	29.4		26.9	94.7	
LOS	D	A		A	B		E	C		C	F	
Approach Delay		13.7			18.0			45.6				88.9
Approach LOS		B			B			D				F
Queue Length 50th (ft)	21	132		10	274		32	57		12	~186	
Queue Length 95th (ft)	#113	198		24	427		#145	152		47	#489	
Internal Link Dist (ft)		1008			1075			3461			1449	
Turn Bay Length (ft)	250			200			200					
Base Capacity (vph)	204	1823		610	1874		111	398		276	397	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.44	0.35		0.11	0.53		0.79	0.43		0.14	1.07	

Intersection Summary






















Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	66
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.07
Intersection Signal Delay:	32.7
Intersection LOS:	C
Intersection Capacity Utilization:	102.9%
ICU Level of Service:	G
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 1: Averette Road & Wait Avenue



Lanes, Volumes, Timings
1: Averette Road & Wait Avenue

2029 No-Build
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	734	129	56	597	29	78	127	72	14	100	144
Future Volume (vph)	208	734	129	56	597	29	78	127	72	14	100	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			3%			1%	
Storage Length (ft)	250		0	200		0	200		0	0		325
Storage Lanes	1		0	1		0	1		0	1		1
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		0.978			0.993			0.946			0.911	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1822	0	1787	1868	0	1743	1736	0	1761	1688	0
Flt Permitted	0.294			0.131			0.436			0.533		
Satd. Flow (perm)	548	1822	0	246	1868	0	800	1736	0	988	1688	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			50	
Link Distance (ft)		1088			1155			3541			1529	
Travel Time (s)		16.5			17.5			53.7			20.9	
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)	231	816	143	62	663	32	87	141	80	16	111	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	231	959	0	62	695	0	87	221	0	16	271	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	20.4	20.4		20.4	20.4		13.0	13.0		13.1	13.1	
Total Split (s)	90.0	90.0		90.0	90.0		20.0	20.0		20.0	20.0	
Total Split (%)	81.8%	81.8%		81.8%	81.8%		18.2%	18.2%		18.2%	18.2%	
Maximum Green (s)	83.6	83.6		83.6	83.6		14.0	14.0		14.0	14.0	
Yellow Time (s)	5.4	5.4		5.4	5.4		4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.3	1.3		1.3	1.3	
Lost Time Adjust (s)	-1.4	-1.4		-1.4	-1.4		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	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		2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.4	3.4		3.4	3.4		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	
Time To Reduce (s)	45.0	45.0		45.0	45.0		0.0	0.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)	41.3	41.3		41.3	41.3		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.61	0.61		0.61	0.61		0.23	0.23		0.23	0.23	
v/c Ratio	0.69	0.86		0.41	0.60		0.47	0.55		0.07	0.70	
Control Delay	19.7	18.6		14.9	9.8		38.4	33.3		27.8	39.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings
1: Averette Road & Wait Avenue

2029 No-Build
Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	19.7	18.6		14.9	9.8		38.4	33.3		27.8	39.1	
LOS	B	B		B	A		D	C		C	D	
Approach Delay		18.8			10.2			34.7				38.5
Approach LOS		B			B			C				D
Queue Length 50th (ft)	53	267		11	147		29	76		5	97	
Queue Length 95th (ft)	129	417		36	217		#117	#227		26	#302	
Internal Link Dist (ft)		1008			1075			3461			1449	
Turn Bay Length (ft)	250			200			200					
Base Capacity (vph)	543	1806		244	1852		184	400		228	389	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.43	0.53		0.25	0.38		0.47	0.55		0.07	0.70	

Intersection Summary






















Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	67.2
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	20.4
Intersection LOS:	C
Intersection Capacity Utilization:	94.7%
ICU Level of Service:	F
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 1: Averette Road & Wait Avenue



Lanes, Volumes, Timings
1: Averette Road & Wait Avenue

2029 No-Build
Timing Plan: AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	508	76	65	877	10	87	80	80	36	164	217
Future Volume (vph)	81	508	76	65	877	10	87	80	80	36	164	217
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			3%			1%	
Storage Length (ft)	250		0	200		0	200		0	0		325
Storage Lanes	1		0	1		0	1		0	1		1
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		0.981			0.998			0.925			0.915	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1827	0	1787	1878	0	1743	1697	0	1761	1696	0
Flt Permitted	0.110			0.322			0.260			0.624		
Satd. Flow (perm)	205	1827	0	606	1878	0	477	1697	0	1157	1696	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			50	
Link Distance (ft)		1088			1155			2666			1529	
Travel Time (s)		16.5			17.5			40.4			20.9	
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)	90	564	84	72	974	11	97	89	89	40	182	241
Shared Lane Traffic (%)												
Lane Group Flow (vph)	90	648	0	72	985	0	97	178	0	40	423	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	20.4	20.4		20.4	20.4		13.0	13.0		13.0	13.0	
Total Split (s)	90.0	90.0		90.0	90.0		20.0	20.0		20.0	20.0	
Total Split (%)	81.8%	81.8%		81.8%	81.8%		18.2%	18.2%		18.2%	18.2%	
Maximum Green (s)	83.6	83.6		83.6	83.6		14.0	14.0		14.0	14.0	
Yellow Time (s)	5.4	5.4		5.4	5.4		4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.3	1.3		1.3	1.3	
Lost Time Adjust (s)	-1.4	-1.4		-1.4	-1.4		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	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		2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.4	3.4		3.4	3.4		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	
Time To Reduce (s)	45.0	45.0		45.0	45.0		0.0	0.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)	40.2	40.2		40.2	40.2		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.61	0.61		0.61	0.61		0.23	0.23		0.23	0.23	
v/c Ratio	0.73	0.58		0.20	0.86		0.87	0.45		0.15	1.07	
Control Delay	43.8	9.6		6.4	18.8		91.7	29.7		26.9	94.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings
1: Averette Road & Wait Avenue

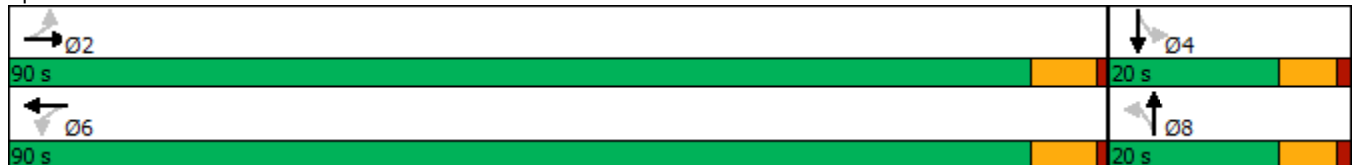
2029 No-Build
Timing Plan: AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	43.8	9.6		6.4	18.8		91.7	29.7		26.9	94.7	
LOS	D	A		A	B		F	C		C	F	
Approach Delay		13.8			18.0			51.6			88.9	
Approach LOS		B			B			D			F	
Queue Length 50th (ft)	21	133		11	274		36	59		12	~186	
Queue Length 95th (ft)	#113	200		25	427		#160	156		47	#489	
Internal Link Dist (ft)		1008			1075			2586			1449	
Turn Bay Length (ft)	250			200			200					
Base Capacity (vph)	204	1823		605	1874		111	397		271	397	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.44	0.36		0.12	0.53		0.87	0.45		0.15	1.07	

Intersection Summary





















Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	66
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.07
Intersection Signal Delay:	33.4
Intersection LOS:	C
Intersection Capacity Utilization:	102.9%
ICU Level of Service:	G
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 1: Averette Road & Wait Avenue



Lanes, Volumes, Timings
1: Averette Road & Wait Avenue

2029 No-Build
Timing Plan: PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	734	138	61	597	29	86	127	76	14	100	144
Future Volume (vph)	208	734	138	61	597	29	86	127	76	14	100	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			3%			1%	
Storage Length (ft)	250		0	200		0	200		0	0		325
Storage Lanes	1		0	1		0	1		0	1		1
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		0.976			0.993			0.944			0.911	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1818	0	1787	1868	0	1743	1732	0	1761	1688	0
Flt Permitted	0.296			0.128			0.430			0.520		
Satd. Flow (perm)	551	1818	0	241	1868	0	789	1732	0	964	1688	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		1088			1155			2666			1529	
Travel Time (s)		16.5			17.5			40.4			23.2	
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)	231	816	153	68	663	32	96	141	84	16	111	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	231	969	0	68	695	0	96	225	0	16	271	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	14.0	14.0		14.0	14.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	20.4	20.4		20.4	20.4		13.0	13.0		13.1	13.1	
Total Split (s)	90.0	90.0		90.0	90.0		20.0	20.0		20.0	20.0	
Total Split (%)	81.8%	81.8%		81.8%	81.8%		18.2%	18.2%		18.2%	18.2%	
Maximum Green (s)	83.6	83.6		83.6	83.6		14.0	14.0		14.0	14.0	
Yellow Time (s)	5.4	5.4		5.4	5.4		4.7	4.7		4.7	4.7	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.3	1.3		1.3	1.3	
Lost Time Adjust (s)	-1.4	-1.4		-1.4	-1.4		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	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		2.0	2.0		2.0	2.0	
Minimum Gap (s)	3.4	3.4		3.4	3.4		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	
Time To Reduce (s)	45.0	45.0		45.0	45.0		0.0	0.0		0.0	0.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)	42.2	42.2		42.2	42.2		15.5	15.5		15.5	15.5	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.23	0.23		0.23	0.23	
v/c Ratio	0.68	0.86		0.46	0.60		0.53	0.57		0.07	0.71	
Control Delay	19.0	18.8		17.0	9.7		42.3	34.6		28.6	40.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lanes, Volumes, Timings
1: Averette Road & Wait Avenue

2029 No-Build
Timing Plan: PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	19.0	18.8		17.0	9.7		42.3	34.6		28.6	40.2	
LOS	B	B		B	A		D	C		C	D	
Approach Delay		18.8			10.3			36.9			39.6	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	53	274		13	147		33	79		5	99	
Queue Length 95th (ft)	127	426		43	216		#136	#240		26	#311	
Internal Link Dist (ft)		1008			1075			2586			1449	
Turn Bay Length (ft)	250			200			200					
Base Capacity (vph)	544	1795		238	1844		180	394		219	384	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.42	0.54		0.29	0.38		0.53	0.57		0.07	0.71	

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	68.1
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	20.9
Intersection LOS:	C
Intersection Capacity Utilization:	95.3%
ICU Level of Service:	F
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 1: Averette Road & Wait Avenue



APPENDIX F

CAPACITY ANALYSIS CALCULATIONS

AVERETTE ROAD

&

JONES DAIRY ROAD

HCM 6th TWSC
2: Averette Road & Jones Dairy Road

2026 Existing
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	7.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑	↗	
Traffic Vol, veh/h	43	294	215	188	356	42
Future Vol, veh/h	43	294	215	188	356	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	125	0	150	-	-	-
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	48	327	239	209	396	47

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1107	420	443	0	-	0
Stage 1	420	-	-	-	-	-
Stage 2	687	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	233	633	1117	-	-	-
Stage 1	663	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	183	633	1117	-	-	-
Mov Cap-2 Maneuver	183	-	-	-	-	-
Stage 1	521	-	-	-	-	-
Stage 2	499	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.5	4.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1117	-	183	633	-	-
HCM Lane V/C Ratio	0.214	-	0.261	0.516	-	-
HCM Control Delay (s)	9.1	-	31.5	16.6	-	-
HCM Lane LOS	A	-	D	C	-	-
HCM 95th %tile Q(veh)	0.8	-	1	3	-	-

HCM 6th TWSC
 2: Averette Road & Jones Dairy Road

2026 Existing
 Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	250	253	279	220	33
Future Vol, veh/h	25	250	253	279	220	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	125	0	150	-	-	-
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	28	278	281	310	244	37

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1135	263	281	0	-	0
Stage 1	263	-	-	-	-	-
Stage 2	872	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	224	776	1282	-	-	-
Stage 1	781	-	-	-	-	-
Stage 2	409	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	175	776	1282	-	-	-
Mov Cap-2 Maneuver	175	-	-	-	-	-
Stage 1	610	-	-	-	-	-
Stage 2	409	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.8	4.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1282	-	175	776	-	-
HCM Lane V/C Ratio	0.219	-	0.159	0.358	-	-
HCM Control Delay (s)	8.6	-	29.4	12.2	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.8	-	0.6	1.6	-	-

Intersection						
Int Delay, s/veh	9.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	342	240	222	444	45
Future Vol, veh/h	47	342	240	222	444	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	125	0	150	-	-	-
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	52	380	267	247	493	50

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1299	518	543	0	-	0
Stage 1	518	-	-	-	-	-
Stage 2	781	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	178	558	1026	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	451	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	132	558	1026	-	-	-
Mov Cap-2 Maneuver	132	-	-	-	-	-
Stage 1	443	-	-	-	-	-
Stage 2	451	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.1	5.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1026	-	132	558	-	-
HCM Lane V/C Ratio	0.26	-	0.396	0.681	-	-
HCM Control Delay (s)	9.7	-	49.1	24.1	-	-
HCM Lane LOS	A	-	E	C	-	-
HCM 95th %tile Q(veh)	1	-	1.7	5.2	-	-

Intersection						
Int Delay, s/veh	6.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	285	299	365	277	38
Future Vol, veh/h	28	285	299	365	277	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	125	0	150	-	-	-
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	31	317	332	406	308	42

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1399	329	350	0	-	0
Stage 1	329	-	-	-	-	-
Stage 2	1070	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	155	712	1209	-	-	-
Stage 1	729	-	-	-	-	-
Stage 2	329	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	112	712	1209	-	-	-
Mov Cap-2 Maneuver	112	-	-	-	-	-
Stage 1	529	-	-	-	-	-
Stage 2	329	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.1	4.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1209	-	112	712	-	-
HCM Lane V/C Ratio	0.275	-	0.278	0.445	-	-
HCM Control Delay (s)	9.1	-	49.1	14	-	-
HCM Lane LOS	A	-	E	B	-	-
HCM 95th %tile Q(veh)	1.1	-	1	2.3	-	-

Intersection						
Int Delay, s/veh	10					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	342	240	233	463	45
Future Vol, veh/h	47	342	240	233	463	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	125	0	150	-	-	-
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	52	380	267	259	514	50

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1332	539	564	0	-	0
Stage 1	539	-	-	-	-	-
Stage 2	793	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	170	542	1008	-	-	-
Stage 1	585	-	-	-	-	-
Stage 2	446	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	125	542	1008	-	-	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	446	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	29	5	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1008	-	125	542	-	-
HCM Lane V/C Ratio	0.265	-	0.418	0.701	-	-
HCM Control Delay (s)	9.9	-	53.1	25.7	-	-
HCM Lane LOS	A	-	F	D	-	-
HCM 95th %tile Q(veh)	1.1	-	1.8	5.5	-	-

Intersection						
Int Delay, s/veh	6.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	285	299	387	295	38
Future Vol, veh/h	28	285	299	387	295	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	125	0	150	-	-	-
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	31	317	332	430	328	42

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1443	349	370	0	-	0
Stage 1	349	-	-	-	-	-
Stage 2	1094	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	146	694	1189	-	-	-
Stage 1	714	-	-	-	-	-
Stage 2	321	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	105	694	1189	-	-	-
Mov Cap-2 Maneuver	105	-	-	-	-	-
Stage 1	515	-	-	-	-	-
Stage 2	321	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18	4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1189	-	105	694	-	-
HCM Lane V/C Ratio	0.279	-	0.296	0.456	-	-
HCM Control Delay (s)	9.2	-	53.1	14.5	-	-
HCM Lane LOS	A	-	F	B	-	-
HCM 95th %tile Q(veh)	1.2	-	1.1	2.4	-	-

APPENDIX G

CAPACITY ANALYSIS CALCULATIONS

AVERETTE ROAD

&

SITE ACCESS

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	19	11	273	436	7
Future Vol, veh/h	13	19	11	273	436	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	3	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	21	12	303	484	8

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	815	488	492	0	0
Stage 1	488	-	-	-	-
Stage 2	327	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	347	580	1071	-	-
Stage 1	617	-	-	-	-
Stage 2	731	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	343	580	1071	-	-
Mov Cap-2 Maneuver	343	-	-	-	-
Stage 1	610	-	-	-	-
Stage 2	731	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.6	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1071	-	453	-	-
HCM Lane V/C Ratio	0.011	-	0.078	-	-
HCM Control Delay (s)	8.4	-	13.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↑	↑	
Traffic Vol, veh/h	12	18	22	330	285	14
Future Vol, veh/h	12	18	22	330	285	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	50	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	3	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	20	24	367	317	16

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	740	325	333	0	-	0
Stage 1	325	-	-	-	-	-
Stage 2	415	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	384	716	1226	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	376	716	1226	-	-	-
Mov Cap-2 Maneuver	376	-	-	-	-	-
Stage 1	717	-	-	-	-	-
Stage 2	666	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1226	-	526	-	-
HCM Lane V/C Ratio	0.02	-	0.063	-	-
HCM Control Delay (s)	8	-	12.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

APPENDIX H

SIMTRAFFIC QUEUEING REPORTS

Intersection: 1: Averette Road & Wait Avenue

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	LTR	LT	R
Maximum Queue (ft)	66	181	62	229	264	187	136
Average Queue (ft)	25	77	20	116	112	73	60
95th Queue (ft)	57	148	47	209	210	143	116
Link Distance (ft)		1035		1109	3461	1480	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	225		200				325
Storage Blk Time (%)		0		1			
Queuing Penalty (veh)		0		0			

Intersection: 2: Averette Road & Jones Dairy Road

Movement	EB	EB	NB	NB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (ft)	66	109	127	35	32
Average Queue (ft)	17	39	52	1	1
95th Queue (ft)	44	80	99	24	12
Link Distance (ft)		2428		1875	3714
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	125		150		
Storage Blk Time (%)		0	0	0	
Queuing Penalty (veh)		0	0	0	

Network Summary

Network wide Queuing Penalty: 1

Intersection: 1: Averette Road & Wait Avenue

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	LTR	LT	R
Maximum Queue (ft)	87	293	64	188	351	118	116
Average Queue (ft)	36	135	22	72	159	43	46
95th Queue (ft)	70	235	50	146	302	90	93
Link Distance (ft)		1035		1109	3461	1480	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	225		200				325
Storage Blk Time (%)		1		0			
Queuing Penalty (veh)		1		0			

Intersection: 2: Averette Road & Jones Dairy Road

Movement	EB	EB	NB	SB
Directions Served	L	R	L	TR
Maximum Queue (ft)	50	79	130	13
Average Queue (ft)	10	26	46	0
95th Queue (ft)	29	59	89	5
Link Distance (ft)		2428		3714
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	125		150	
Storage Blk Time (%)			0	
Queuing Penalty (veh)			1	

Network Summary

Network wide Queuing Penalty: 2

Intersection: 1: Averette Road & Wait Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	109	188	115	356	278	920	1514	425
Average Queue (ft)	46	85	25	158	194	327	1235	425
95th Queue (ft)	88	154	73	292	332	953	1780	426
Link Distance (ft)		1041		1102		3459	1482	
Upstream Blk Time (%)							46	
Queuing Penalty (veh)							0	
Storage Bay Dist (ft)	250		200		200			325
Storage Blk Time (%)				3	44	3	0	94
Queuing Penalty (veh)				2	68	2	1	34

Intersection: 2: Averette Road & Jones Dairy Road

Movement	EB	EB	NB	SB
Directions Served	L	R	L	TR
Maximum Queue (ft)	135	187	133	30
Average Queue (ft)	23	63	62	2
95th Queue (ft)	71	133	107	17
Link Distance (ft)		2428		3714
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	125		150	
Storage Blk Time (%)		2	0	
Queuing Penalty (veh)		1	0	

Network Summary

Network wide Queuing Penalty: 107

Intersection: 1: Averette Road & Wait Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	175	340	88	176	288	1169	489	373
Average Queue (ft)	70	158	31	82	196	483	188	258
95th Queue (ft)	130	285	68	153	340	1594	641	457
Link Distance (ft)		1041		1102		3459	1482	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	250		200		200			325
Storage Blk Time (%)	0	1		0	42	5	1	25
Queuing Penalty (veh)	0	3		0	84	4	3	4

Intersection: 2: Averette Road & Jones Dairy Road

Movement	EB	EB	NB	NB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (ft)	36	98	155	30	18
Average Queue (ft)	12	35	63	1	2
95th Queue (ft)	31	75	121	21	11
Link Distance (ft)		2428		1875	3714
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	125		150		
Storage Blk Time (%)		0	0	0	
Queuing Penalty (veh)		0	1	0	

Network Summary

Network wide Queuing Penalty: 99

Intersection: 1: Averette Road & Wait Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	117	192	74	294	300	1856	1526	425
Average Queue (ft)	45	89	25	148	266	961	1258	424
95th Queue (ft)	91	162	59	258	360	2142	1756	438
Link Distance (ft)		1041		1106		2587	1482	
Upstream Blk Time (%)							39	
Queuing Penalty (veh)							0	
Storage Bay Dist (ft)	250		200		200			325
Storage Blk Time (%)				2	80	6	0	94
Queuing Penalty (veh)				2	128	5	1	34

Intersection: 2: Averette Road & Jones Dairy Road

Movement	EB	EB	NB	SB
Directions Served	L	R	L	TR
Maximum Queue (ft)	67	195	134	24
Average Queue (ft)	22	67	66	1
95th Queue (ft)	51	132	110	11
Link Distance (ft)		2430		4562
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	125		150	
Storage Blk Time (%)		2	0	
Queuing Penalty (veh)		1	0	

Intersection: 3: Averette Road & Site Access

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	46	22
Average Queue (ft)	19	3
95th Queue (ft)	42	18
Link Distance (ft)	1696	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		50
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 170

Intersection: 1: Averette Road & Wait Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	152	341	128	230	300	1441	443	392
Average Queue (ft)	73	162	39	100	256	746	87	251
95th Queue (ft)	136	286	95	187	361	1881	367	410
Link Distance (ft)		1041		1106		2587	1482	
Upstream Blk Time (%)						3		
Queuing Penalty (veh)						11		
Storage Bay Dist (ft)	250		200		200			325
Storage Blk Time (%)		1	0	0	72	27	1	13
Queuing Penalty (veh)		3	1	0	147	23	2	2

Intersection: 2: Averette Road & Jones Dairy Road

Movement	EB	EB	NB	SB
Directions Served	L	R	L	TR
Maximum Queue (ft)	44	79	122	20
Average Queue (ft)	11	35	54	1
95th Queue (ft)	31	69	99	11
Link Distance (ft)		2430		4562
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	125		150	
Storage Blk Time (%)		0	0	
Queuing Penalty (veh)		0	0	

Intersection: 3: Averette Road & Site Access

Movement	EB	NB	NB
Directions Served	LR	L	T
Maximum Queue (ft)	50	60	296
Average Queue (ft)	17	8	42
95th Queue (ft)	51	42	407
Link Distance (ft)	1696		4562
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		50	
Storage Blk Time (%)		0	4
Queuing Penalty (veh)		0	1

Network Summary

Network wide Queuing Penalty: 191

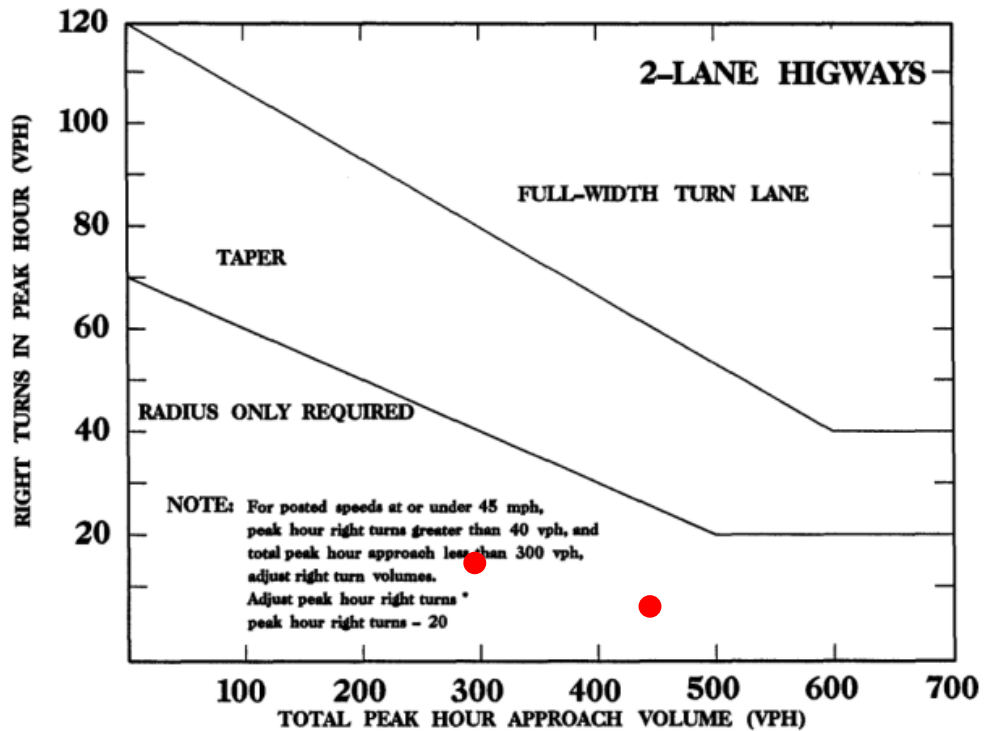
APPENDIX I

TURN LANE WARRANTS

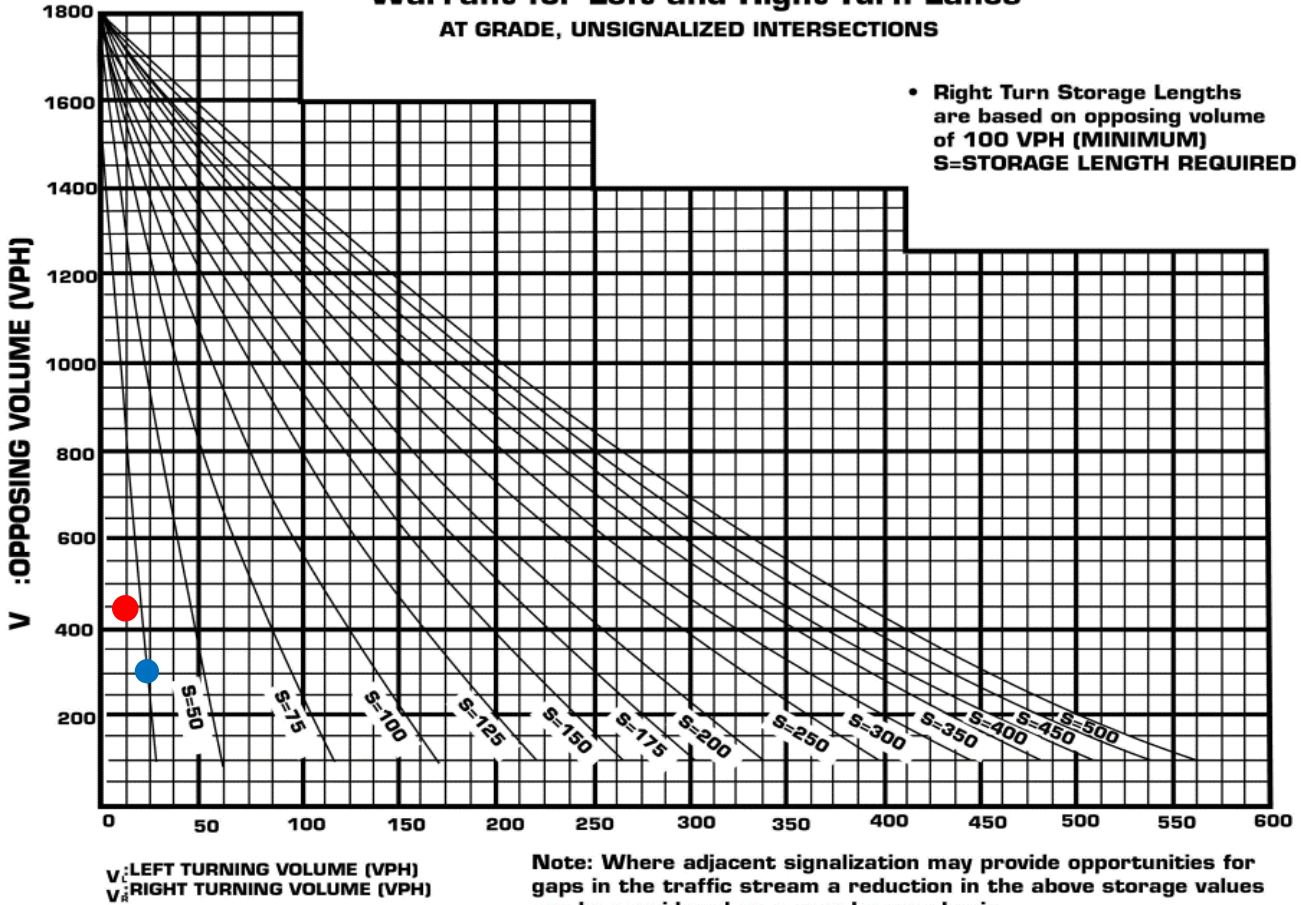
Averette Road and Site Access

2029 Build				
Peak Hour	Approach	Right Turn Volume	Approach Volume	Warranted?
AM	Southbound	7	443	No
PM	Southbound	14	299	No

RIGHT TURN LANE WARRANTS



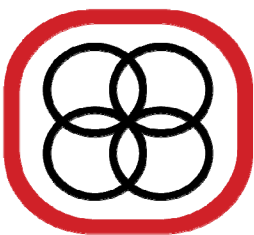
Warrant for Left and Right-Turn Lanes
 AT GRADE, UNSIGNALIZED INTERSECTIONS



Policy On Street And Driveway Access to North Carolina Highways

INTERSECTION: Averette Road and Site Access

SCENARIO	Movement	Turn Lane	Turning Volume (V _R /V _L)	Approach / Opposing Volume (V _A /V _O)	Symbol
AM Build	NBL	Left	11	443	●
PM Build	NBL	Left	22	299	●
					●
					●



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