

September 18, 2018

Danny Johnson
Town of Rolesville
502 Southtown Circle
PO Box 250
Rolesville, NC 27571
danny.johnson@rolesville.nc.gov

Reference: Jones Dairy Road Residential
Rolesville, North Carolina

Subject: Memorandum of Understanding for TIA Report

Dear Mr. Johnson:

The following is a Memorandum of Understanding (MOU) outlining the proposed scope of work and assumptions to be included in the Traffic Impact Analysis (TIA) report for the proposed residential development to be located along Jones Dairy Road, west of Averette Road in Rolesville, North Carolina.

The proposed development, anticipated to be completed in 2024, is expected to consist of the following land uses:

- 600 single-family detached homes
- 250 townhomes

Access to the site is proposed via one (1) full movement site driveway along Averette Road and four (4) full movement site driveways along Jones Dairy Road. Site access will also be provided via roadway connections to Alfalfa Lane, Winter Spring Drive, Flash Drive, and Sweetclover Drive. A general site plan has been attached for your reference.

Study Area

The study area is proposed to consist of the following existing intersections:

- Jones Dairy Road and Averette Road
- Main Street and Young Street
- Jones Dairy Road and NC 98
- Averette Road and NC 98
- Jones Dairy Road and Winter Spring Drive
- Jones Dairy Road and Alfalfa Lane
- Jones Dairy Road and Flash Drive

Existing Traffic Volumes

Peak hour turning movement counts were collected at the following existing study intersections by Ramey Kemp & Associates, Inc. (RKA) in January of 2018 during typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak hours

- Jones Dairy Road and NC 98

Peak hour turning movement counts were collected at the following existing study intersections by Burns Service Inc. in May of 2018 during typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak hours:

- Main Street and Young Street
- Averette Road and NC 98

Peak hour turning movement counts were collected at the following existing study intersections by RKA in September of 2018 during typical weekday AM (7:00 AM – 9:30 AM) and PM (3:30 PM – 6:00 PM) peak hours:

- Jones Dairy Road and Averette Road
- Jones Dairy Road and Winter Spring Drive
- Jones Dairy Road and Alfalfa Lane
- Jones Dairy Road and Flash Drive

It should be noted that these counts were collected while local schools were in session. Traffic volumes were balanced between intersections, where appropriate. An existing (2018) peak hour traffic volumes figure has been attached for your reference.

Background Traffic Volumes

Background traffic volumes will be determined by projecting existing (2018) traffic volumes to the build-out year using a 3% annual growth rate. Historical ADT data on Averette Road and Jones Dairy Road was utilized to determine the annual growth rate.

It was determined, through coordination with the Town of Rolesville (Town) that three (3) adjacent developments were to be included in the future analysis scenarios. The adjacent developments to be considered for the purpose of this study include the following:

- *Perry Farms*: This residential development is to be located along Averette Road, north of Edgefield Drive and will consist of 116 single-family homes. The development was committed to the construction of a northbound left-turn lane at the intersection of Averette Road and Sweetclover Drive, which is currently built.
- *Elizabeth Heights*: This residential development is to be located along Averette Road, south of Old Pearce Road and will consist of 94 single-family homes and 108 townhomes. There are no committed improvements associated with this development.
- *Thales Academy*: This residential and school development is to be located in the southwest quadrant of the intersection of Averette Road and NC 98 and will consist of 115 single-family homes and a 1,100 student private school. The development is committed to an exclusive northbound left-turn lane and an exclusive eastbound right-turn lane at the intersection of Averette Road and NC 98.

- *Averette Ridge*: This residential development is currently being constructed along Jones Dairy Road, east of Alfalfa lane and will consist of 159 single-family homes. Currently, 124 homes are built and the trips associated with these homes were captured in the existing traffic volumes. Trips will be generated and distributed through the roadway network for the remaining 35 homes to be constructed along Flash Drive and Shadowdale Lane. The development was committed to the construction of a westbound left-turn lane at the intersection of Jones Dairy Road and Flash Drive.

Traffic from the adjacent developments will be distributed according to their approved TIAs.

Trip Generation

Average weekday daily and peak hour trips for the proposed site were calculated utilizing methodology contained within the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition. Refer to Table 1 for a detailed breakdown of the trip generation.

Table 1: Trip Generation Summary

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	AM Peak Hour Trips (vph)		PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Single Family Detached (210)	600 Homes	5,410	108	323	357	210
Multifamily Housing (Low-Rise) (220)	250 Units	1,850	26	88	84	49
Total		7,260	134	411	441	259

Trip Distribution

The proposed site trip distribution utilizes existing traffic patterns, population centers, and engineering judgment. A summary of the overall distribution is below:

- 35% to/from the south via Young Street
- 30% to/from the west via Main Street
- 20% to/from the west via NC 98
- 10% to/from the east via NC 98
- 5% to/from the north via Traditions Grande Boulevard

A site trip distribution figure has been attached for your reference.

Analysis Scenarios

All capacity analyses will be performed utilizing Synchro 9.2. All study intersections will be analyzed during the weekday AM and PM peak hours under the following proposed traffic scenarios:

- Existing (2018) Traffic Conditions
- Background (2024) Traffic Conditions
- Combined (2024) Traffic Conditions

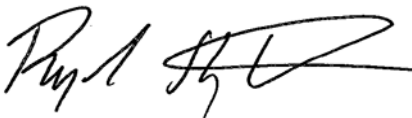
Report

The TIA report will be prepared based on Town of Rolesville and the North Carolina Department of Transportation (NCDOT) requirements.

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

Sincerely,

Ramey Kemp & Associates, Inc.



Rynal Stephenson, P.E.
Transportation Manager

Attachments: Preliminary Site Plan
Existing (2018) Traffic Volumes Figure
Site Trip Distribution Figure

cc: Scott Wheeler, NCDOT

NORTHERNMOST TRACT
140+/- SINGLE FAMILY
60+/- TOWNHOMES

WINTER SPRING DR.
60' PUBLIC R/W

SWEET CLOVER DR.
60' PUBLIC R/W

SWEET CLOVER DR.
60' PUBLIC R/W

MIDDLE TRACT
241+/- SINGLE FAMILY
178+/- TOWNHOMES

SOUTHERN TRACT
202 +/- SINGLE FAMILY

CHARACTER DRIVE

SHADOWDALE LANE

OPEN SPACE AND PRIVATE DRAINAGE ACCESS EASEMENT

W 47° 40' 20" N

S 89° 06' 03" E

N 89° 06' 03" E

N 88° 24' 10" W

S 89° 06' 03" W

N 85° 11' 55" W

S 89° 06' 03" E 263.77' N 89° 06' 03" E 438.03' N 89° 49' 16" E 669.03' N 89° 50' 48" E 812.983'

S 85° 21' 33" E 222.44'

1062.77' N 88° 23' 51" W 358' N 88° 24' 10" W 990.07'

2,141,699 sq. ft.
49.157 AC

SPINDLE 96,661 sq. ft.
2.216 AC

1,549,332 sq. ft.
35.568 AC

731,441 sq. ft.
16.792 AC

FERRY FAMILY FARM, L.P.
D.S. 11465, P.C. 1587
P.M.S. 1789.02-88-8905

JONES DAIRY ROAD 60' PUBLIC R/W

FLASH DR. 60' PUBLIC R/W

ALFAFA LANE 60' PUBLIC R/W

DAVEBREAK DR. 60' PUBLIC R/W

CHARACTER DR. 60' PUBLIC R/W

SHADOWDALE LANE

SPINDLE 96,661 sq. ft. 2.216 AC

1,549,332 sq. ft. 35.568 AC

731,441 sq. ft. 16.792 AC

731,441 sq. ft. 16.792 AC

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731,441 sq. ft. 16.792 AC

EDGEFIELD DRIVE

SPINDLE 96,661 sq. ft. 2.216 AC

1,549,332 sq. ft. 35.568 AC

731,441 sq. ft. 16.792 AC

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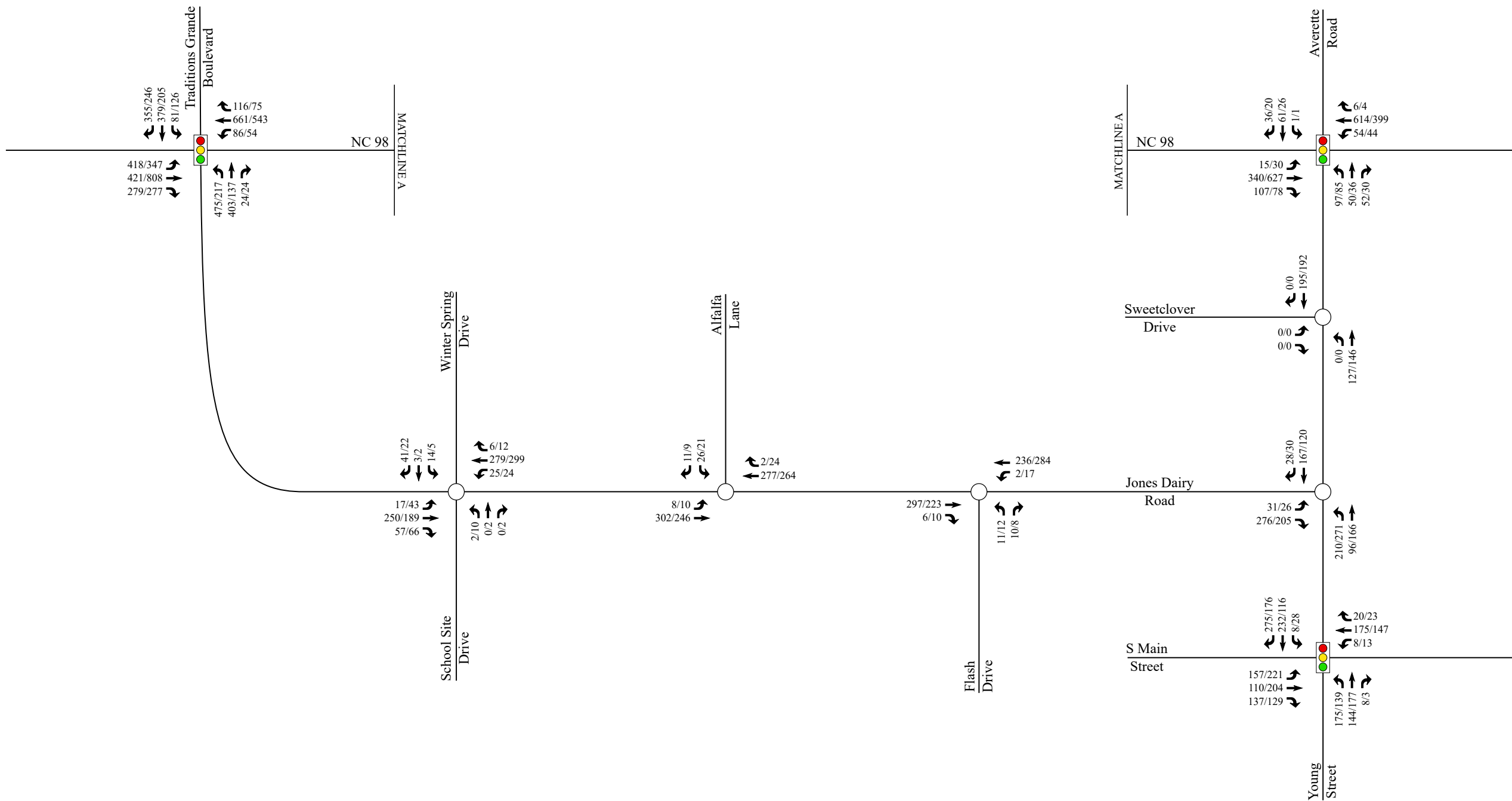
AVERETTE ROAD 60' PUBLIC R/W

2098.37'

1394.09'

1348.43'

668.03'



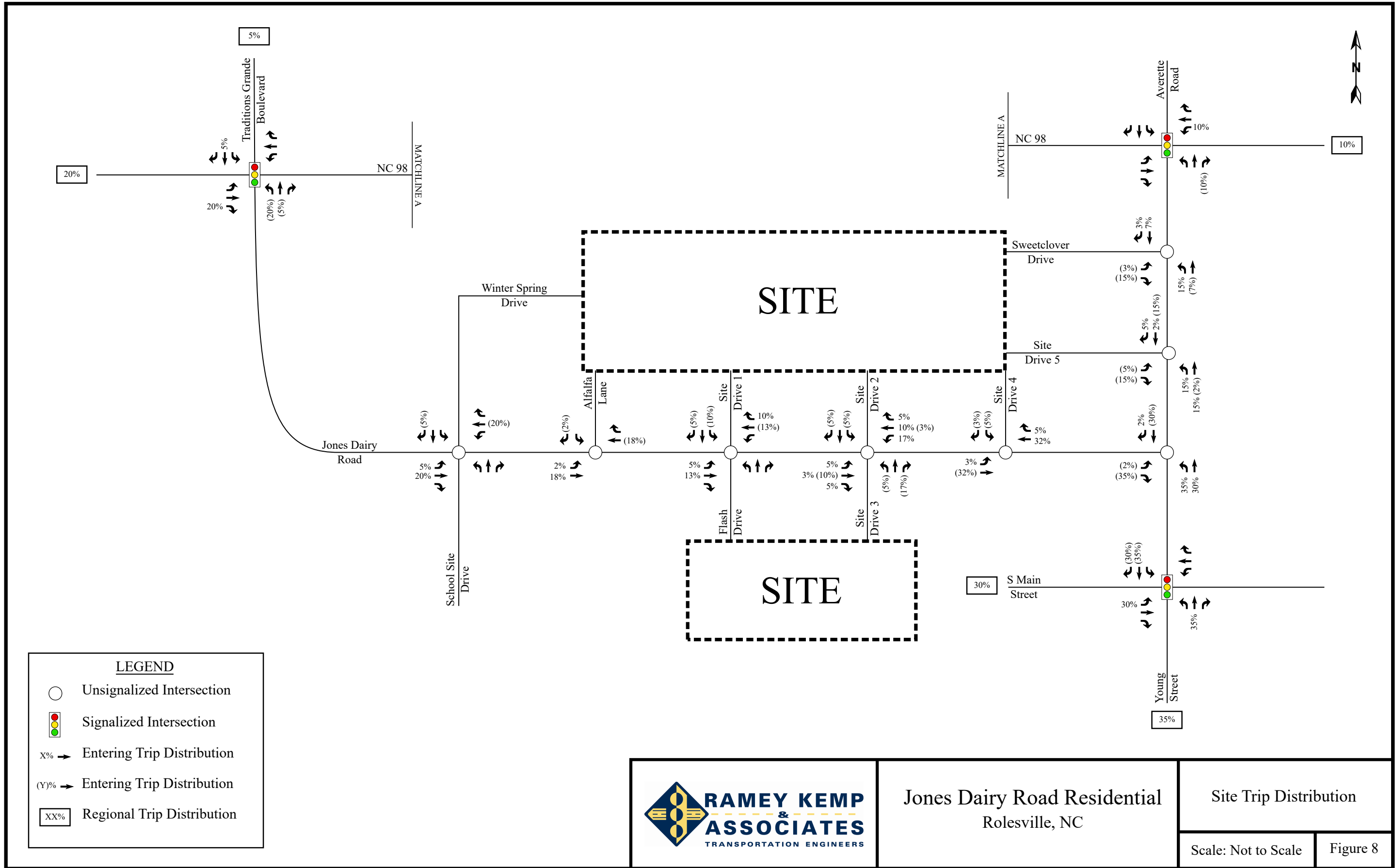
LEGEND	
	Unsignalized Intersection
	Signalized Intersection
X/Y →	Weekday AM / PM Peak Hour Traffic



Jones Dairy Road Residential
Rolesville, NC

Existing (2018)
Peak Hour Traffic Volumes

Scale: Not to Scale Figure 4



Jones Dairy Road Residential
Rolesville, NC

Site Trip Distribution
Scale: Not to Scale Figure 8