Town of Rolesville, NC
Department of Planning

502 Southtown Circle
Rolesville, NC 27571
Phone: (919) 556-3506

Comments on #REZ-25-0002 - Planning & Zoning: Rezoning (Map Amendment)

Application Number: #REZ-25-0002
Application Type: Rezoning (Map Amendment)
Date: May 18, 2026
Address: 0 N Main ROLESVILLE

THIS DOCUMENT IS NOT YOUR PERMIT.

The Rolesville Planning Department has reviewed your application for a Rezoning (Map Amendment) Application and has responded with a set of comments that require your attention. These comments must be addressed in full before an approval will be issued.

Reviewing this document on GovWell, our online portal, will allow you to view interactive markups on the document. If you are viewing this as a PDF or offline, a list of all comments will be provided below in this cover sheet. These comments must be acknowledged before a permit is issued.

After you have addressed all comments, please upload corrected versions of the plans by clicking here or by visiting https://app.govwell.com/record/3ca0250a-b4c3-40f4-9cbc-2d8a2fdc0933.

Contacts

Eddie Henderson Parks & Recreation	ehenderson@rolesvillenc.gov	Continued
Meredith Gruber Senior Planner	mgruber@rolesvillenc.gov	Approved
Michael Elabarger Assistant Planning Director	melabarger@rolesvillenc.gov	Continued
Michele Raby Planner II	mraby@rolesvillenc.gov	Approved
Tanner Hayslette Planner I	thayslette@rolesvillenc.gov	Continued

Thomas DeAveiro NCDOT Reviewer	tddeaveiro@ncdot.gov	No Comment
Timberly Southerland Associate	tsoutherland@foxrothschild.com	Continued

Comments on Plan

Reviewer feedback tied to specific locations on the plan. The number on each comment corresponds to a matching number marked on the plan page. Each comment must be resolved in GovWell.

1 TS Timberly Southerland
Associate

Review of Conditions to continue.

2026-04-17 SPEC24634_Conceptual Layout.pdf · Page 1 • May 18, 2026, 7:09pm

2 ME Michael Elabarger
Assistant Planning Director

Application is processing to Planning Board; policy recommendation has been made in that Staff Memo. Staff will continue to work with your team on processing it forward, or on any proposed revisions.

2026-04-17 SPEC24634_Conceptual Layout.pdf · Page 1 • May 18, 2026, 7:14pm

3 EH Eddie Henderson
Parks & Recreation

Is it possible to connect the sidepath to this sidewalk on Granite Falls Blvd.?

2026-04-17 SPEC24634_Conceptual Layout.pdf · Page 1 • May 13, 2026, 10:11am

4 MR Michele Raby
Planner II

Repeat comment- Please consider rearranging all front load to rear load.

2026-04-17 SPEC24634_Conceptual Layout.pdf · Page 1 • May 4, 2026, 1:55pm

5 TH Tanner Hayslette
Planner I

Please explain why this sidepath does not continue for the entirety of the frontage.

2026-04-17 SPEC24634_Conceptual Layout.pdf · Page 1 • May 11, 2026, 4:35pm

6 TD Thomas DeAveiro
NCDOT Reviewer

Will need driveway permits. North Main St. Driveway will be restricted to a right-in/right-out.

2026-04-17 SPEC24634_Conceptual Layout.pdf · Page 1 • May 18, 2026, 9:22am

7 MR Michele Raby
Planner II

Thank you for correcting the project name.

2026-04-17 SPEC24634_Conceptual Layout.pdf · Page 1 • May 4, 2026, 8:23am

8 MR Michele Raby
Planner II

Confirm these are applicable to the Terrell Plantation Covenants for the two single family dwelling units proposed to be located on Nortwick.

2026-04-27 Opal at Main Zoning Conditions.pdf · Page 1 • May 4, 2026, 1:59pm

9 MR Michele Raby
Planner II

Submit signed conditions to be included in the Board of Commissioners Agenda Packet.

2026-04-27 Opal at Main Zoning Conditions.pdf · Page 2 • May 4, 2026, 2:01pm

10 MR Michele Raby
Planner II

There are four parcels. Consider adding a fourth site address/ PIN, property owner name, date for clarity.

2026-04-27 Opal at Main Zoning Conditions.pdf · Page 2 • May 4, 2026, 2:00pm

11 MR Michele Raby
Planner II

Remove "preliminary" affix PLS seal before Legislative Hearing.

Alta Survey (4) properties combined_2026-04-28.PRELIMINARY.pdf · Page 1 • May 4, 2026, 2:00pm

12 MR Michele Raby
Planner II

Thank you for updating the survey and adding Mr. Lawrence's parcels.

Alta Survey (4) properties combined_2026-04-28.PRELIMINARY.pdf · Page 2 • May 4, 2026, 2:02pm

OPAL AT MAIN CONCEPTUAL LAYOUT

SITE DATA TABLE	
PIN(S)	1769027985, 1769029362, 1769123307, 1769121549
Total Site Area	± 11.5 acres
Current Zoning	RL
Proposed Zoning	RHD
Proposed Residential Units	± 66 DU
Townhome Units	± 64 units (33 Front Loaded) (31 Rear Loaded)
Single Family Lots	± 2 lots
Proposed Density	± 5.7 du/ac

LEGEND

- BUFFER
- SINGLE FAMILY LOT
- FRONT-LOADED TOWNHOME
- REAR-LOADED TOWNHOME

GRANITE FALLS BLVD.

EXISTING STREAM FEATURE AND 50' RIPARIAN BUFFER

SCM #1

TERELL DR.

NORTWICK RD.

MAIL KIOSK & GUEST PARKING

GUEST PARKING

WEST YOUNG ST.

ALLEY

STREET 'A'

STREET 'B'

10' MULTI-USE PATH

10' MULTI-USE PATH

NORTH MAIN ST.

MCADAMS

PREPARED FOR:
FISHER HOMES

SPEC24634

OPAL AT MAIN CONCEPTUAL LAYOUT
ROLLESVILLE, NORTH CAORLINA

0' 40'
SCALE: 1" =40'

01
04. 17. 2026

2026-04-17 SPEC24634_Conceptual Layout.pdf · Page 1

1 **Timberly Southerland**
Review of Conditions to continue.

2 **Michael Elabarger**
Application is processing to Planning Board; policy recommendation has been made in that Staff Memo. Staff will continue to work with your team on processing it forward, or on any proposed revisions.

3 **Eddie Henderson**
Is it possible to connect the sidepath to this sidewalk on Granite Falls Blvd.?

4 **Michele Raby**
Repeat comment- Please consider rearranging all front load to rear load.

5 **Tanner Hayslette**
Please explain why this sidepath does not continue for the entirety of the frontage.

6 **Thomas DeAveiro**
Will need driveway permits. North Main St. Driveway will be restricted to a right-in/right-out.

7 **Michele Raby**
Thank you for correcting the project name.

PIN: 1769029362 -REID: 0008831, PIN: 1769123307 -REID: 0089068 and
PIN: 1769027985 REID: 0054708
REZONING DESCRIPTION ZONED RL
11.42 ACRES – 497, 599 SQ.FT.

BEGINNING AT AN EXISTING IRON PIPE(EIP) AT THE INTERSECTION OF THE COMMON CORNER OF COLUMBIA PARK EAST MHP-KB LLC PIN: 1769029362 AND MARY C. PERRY PIN:1769027985 WITH THE EASTERN RIGHT-OF-WAY LINE OF WEST YOUNG STREET A VARIABLE WIDTH PUBLIC R/W, HAVING NC NAD83(2011) GRID COORDINATES OF N792765.52, E2160643.67;

- THENCE NORTH 00°30'05" WEST A DISTANCE OF 300.11 FEET TO AN IRON PIPE SET;
- THENCE NORTH 89°29'55" EAST A DISTANCE OF 277.69 FEET TO AN EXISTING IRON PIPE WITH CAP & TACK;
- THENCE SOUTH 00°30'05" EAST A DISTANCE OF 300.09 FEET TO AN EXISTING IRON PIPE;
- THENCE NORTH 89°29'34" EAST A DISTANCE OF 86.57 FEET TO AN IRON PIPE SET;
- THENCE SOUTH 23°18'55" EAST A DISTANCE OF 259.94 FEET TO AN IRON;
- THENCE NORTH 47°26'12" EAST A DISTANCE OF 186.41 FEET TO A POINT;
- THENCE SOUTH 39°18'41" EAST A DISTANCE OF 202.62 FEET TO A BENT IRON PIPE;
- THENCE SOUTH 18°43'39" EAST A DISTANCE OF 261.51 FEET TO A IRON PIPE;
- THENCE SOUTH 46°39'34" WEST A DISTANCE OF 224.48 FEET TO AN IRON PIPE SET;
- THENCE SOUTH 47°26'07" WEST A DISTANCE OF 13.21 FEET TO AN IRON PIPE SET;
- THENCE SOUTH 46°16'05" WEST A DISTANCE OF 75.48 FEET TO AN IRON PIPE SET;
- THENCE SOUTH 45°41'55" WEST A DISTANCE OF 44.33 FEET TO AN IRON PIPE SET;
- THENCE NORTH 43°20'46" WEST A DISTANCE OF 175.00 FEET TO AN EXISTING IRON PIPE;
- THENCE SOUTH 45°18'52" WEST A DISTANCE OF 124.99 FEET TO AN EXISTING IRON PIPE;
- THENCE NORTH 43°19'59" WEST A DISTANCE OF 239.77 FEET TO AN EXISTING IRON PIPE;
- THENCE NORTH 00°46'20" EAST A DISTANCE OF 31.00 FEET TO AN EXISTING IRON PIPE;
- THENCE NORTH 88°59'39" WEST A DISTANCE OF 181.51 FEET TO AN EXISTING IRON PIPE;
- THENCE NORTH 00°13'06" EAST A DISTANCE OF 81.12 FEET TO AN IRON PIPE SET;
- THENCE NORTH 00°08'24" EAST A DISTANCE OF 101.84 FEET AN IRON PIPE SET;
- THENCE NORTH 00°09'18" WEST A DISTANCE OF 102.45 FEET AN IRON PIPE SET;
- THENCE NORTH 00°47'29" WEST A DISTANCE OF 104.25 FEET TO AN IRON PIPE SET;
- THENCE NORTH 00°49'09" WEST A DISTANCE OF 122.38 FEET TO AN EXISTING IRON PIPE; WHICH IS THE **POINT OF BEGINNING**, HAVING AN AREA OF 11.42 ACRES – 497,599 SQUARE FEET.

PIN: 1769121549 REID: 0353430
REZONING DESCRIPTION ZONED RM-CZ
0.15 ACRES – 6,441 SQ.FT.

BEGINNING AT A POINT ALONG THE SOUTHERN RIGHT-OF-WAY LINE OF NORWICK ROAD A 50’ PUBLIC R/W, HAVING NC NAD83(2011) GRID COORDINATES OF N792599.43, E2161080.89;

- THENCE WITH A CURVE TURNING TO THE LEFT WITH AN ARC LENGTH OF 176.49 FEET, WITH A RADIUS OF 925.00 FEET, WITH A CHORD BEARING OF NORTH 70°13'16" EAST, WITH A CHORD LENGTH OF 176.22 FEET TO A REBAR;
- THENCE SOUTH 25°09'19" EAST A DISTANCE OF 3.25 FEET TO AN IRON PIPE SET;
- THENCE SOUTH 47°26'12" WEST A DISTANCE OF 186.41 FEET TO AN EXISTING IRON PIPE;

- THENCE NORTH 23°18'55" WEST A DISTANCE OF 75.57 FEET TO THE POINT OF BEGINNING,
- HAVING AN AREA OF 6,441 SQUARE FEET, 0.15 ACRES

Opal at Main Rezoning Justification Statement

1. **Is the application consistent with the Comprehensive Plan, Community Transportation Plan, Bicycle and Greenway Plans, and any other adopted Town policy plans?**
    - Yes and no. The proposed development does not align with the Comprehensive Plan, which designates this site as Commercial Center and Mixed Residential Community. These are intended to provide housing typologies such as duplexes and townhomes, as well multifamily and commercial uses. The proposed development consists of 62 townhome units and 2 single-family detached units to provide a cohesive transition with the existing neighborhood. While this does not align with the Comprehensive Plan, it provides a more logical transition of uses and density towards downtown. The lack of commercial in this proposal also means that it has significantly lower traffic impacts than it would have with commercial uses. Given the main concern of neighbors being traffic, this seems to be a way to alleviate those concerns.
    - The proposed development also aligns with the Community Transportation Plan and Bikeway and Greenway Plans. No road extensions are planned through the site on the CTP. The project will dedicate/construct the planned bike lane improvements on W. Young Street, as well as the sidewalk improvements.

2. **Does the application conflict with any provision of the LDO or the Town Code of Ordinances?**
    - No, the proposed project does not conflict with the LDO or other town ordinances. The proposed development complies with the LDO and Code of Ordinances. The proposed zoning conditions will ensure that the development is of a higher quality, above and beyond that which would be required by following the LDO alone. These conditions include enhanced architectural requirements, minimum square footage; limitations of the number of residential units in a building, minimum unit sizes, and the provision of a mailbox.

3. **Does the application correct any errors in the existing zoning present when it was adopted?**
    - No, the project does not correct any existing zoning errors. However, the proposed development has offered zoning conditions that will enhance the quality of the development and ensure even greater compatibility with the surrounding community. Additionally, the proposed development will however help to further the goals of the Comprehensive Plan in establishing medium density residential uses in this area; the Future Land Use Map identified this part of town for Medium Density residential uses.

4. **Does the rezoning allow uses compatible with existing and permitted uses on surrounding land/properties?**
    - The proposed zoning is compatible with existing surrounding uses. The surrounding properties are a mix of single-family homes and small, neighborhood-scale commercial uses. The proposed zoning would allow for townhomes which would be compatible with the surrounding development and would help to create a logical transition in use intensity going from the single-family homes to the commercial uses.

5. **Would the application ensure efficient development within the Town, including the capacity and safety of the street network, public facilities, and other similar considerations?**
    - Yes. The proposed development would ensure efficient development related to street network safety, capacity, and public facilities. Bike lanes will be added along W. Young Street, as well sidewalks, which will provide a safer option for cyclists and pedestrians to travel by, thus protecting all road users. The proposed streets will comply with the safety standards required by the Town and NCDOT.

6. **Would the application result in a logical and orderly development pattern?**
    - The proposed development application would result in a logical and orderly development pattern. The townhomes proposed for this development would help to create a stronger transition of uses from the commercial uses along Main Street and Young Street, then the proposed townhomes, and ultimately the existing single-family homes in the area. The site is located near Main Street Park, which is located on the opposite side of Young Street from the parcels included in this proposal. The development will provide housing within close proximity to the public park. This transition is logical. Though this is a deviation from the Future Land Use Plan by not providing commercial on this site, the rear loaded townhomes will activate the street frontages on Young and Main Street. There will be a transition in density up from the surrounding single-family development as you move towards Young and Main Street, which will encourage walkability and a logical development pattern. This will also lead to reduced traffic impacts compared to what commercial development of this site would have.

7. **Would the application result in adverse impacts on water, air, noise, stormwater management, wildlife, vegetation, wetlands, and the natural functioning of the environment?**
    - No, the proposed development will provide buffers for the stream on-site in accordance with state and town buffer requirements. Additionally, tree preservation areas have been identified and will be set aside for conservation, protecting the natural environment and preserving a key habitat for wildlife. The tree save will help to preserve and protect air quality. Additionally, stormwater detention will be provided on-site to manage the stormwater flows that will be impacted as part of this development.

8. **If a Conditional district providing proposed Conditions of Approval, do they address and mitigate the impacts reasonably expected to be generated by the development or use of the property, can they reasonably be implemented, and can they be enforced for the subject property, and will they result in no more significant impact on adjacent properties or the community at large than would be expected to occur by the permitted uses and the minimum development standards of the corresponding General zoning district.**
    - Yes, the conditions proposed as part this rezoning are intended to be implementable and will result in a development that is compatible with the surrounding community-reducing negative impacts to neighbors and ensuring a high-quality residential community character. The proposed zoning conditions will ensure that the development is of a higher quality, above and beyond that which would be required by following the

LDO alone. These conditions include enhanced architectural and façade material requirements, limitations of the number of residential units in a building, minimum unit sizes, and the provision of a mailbox as well garage door design and interior standards and requirements for covered entryway.

TECHNICAL APPENDIX

APPENDIX A

SCOPING DOCUMENTATION

DRMP

December 22, 2025

Michael Elabarger
Interim Planning Director
Town of Rolesville
211 S. Main Street
P.O. Box 250
Rolesville, NC 27571
P: 919-554-6517
E: michael.elabarger@rolesville.nc.gov

Reference: Opal at Main – Rolesville, NC

Subject: Memorandum of Understanding for TIA Report

Dear Michael:

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 Optal at Main development, to be located east along the intersection of Young Street and Nortwick Road in Rolesville, North Carolina. Refer to the attached site location map. The proposed development, expected to be completed in 2030, is assumed to consist of 2 single-family detached homes and 71 single-family attached homes. Site access is proposed via two (2) full-movement driveways, one (1) along Young Street and one (1) along North Main Street. Refer to the attached site plan.

Study Area

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

- Main Street & Young Street
- Main Street & Williams Street
- Young Street & Scarboro Street / Proposed Site Access A
- Young Street & Granite Falls Boulevard
- Main Street and Proposed Site Access B

Note: NCDOT has expressed concerns regarding the proximity of the Main Street site access B and existing Williams Street. The TIA will study the intersection as a full movement; however, recommendations may be necessary in order to shift the driveway to add more separation between the two intersections and/or restrict the access to prevent left-turn traffic.

Background Traffic Volumes

Traffic volumes will be estimated by projecting 2025 existing traffic volumes to the year 2030 using an annual growth rate. The historical AADT data attached from NCDOT indicates a growth rate of 1.30% in the study area. DRMP recommends using a background growth rate of 3.0 percent based on engineering judgement. Several factors were considered when making this judgment. There are several approved developments in the area that are under construction and expected to contribute to future growth. A 3.0 percent growth rate is commonly used in similar contexts and is considered appropriate to account for background traffic growth associated with nearby and planned developments. Major nearby developments with available traffic impact analyses will be included in the TIA, while smaller or more distant developments will be incorporated within the assumed growth rate. Adjacent developments that will be included in the study are summarized below.

Table 1: Adjacent Developments

Adjacent Developments	Land Use / Intensity
Parker Ridge	162 single-family detached homes and 114 single-family attached homes
Rolesville Town Center	34,000 SF Town Hall, 26,200 SF Police Station, 23,900 SF Fire Station, 22,500 SF Community Center, 12,000 SF County Library
Young Street PUD	250 Multifamily Housing, 650 Single family attached Housing and 108,200 Shopping Center

Traffic associated with the following adjacent developments will be captured within the assumed 3.0 percent annual background growth rate:

- 1216 Rolesville Road
- 302 S Main St – Learning Experience Rolesville
- 414 S. Main Street – Pine Glo Sports complex
- 6000 Rogers Road
- A-Master Team Townhomes
- Woodlief Assemblage
- Cobblestone Village
- North Wake Eye Center

- Jones Dairy Road

Future Roadway Improvements

STIP U-6241 was identified within the study area and considered under future traffic conditions. The project includes improvements to SR 2051 (Burlington Mills Road) from US 401 east of Rolesville Middle School to US 401 Business (South Main Street) in Rolesville, Wake County. STIP U-6241 is expected to realign the roadway and construct a new intersection with South Main Street, along with sidewalk extensions and complete streets improvements.

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 2 for a summary of the proposed site trip generation for full buildout of the proposed development.

Table 2: Trip Generation Summary

Land Use (ITE Code)	Intensity	Daily Traffic (vph)	Weekday AM Peak Hour Trips (vph)			Weekday PM Peak Hour Trips (vph)		
			Enter	Exit	Total	Enter	Exit	Total
Single-Family Detached Housing (210)	2 DU	18	2	5	7	2	1	3
Single-Family Attached Housing (215)	71 DU	467	7	20	27	19	14	33
Total Trips		**485**	**9**	**25**	**34**	**21**	**15**	**36**

Trip Distribution and Assignment

Refer to the attached site trip distributions. Site trip distributions will be reviewed once traffic counts are obtained. Any adjustments to the trip distributions will be coordinated with the Town and NCDOT.

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:

- 2025 Existing Traffic Conditions
- 2030 No-Build Traffic Conditions
- 2030 Build Traffic Conditions
- 2030 Build with Improvements Traffic Conditions

Report

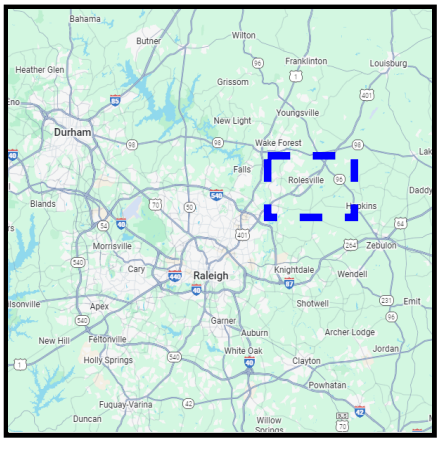
The TIA report will be prepared based on Town and NCDOT requirements.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Caroline Cheeves, PE
Traffic Analysis Project Manager
DRMP, Inc.

Attachments: Site Location Map
Site Plan
Existing Peak Hour Traffic
Site Trip Distribution
Growth Rate

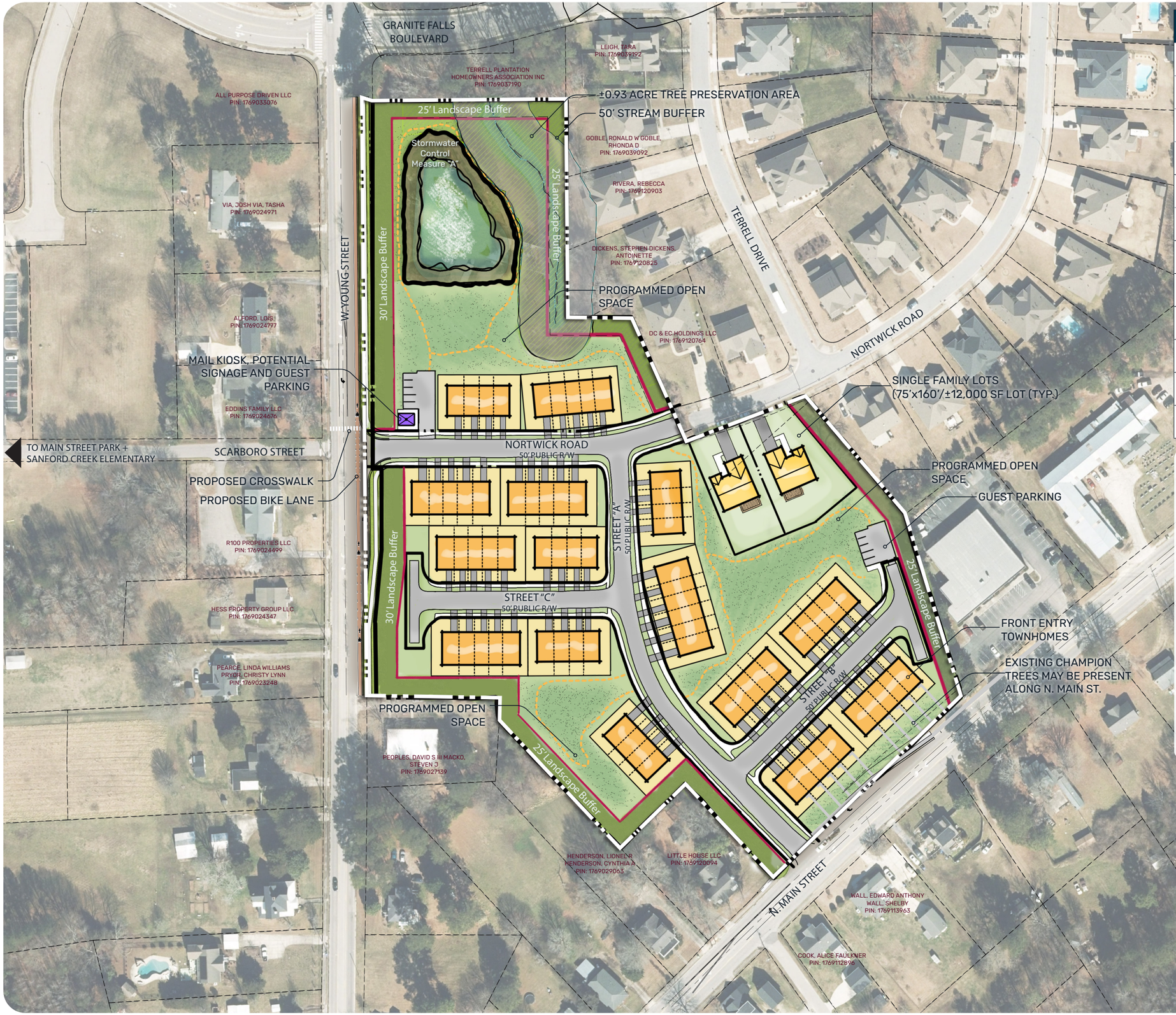


N

LEGEND

- Study Intersection
- Proposed Site Access
- Study Area

DRMP	Opal at Main Rolesville, NC	Site Location Map	
		Scale: Not to Scale	Figure 1



SITE DATA TABLE	
PIN(S)	1769027985 1769029362
Total Site Area	± 11.5 acres
Current Zoning	RL
Proposed Zoning	RHD
Tree Preservation Area Required (10% Site Area)	± 0.92 acre
Tree Preservation Area Provided	± 0.93 acre
Open Space Required (15% Site Area)	± 1.72 acre
Open Space Provided	± 1.75 acre
Proposed Residential Units	± 73 DU
Townhome Units	71 units
Single Family Lots	2 lots
Maximum Density	To be determined

CONCEPT PLAN NOTES

01 Development on this site will comply with the Town's Unified Development Ordinance and other applicable standards and plans adopted by the Town of Rolesville

02 Sidewalks, trails, and open space areas shown on this plan are approximate. Final location and design to be determined at site or subdivision plan review.

03 Utilities and easements shown on this plan are conceptual. Final location and design to be determined at site or subdivision plan review.

04 Where a conflict between graphic representation and text information on this sheet is present, the text shall prevail.

05 All base file information taken from GIS is subject to change unless otherwise stated.

06 All assumptions shown herein are in accordance with current LDO standards as of the date shown on the plan. Changes to LDO standards, or jurisdictional text changes after that date may impact plan.

07 Lighting requirements will comply with the standards set forth in the LDO.

08 Master plan is conceptual, with final layout to be determined at subdivision plan.

09 Tree coverage areas are conceptual, with final location to be determined at subdivision plan.

McADAMS

PREPARED FOR:
Fischer Homes

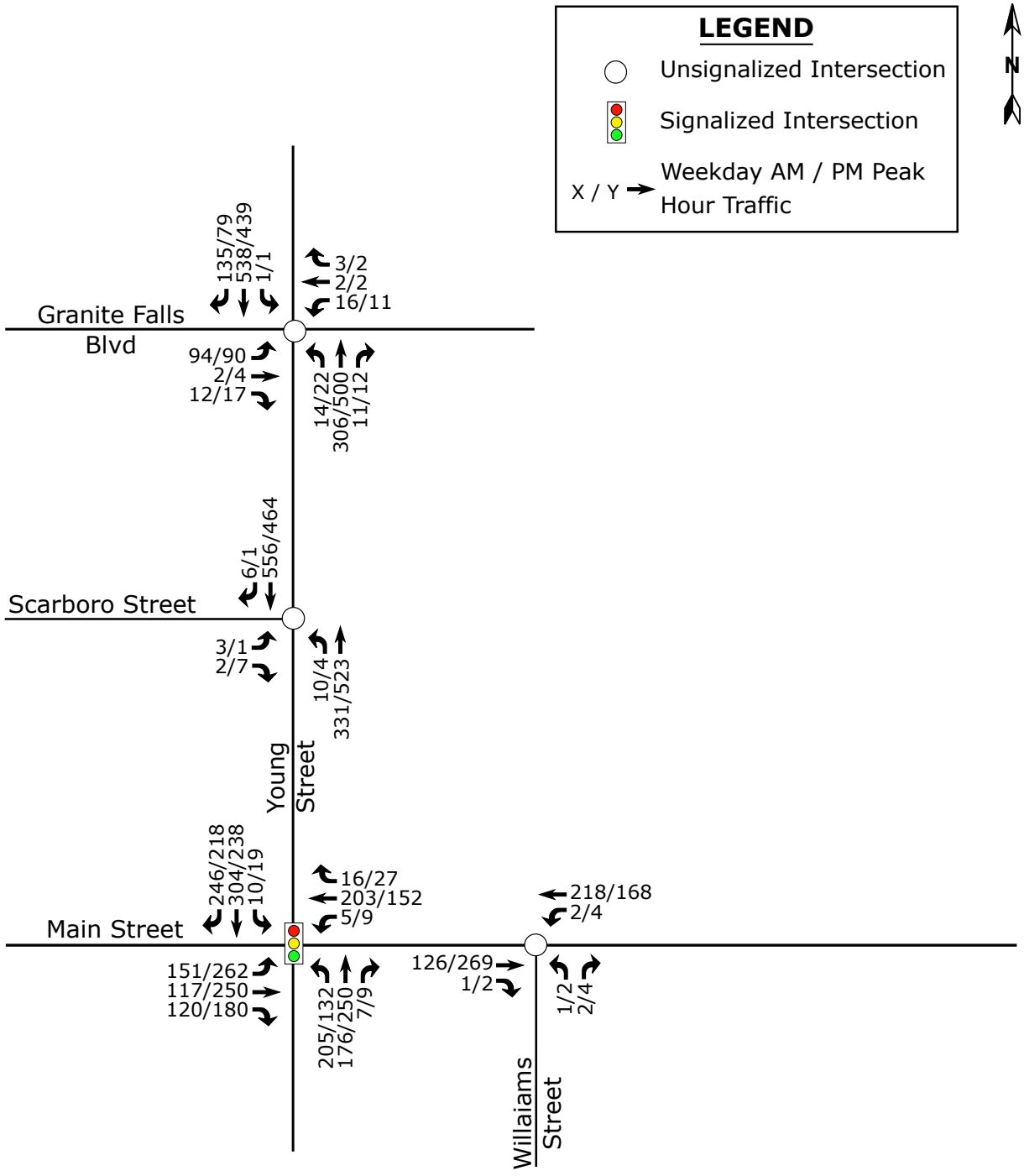
Opal at Main Concept Site Plan

Rolesville, North Carolina
Rolesville Case # REZ-25-04

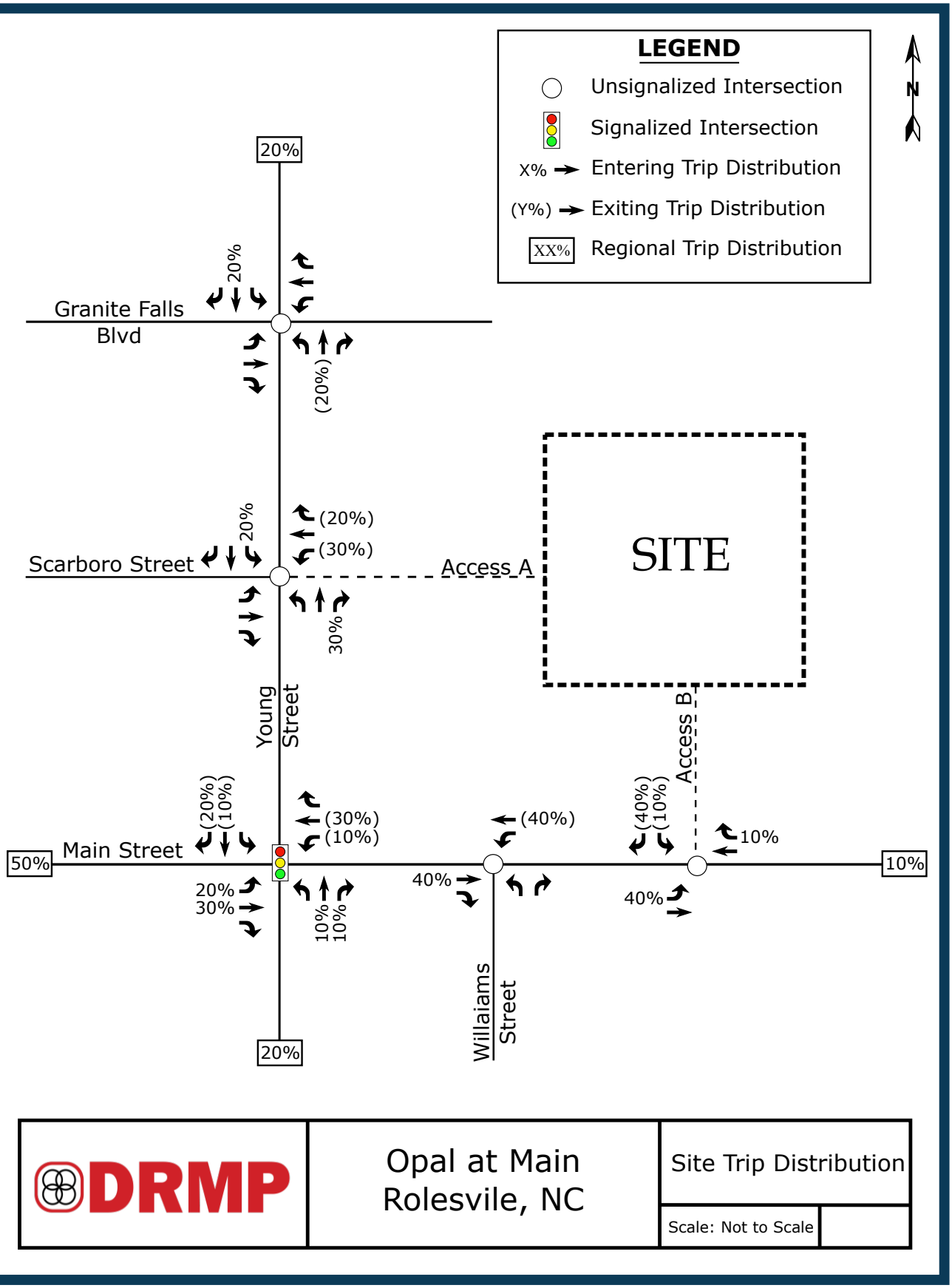
10' 60'
SCALE: 1" = 60'

SPEC24634
10. 30. 2025

01



DRMP	Opal at Main Rolesville, NC	2025 Existing Peak Hour Traffic
		Scale: Not to Scale


LEGEND
Unsignalized Intersection
Signalized Intersection
X% Entering Trip Distribution
(Y%) Exiting Trip Distribution
XX% Regional Trip Distribution
N
20%
Granite Falls Blvd
20%
(20%)
Scarboro Street
20%
(20%)
(30%)
Access A
30%
SITE
Young Street
Access B
(20%)
(10%)
(30%)
(10%)
(40%)
(40%)
(10%)
10%
50%
Main Street
10%
20%
30%
10%
10%
40%
40%
Willaiams Street
20%
DRMP
Opal at Main
Rolesville, NC
Site Trip Distribution
Scale: Not to Scale

HISTORICAL TRAFFIC GROWTH RATE

Year	Road Name: Young Street Route ID: SR 1945 Station #: 0920001451	Road Name: Main Street Route ID: US 401 Bus Station #: 0920000325	Road Name: Main Street Route ID: US 401 Bus Station #: 0920000314
2023	10,500	4,100	12,000
2022			
2021	8,600	3,100	11,500
2020		3500	9400
2019	8,600	3,800	11,500
2018			
2017	7,800	4,000	11,000
2016		3600	12000
2015	7,900		14,000
2014			
2013			

2013-2023	3.62%	1.88%	-1.70%	**1.3%** **Average Growth Rate**

APPENDIX B

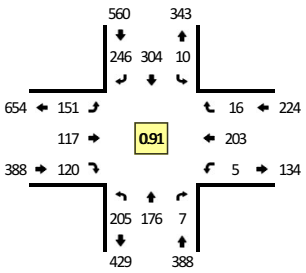
TRAFFIC COUNTS

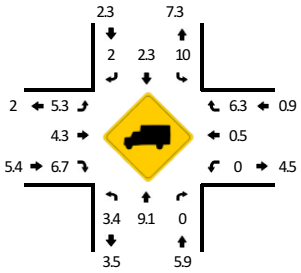
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

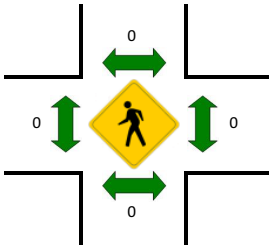
LOCATION: Young St -- Main St
CITY/STATE: Rolesville, NC

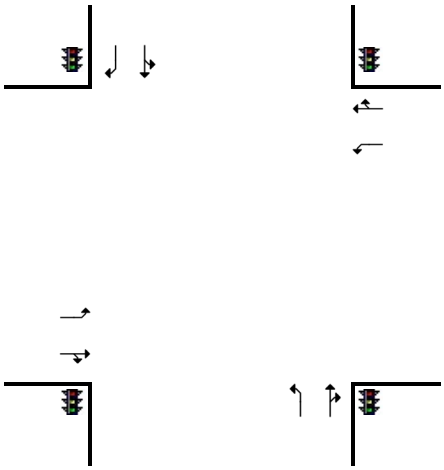
QC JOB #: 17376501
DATE: Thu, Dec 11 2025

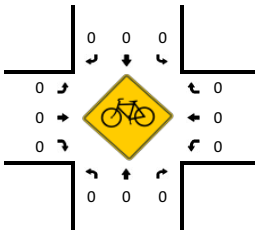
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

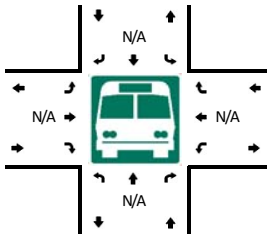


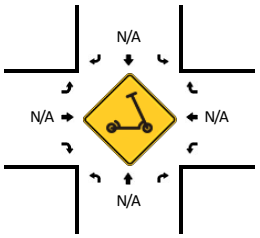












15-Min Count Period Beginning At	Young St (Northbound)				Young St (Southbound)				Main St (Eastbound)				Main St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	38	31	0	0	0	94	43	0	13	20	55	0	2	43	1	0	340	
7:15 AM	53	42	0	0	1	56	58	0	31	28	33	0	3	48	3	0	356	
7:30 AM	55	53	2	0	4	92	64	0	30	25	31	0	1	66	7	0	430	
7:45 AM	47	40	2	0	1	79	75	0	39	28	30	0	0	53	4	0	398	1524
8:00 AM	50	41	3	0	4	77	49	0	51	36	26	0	1	36	2	0	376	1560
8:15 AM	27	37	1	0	1	61	61	0	27	26	31	0	2	35	4	0	313	1517
8:30 AM	40	32	0	0	1	46	36	0	33	20	24	0	0	47	3	0	282	1369
8:45 AM	55	33	4	0	1	65	71	0	37	21	35	0	1	44	5	0	372	1343

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	220	212	8	0	16	368	256	0	120	100	124	0	4	264	28	0	1720
Heavy Trucks	4	12	0		4	8	12		8	8	12		0	4	4		76
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 12/17/2025 10:27 AM

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

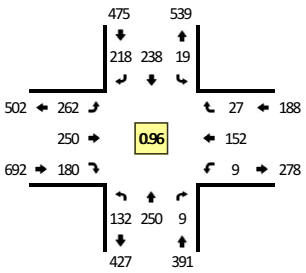
Type of peak hour being reported: Intersection Peak

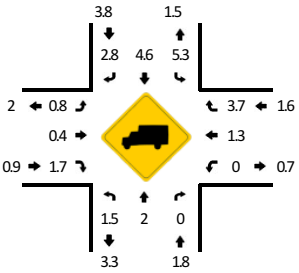
Method for determining peak hour: Total Entering Volume

LOCATION: Young St -- Main St
CITY/STATE: Rolesville, NC

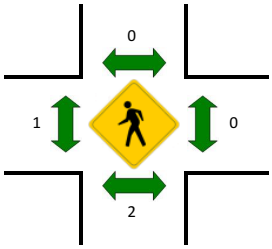
QC JOB #: 17376502
DATE: Thu, Dec 11 2025

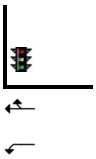
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

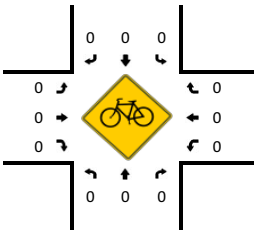


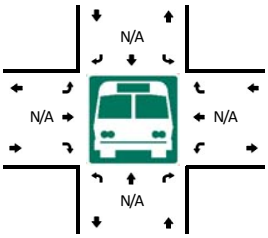


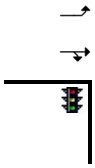
TRUE DATA TO IMPROVE MOBILITY

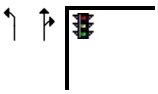


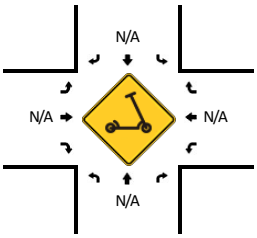












15-Min Count Period Beginning At	Young St (Northbound)				Young St (Southbound)				Main St (Eastbound)				Main St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	27	65	3	0	5	43	49	0	66	68	57	0	1	36	7	0	427	
4:15 PM	38	76	1	0	7	43	59	0	38	59	36	0	4	34	1	0	396	
4:30 PM	29	74	2	0	7	59	51	0	65	57	48	0	2	34	4	0	432	
4:45 PM	31	75	4	0	4	48	47	0	73	62	32	0	3	41	4	0	424	1679
5:00 PM	39	56	0	0	3	54	54	0	53	66	47	0	1	39	6	0	418	1670
5:15 PM	39	47	4	0	3	59	64	0	71	62	47	0	3	42	7	0	448	1722
5:30 PM	23	72	1	0	9	77	53	0	65	60	54	0	2	30	10	0	456	1746
5:45 PM	37	55	3	0	1	51	39	0	69	54	44	0	0	23	7	0	383	1705

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	92	288	4	0	36	308	212	0	260	240	216	0	8	120	40	0	1824
Heavy Trucks	0	8	0		4	24	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
Scooters																	

Comments:

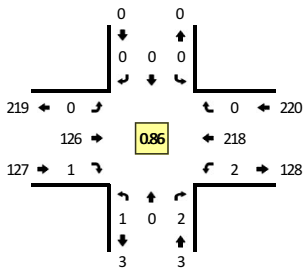
Report generated on 12/17/2025 10:27 AM

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

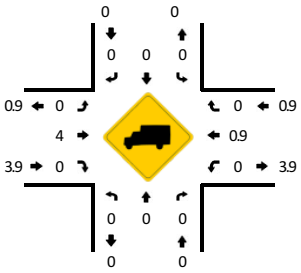
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

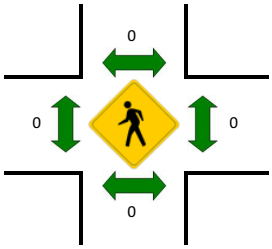
LOCATION: Williams St -- Main St | **QC JOB #:** 17376503
CITY/STATE: Rolesville, NC | **DATE:** Thu, Dec 11 2025

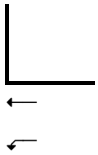
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

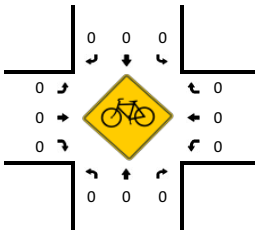


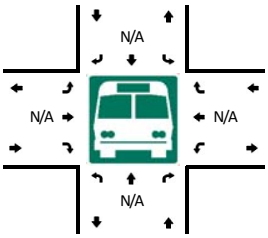
TRUE DATA TO IMPROVE MOBILITY

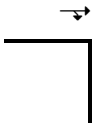


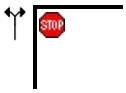


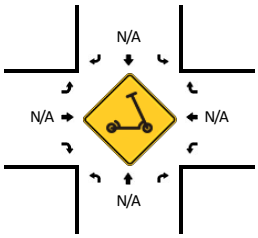












15-Min Count Period Beginning At	Williams St (Northbound)				Williams St (Southbound)				Main St (Eastbound)				Main St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	0	1	0	0	0	0	0	0	20	0	0	1	44	0	0	67	
7:15 AM	0	0	0	0	0	0	0	0	0	29	0	0	1	54	0	0	84	
7:30 AM	0	0	2	0	0	0	0	0	0	27	0	0	0	73	0	0	102	
7:45 AM	0	0	0	0	0	0	0	0	0	28	0	0	1	54	0	0	83	336
8:00 AM	1	0	0	0	0	0	0	0	0	42	1	0	0	37	0	0	81	350
8:15 AM	1	0	1	0	0	0	0	0	0	28	0	0	1	40	0	0	71	337
8:30 AM	1	0	0	0	0	0	0	0	0	20	0	0	2	50	0	0	73	308
8:45 AM	0	0	1	0	0	0	0	0	0	26	0	0	0	47	0	0	74	299

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	8	0	0	0	0	0	0	108	0	0	0	292	0	0	408
Heavy Trucks	0	0	0		0	0	0		0	8	0		0	8	0		16
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

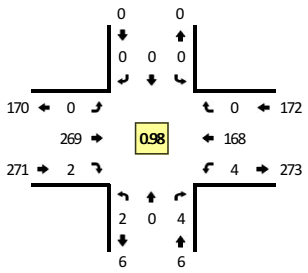
Comments:

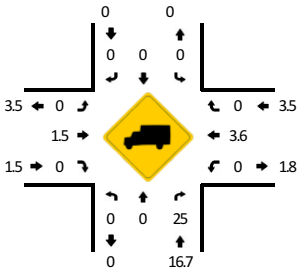
Report generated on 12/17/2025 10:28 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

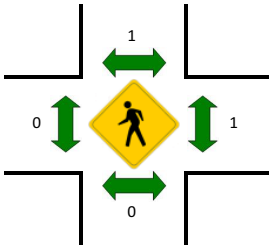
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

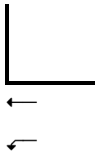
LOCATION: Williams St -- Main St | **QC JOB #:** 17376504
CITY/STATE: Rolesville, NC | **DATE:** Thu, Dec 11 2025

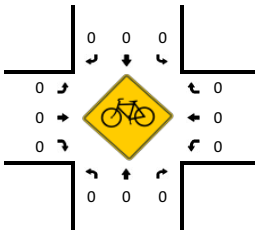
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

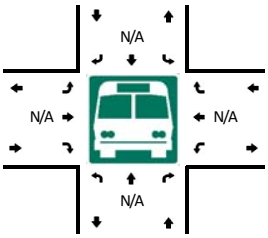


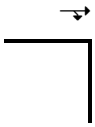


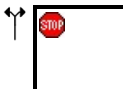


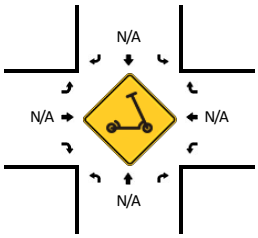












15-Min Count Period Beginning At	Williams St (Northbound)				Williams St (Southbound)				Main St (Eastbound)				Main St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	1	0	0	0	0	0	0	75	2	0	0	36	0	0	114	
4:15 PM	0	0	2	0	0	0	0	0	0	66	0	0	0	43	0	0	111	
4:30 PM	0	0	3	0	0	0	0	0	0	64	1	0	0	40	0	0	108	
4:45 PM	1	0	0	0	0	0	0	0	0	69	0	0	2	42	0	0	114	447
5:00 PM	0	0	1	0	0	0	0	0	0	68	1	0	0	42	0	0	112	445
5:15 PM	1	0	0	0	0	0	0	0	0	68	0	0	2	44	0	0	115	449
5:30 PM	2	0	3	0	0	0	0	0	0	59	0	0	1	40	0	0	105	446
5:45 PM	1	0	1	0	0	0	0	0	0	55	0	0	0	27	0	0	84	416

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	0	0	0	0	0	0	0	0	272	0	0	8	176	0	0	460
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	8	0		8
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

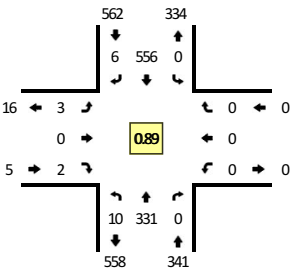
Comments:

Report generated on 12/17/2025 10:28 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

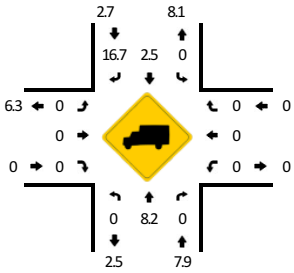
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

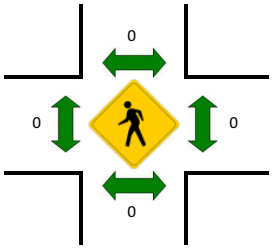
LOCATION: Young St -- Scarboro St/Site Access | **QC JOB #:** 17376505
CITY/STATE: Rolesville, NC | **DATE:** Thu, Dec 11 2025

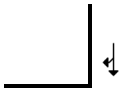
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

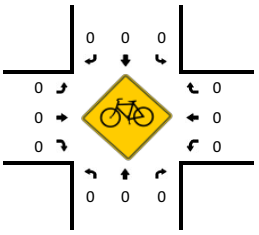


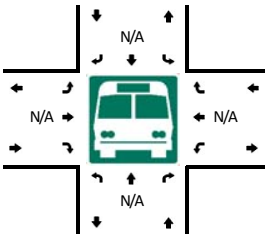
TRUE DATA TO IMPROVE MOBILITY

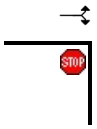


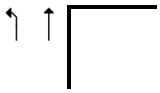


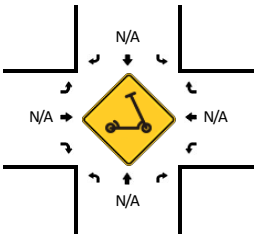












15-Min Count Period Beginning At	Young St (Northbound)				Young St (Southbound)				Scarboro St/Site Access (Eastbound)				Scarboro St/Site Access (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	45	0	0	0	133	1	0	0	0	0	0	0	0	0	0	179	
7:15 AM	0	75	0	0	0	123	1	0	0	0	0	0	0	0	0	0	199	
7:30 AM	1	90	0	0	0	162	1	0	0	0	0	0	0	0	0	0	254	
7:45 AM	4	74	0	0	0	150	2	0	1	0	1	0	0	0	0	0	232	864
8:00 AM	5	92	0	0	0	121	2	0	2	0	1	0	0	0	0	0	223	908
8:15 AM	3	64	0	0	0	121	1	0	0	0	0	0	0	0	0	0	189	898
8:30 AM	4	64	0	0	0	87	1	0	1	0	3	0	0	0	0	0	160	804
8:45 AM	5	64	0	0	0	107	2	0	9	0	26	0	0	0	0	0	213	785

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	360	0	0	0	648	4	0	0	0	0	0	0	0	0	0	1016
Heavy Trucks	0	24	0		0	20	0		0	0	0		0	0	0		44
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

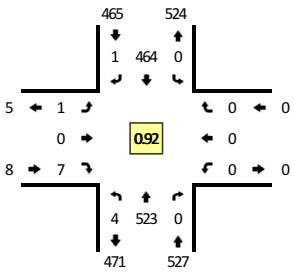
Comments:

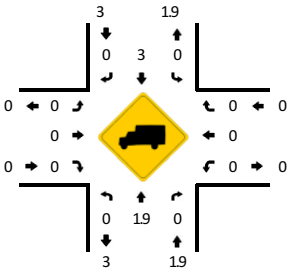
Report generated on 12/17/2025 10:28 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

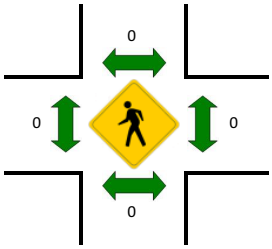
LOCATION: Young St -- Scarboro St/Site Access | **QC JOB #:** 17376506
CITY/STATE: Rolesville, NC | **DATE:** Thu, Dec 11 2025

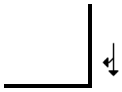
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

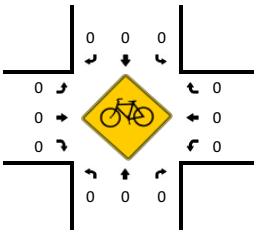


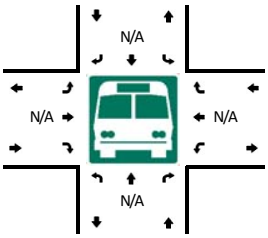


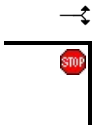
TRUE DATA TO IMPROVE MOBILITY

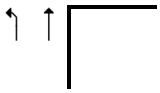


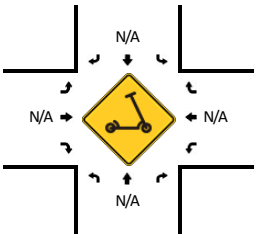












15-Min Count Period Beginning At	Young St (Northbound)				Young St (Southbound)				Scarboro St/Site Access (Eastbound)				Scarboro St/Site Access (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	128	0	0	0	84	1	0	6	0	14	0	0	0	0	0	237	
4:15 PM	9	107	0	0	0	99	0	0	4	0	11	0	0	0	0	0	230	
4:30 PM	1	148	0	0	0	109	0	0	1	0	4	0	0	0	0	0	263	
4:45 PM	2	140	0	0	0	108	0	0	0	0	2	0	0	0	0	0	252	982
5:00 PM	0	119	0	0	0	103	1	0	1	0	2	0	0	0	0	0	226	971
5:15 PM	2	120	0	0	0	128	0	0	0	0	0	0	0	0	0	0	250	991
5:30 PM	0	144	0	0	0	125	0	0	0	0	3	0	0	0	0	0	272	1000
5:45 PM	2	126	0	0	0	89	2	0	1	0	4	0	0	0	0	0	224	972

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	576	0	0	0	500	0	0	0	0	12	0	0	0	0	0	1088
Heavy Trucks	0	8	0		0	24	0		0	0	0		0	0	0		32
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

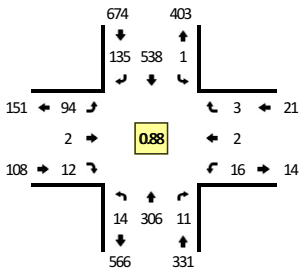
Comments:

Report generated on 12/17/2025 10:28 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

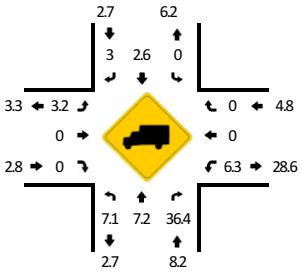
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

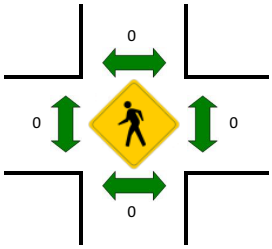
LOCATION: Young St -- Granite Falls Blvd | **QC JOB #:** 17376507
CITY/STATE: Rolesville, NC | **DATE:** Thu, Dec 11 2025

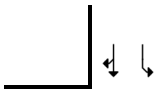
Peak-Hour: 7:15 AM -- 8:15 AM
Peak 15-Min: 7:30 AM -- 7:45 AM

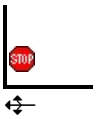


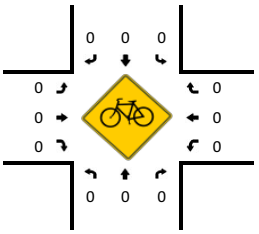
TRUE DATA TO IMPROVE MOBILITY

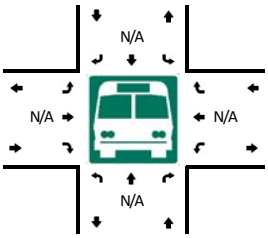


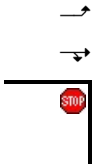


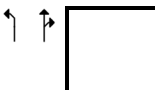


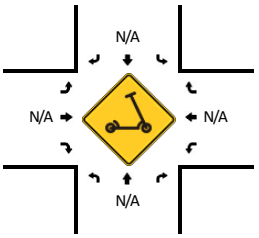












15-Min Count Period Beginning At	Young St (Northbound)				Young St (Southbound)				Granite Falls Blvd (Eastbound)				Granite Falls Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	47	0	0	1	122	16	0	7	0	6	0	4	1	2	0	206	
7:15 AM	3	70	1	0	0	117	36	0	32	0	4	0	4	0	3	0	270	
7:30 AM	5	84	2	0	1	160	44	0	21	0	2	0	4	1	0	0	324	
7:45 AM	1	72	1	0	0	147	31	0	25	2	3	0	3	0	0	0	285	1085
8:00 AM	5	80	7	0	0	114	24	0	16	0	3	0	5	1	0	0	255	1134
8:15 AM	5	59	1	0	3	114	21	0	10	2	1	0	5	2	0	0	223	1087
8:30 AM	2	61	1	0	0	81	31	0	11	0	2	0	3	0	0	0	192	955
8:45 AM	5	66	1	0	1	101	40	0	26	0	7	0	1	0	1	0	249	919

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	20	336	8	0	4	640	176	0	84	0	8	0	16	4	0	0	1296
Heavy Trucks	0	24	0		0	20	4		4	0	0		0	0	0		52
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 12/17/2025 10:28 AM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

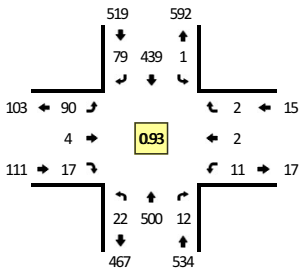
Type of peak hour being reported: Intersection Peak

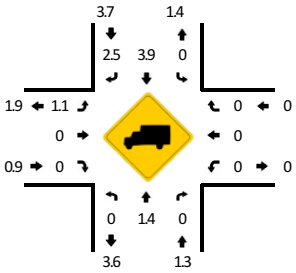
Method for determining peak hour: Total Entering Volume

LOCATION: Young St -- Granite Falls Blvd
CITY/STATE: Rolesville, NC

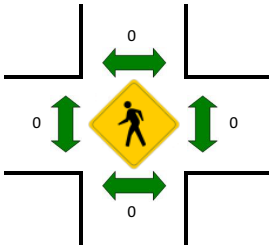
QC JOB #: 17376508
DATE: Thu, Dec 11 2025

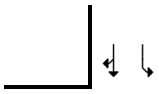
Peak-Hour: 4:45 PM -- 5:45 PM
Peak 15-Min: 5:30 PM -- 5:45 PM

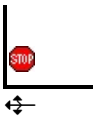


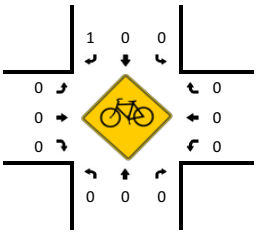


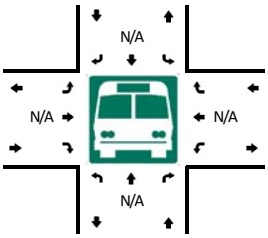
TRUE DATA TO IMPROVE MOBILITY

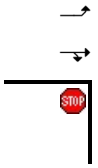


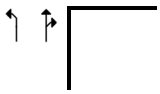


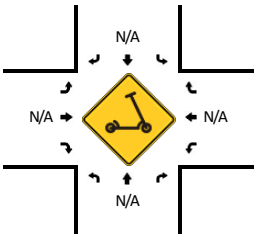












15-Min Count Period Beginning At	Young St (Northbound)				Young St (Southbound)				Granite Falls Blvd (Eastbound)				Granite Falls Blvd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	130	3	0	0	80	18	0	37	3	7	0	0	0	1	0	283	
4:15 PM	8	102	0	0	0	89	30	0	23	0	9	0	1	0	0	0	262	
4:30 PM	6	134	6	1	1	100	16	0	19	4	6	0	1	0	1	0	295	
4:45 PM	3	137	4	0	0	98	18	0	23	1	4	0	5	0	0	0	293	1133
5:00 PM	8	109	2	0	0	101	21	0	22	2	6	0	1	0	0	0	272	1122
5:15 PM	4	112	4	0	1	123	21	0	24	1	1	0	4	1	1	0	297	1157
5:30 PM	7	142	2	0	0	117	19	0	21	0	6	0	1	1	1	0	317	1179
5:45 PM	8	111	3	0	0	93	23	0	31	0	3	0	2	0	0	0	274	1160

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	28	568	8	0	0	468	76	0	84	0	24	0	4	4	4	0	1268
Heavy Trucks	0	4	0		0	24	4		0	0	0		0	0	0		32
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 12/17/2025 10:28 AM

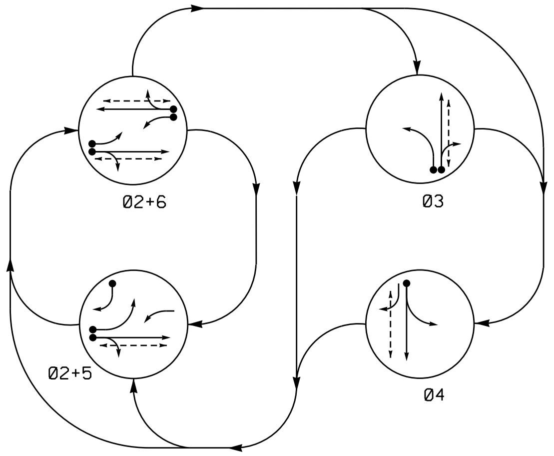
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

APPENDIX C

SIGNAL PLANS

PROJECT REFERENCE NO.	SHEET NO.
U-6241	Sig. 7.0

DEFAULT PHASING DIAGRAM



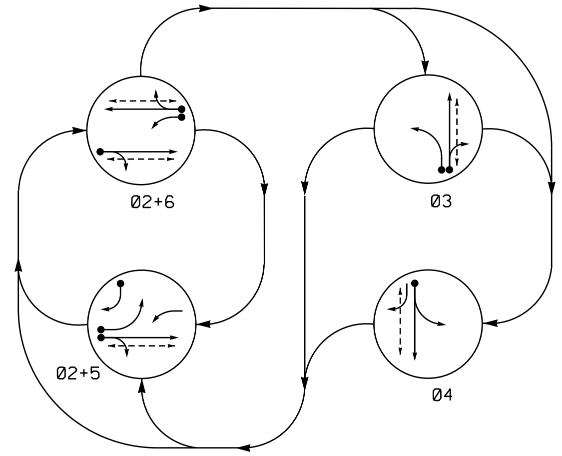
PHASING DIAGRAM DETECTION LEGEND

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

DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE Ø2+5	Ø2+6	Ø3	Ø4	FLASH
21, 22, 23	G	G	R	R	R
31	R	R	G ←	R	R
32, 33	R	R	G	R	R
41	R	R	R	G ←	R
42	R/→	R	R	G	R
43	R	R	R	G	R
51	←	←F/Y	←R	←R	←R
61	←F/Y	←F/Y	←R	←R	←R
62, 63	R	G	R	R	R
P21, P22	W	W	DW	DW	DRK
P31, P32	DW	DW	W	DW	DRK
P41, P42	DW	DW	DW	W	DRK
P61, P62	DW	W	DW	DW	DRK

ALTERNATE PHASING DIAGRAM



ALTERNATE PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE Ø2+5	Ø2+6	Ø3	Ø4	FLASH
21, 22, 23	G	G	R	R	R
31	R	R	G ←	R	R
32, 33	R	R	G	R	R
41	R	R	R	G ←	R
42	R/→	R	R	G	R
43	R	R	R	G	R
51	←	←R	←R	←R	←R
61	←F/Y	←F/Y	←R	←R	←R
62, 63	R	G	R	R	R
P21, P22	W	W	DW	DW	DRK
P31, P32	DW	DW	W	DW	DRK
P41, P42	DW	DW	DW	W	DRK
P61, P62	DW	W	DW	DW	DRK

MAXTIME DETECTOR INSTALLATION CHART

DETECTOR: LOOP	SIZE (FT)	DISTANCE FROM STOP LINE (FT)	TURNS	NEW LOOP	PROGRAMMING: CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN	NEW CARD
2A	6X6	70	3	-	2	-	-	X	-	X	-	-
3A	6X40	0	2-4-2	-	3	3.0	-	X	-	X	-	-
3B	6X40	0	2-4-2	-	3	10.0	-	X	-	X	-	-
4A	6X15	50	4	-	4	15.0	-	X	-	X	-	-
4B	6X40	0	2-4-2	-	4	3.0	-	X	-	X	-	-
5A	6X40	0	2-4-2	-	5	15.0*	-	X	-	X	-	-
					2#	-	-	X	-	X	-	-
5B	6X40	0	2-4-2	-	5	15.0	-	X	-	X	-	-
6A	6X6	70	3	-	6	-	-	X	-	X	-	-
6B	6X40	0	2-4-2	-	6	-	-	X	-	X	-	-

* Reduce Delay to 3 seconds during Alternate Phasing Operation.
# Diasable Phase Call for loop during Alternate Phasing Operation.

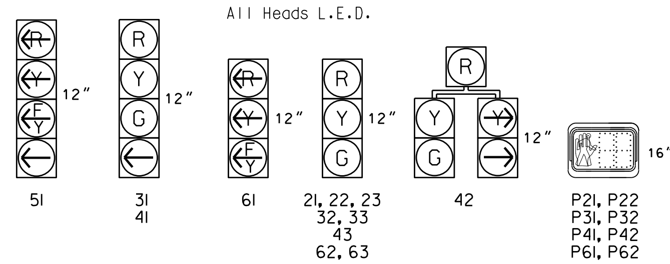
4 Phase
Fully Actuated
US 401 Business (Louisburg Rd) (CLS-System 3)
Signal System #: D05-20_Rolesville

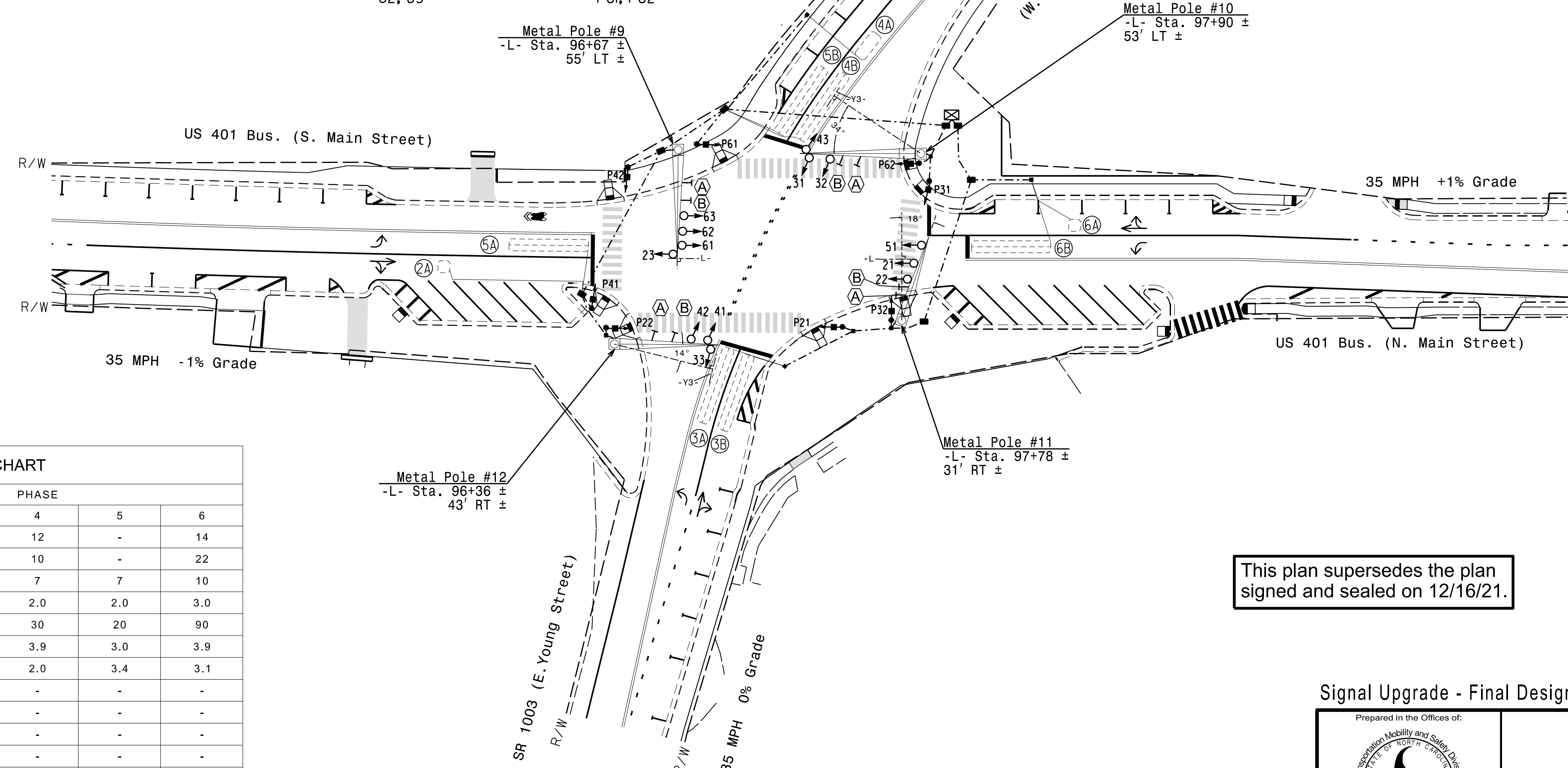
NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 5 may be lagged.
4. The order of phase 3 and phase 4 may be reversed.
5. Set all detector units to presence mode.
6. Install new controller in existing cabinet.
7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
8. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
9. Pavement markings are existing.
10. The Division Traffic Engineer will determine the hours of use for each phasing plan.
11. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

SIGNAL FACE I.D.

All Heads L.E.D.





LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
X-UC	2-in Underground Conduit	UC
N/A	Right of Way	
	Directional Arrow	
	Metal Pole with Mastarm	
DD	Directional Drill	N/A
	Type II Signal Pedestal	
OS	Oversized Junction Box	
N/A	Curb Ramp	
A	Street Name Sign (D3-1) By Others	A
B	Right "TURNING VEHICLES" Yield "TO" Pedestrians Sign (R10-15R)	B

This plan supersedes the plan signed and sealed on 12/16/21.

MAXTIME TIMING CHART

FEATURE	PHASE 2	3	4	5	6
Walk *	14	13	12	-	14
Ped Clear	22	12	10	-	22
Min Green *	10	7	7	7	10
Passage *	3.0	2.0	2.0	2.0	3.0
Max 1 *	90	20	30	20	90
Yellow Change	3.9	3.8	3.9	3.0	3.9
Red Clear	3.1	2.1	2.0	3.4	3.1
Added Initial *	-	-	-	-	-
Maximum Initial *	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-
Time To Reduce *	-	-	-	-	-
Minimum Gap	-	-	-	-	-
Advance Walk	7	6	5	-	7
Non Lock Detector	-	X	X	X	-
Vehicle Recall	MIN RECALL	-	-	-	MIN RECALL
Dual Entry	-	-	-	-	-

* 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.

Signal Upgrade - Final Design

Prepared in the Offices of:
Transportation Mobility and Safety Division
State of North Carolina Department of Transportation
Signal Design Section
750 N. Greenfield Pkwy, Garner, NC 27529

US 401 Bus. (Main Street) at SR 1003/SR 1945 (Young Street)

Division 5 | Wake County | Rolesville

PLAN DATE:	October 2025	REVIEWED BY:
PREPARED BY:	C.E. Carter	REVIEWED BY:

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA
DocuSigned by: 1B9B4B66274A494...
11/10/2025 DATE

SIG. INVENTORY NO. 05-0119

10-NOV-2025 10:32
pw://ncdot-pw.bentley.com:ncdot-pw-01/Documents/NCDOT TSMO/Signal Design Section/Division_05/05-0119/Signal Design/October 2025/050119_sig_dsn_20251110.dgn
cbaek

APPENDIX D

ADJACENT DEVELOPMENT INFORMATION

Figure 6: Trip Assignment

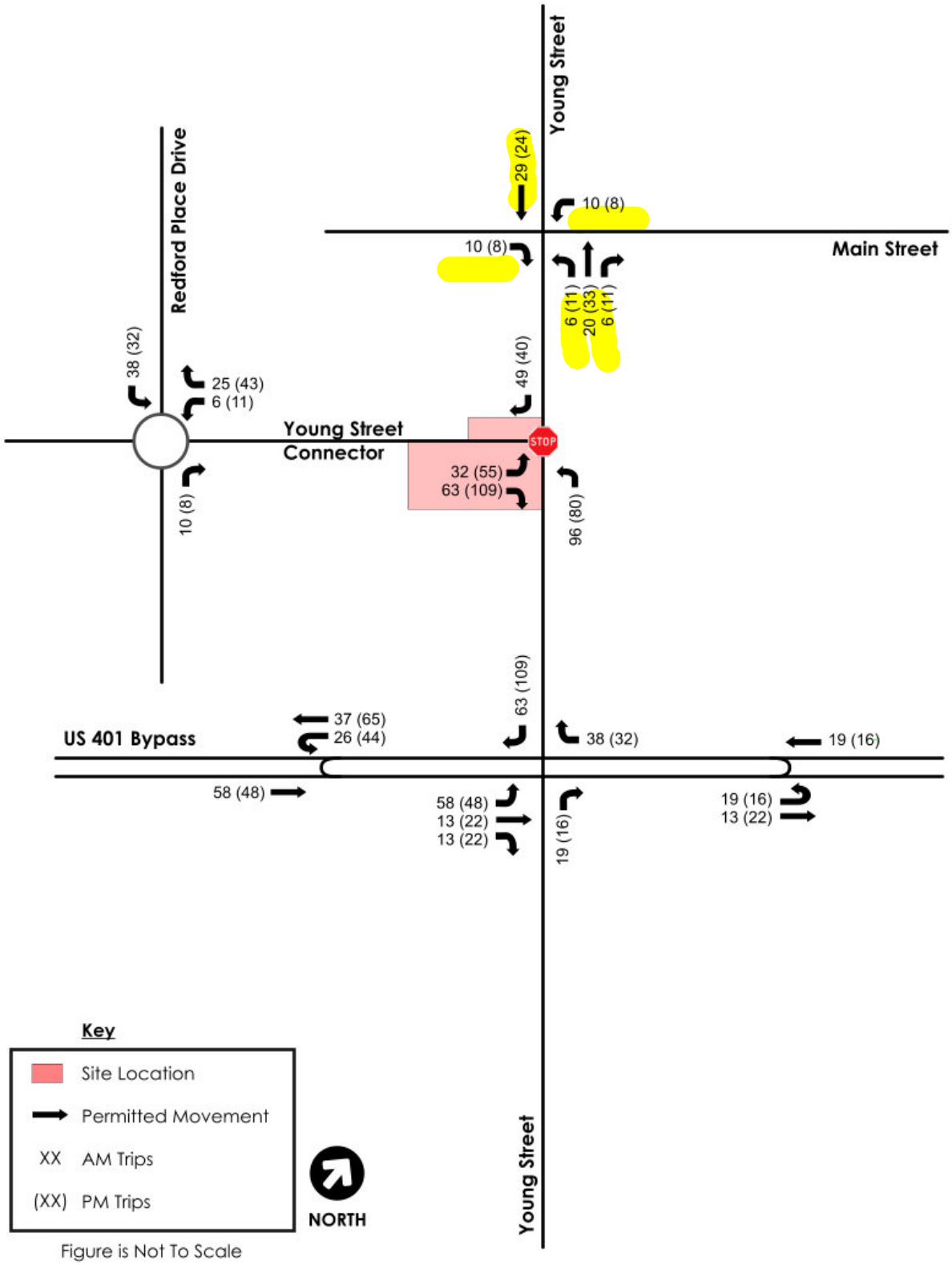


Figure 6: Site Trip Assignment

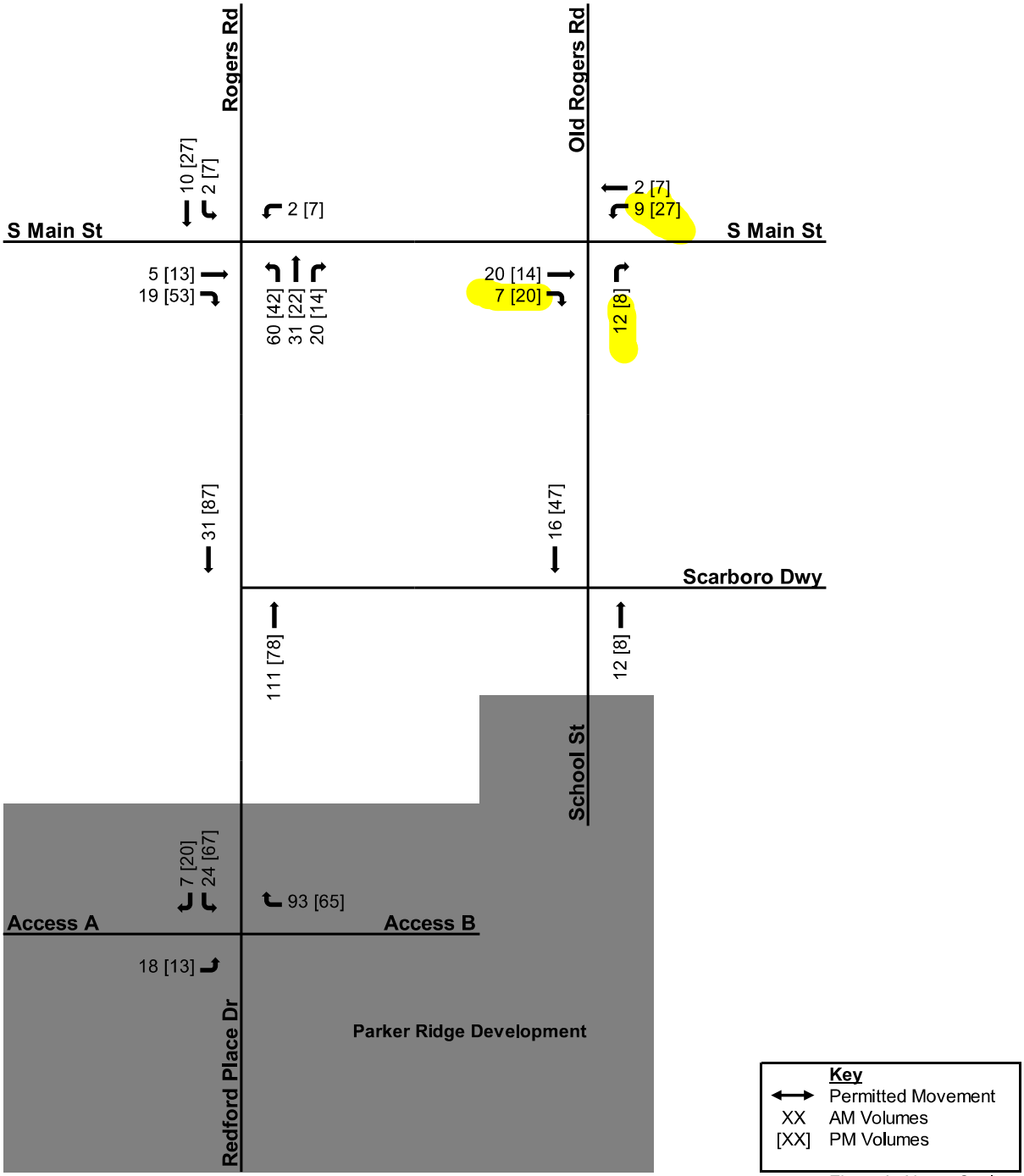
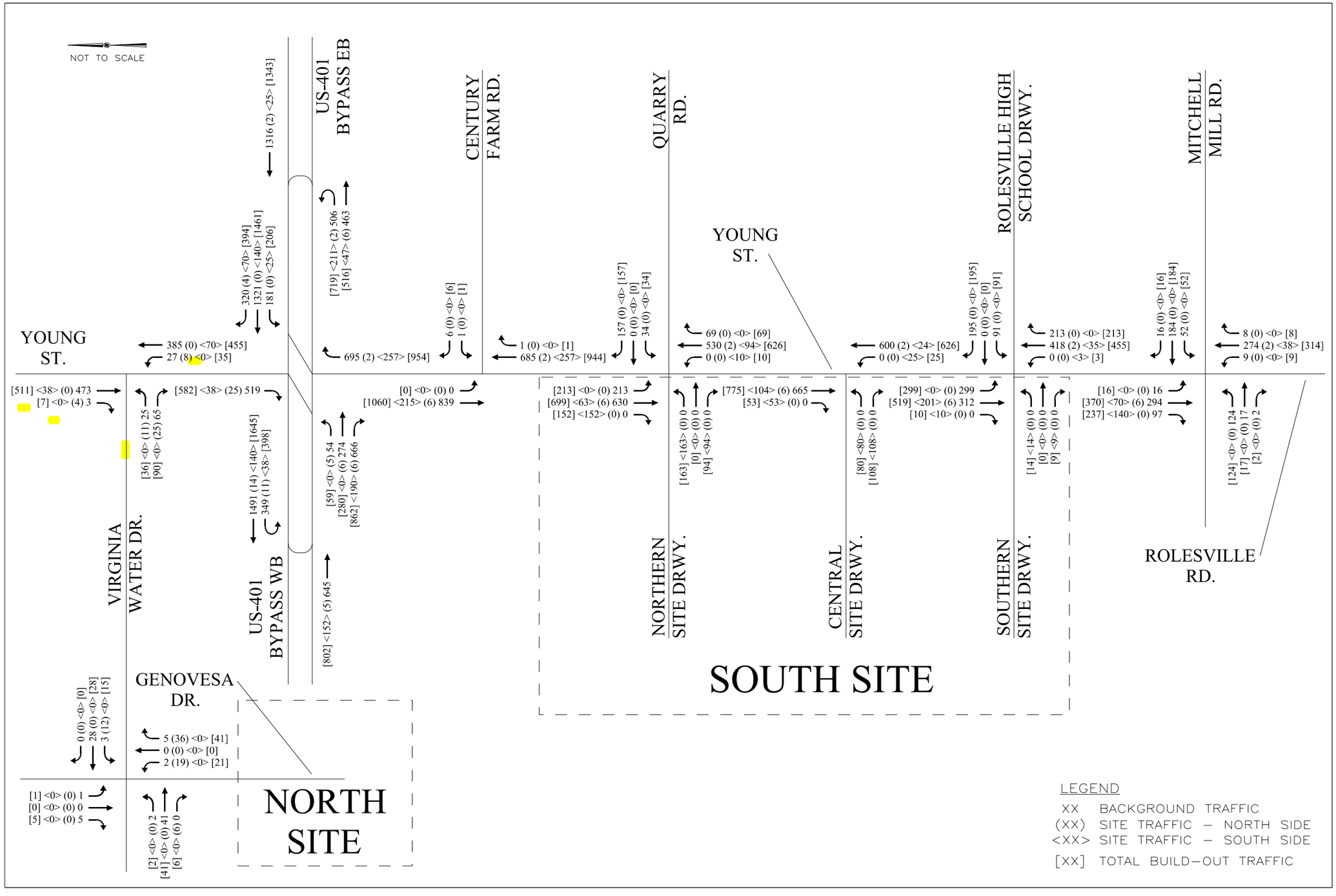


Figure is Not to Scale



PROJECTED (2025)
BUILD–OUT AM PEAK HOUR
TRAFFIC VOLUMES –
COMMERCIAL BUILD–OUT

FIGURE
14

YOUNG STREET PUD
ROLESVILLE, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

NOT TO SCALE

YOUNG ST.

385 (0) <59> [444]
27 (8) <0> [35]

320 (4) <59> [383]
1321 (0) <118> [1439]
181 (0) <13> [194]

1316 (2) <13> [1331]

US-401 BYPASS EB

695 (2) <217> [914]

[685] <177> (2) 506
[508] <39> (6) 463

CENTURY FARM RD.

6 (0) <0> [6]
1 (0) <0> [1]

1 (0) <0> [1]
685 (2) <217> [904]

QUARRY RD.

157 (0) <0> [157]
0 (0) <0> [0]
34 (0) <0> [34]

YOUNG ST.

69 (0) <0> [69]
530 (2) <79> [611]
0 (0) <5> [5]

600 (2) <17> [619]
0 (0) <13> [13]

ROLESVILLE HIGH SCHOOL DRWY.

195 (0) <0> [195]
0 (0) <0> [0]
91 (0) <0> [91]

213 (0) <0> [213]
418 (2) <18> [438]
0 (0) <1> [1]

MITCHELL MILL RD.

16 (0) <0> [16]
184 (0) <0> [184]
52 (0) <0> [52]

8 (0) <0> [8]
274 (2) <19> [295]
9 (0) <0> [9]

[492] <19> (0) 473
[7] <0> (4) 3

[563] <19> (25) 519

[36] <0> (11) 25
[90] <0> (25) 65

1491 (14) <118> [1623]
349 (11) <19> [379]

VIRGINIA WATER DR.

[59] <0> (5) 54
[280] <0> (6) 274
[768] <96> (6) 666

[0] <0> (0) 0
[954] <109> (6) 839

[213] <0> (0) 213
[668] <32> (6) 630
[77] <77> (0) 0

[139] <139> (0) 0
[0] <0> (0) 0
[79] <79> (0) 0

[755] <84> (6) 665
[27] <27> (0) 0

[67] <67> (0) 0
[91] <91> (0) 0

[299] <0> (0) 299
[487] <169> (6) 312
[5] <5> (0) 0

[12] <12> (0) 0
[0] <0> (0) 0
[8] <8> (0) 0

[16] <0> (0) 16
[359] <59> (6) 294
[215] <118> (0) 97

[124] <0> (0) 124
[17] <0> (0) 17
[2] <0> (0) 2

US-401 BYPASS WB

[727] <77> (5) 645

NORTHERN SITE DRWY.

CENTRAL SITE DRWY.

SOUTHERN SITE DRWY.

ROLESVILLE RD.

SOUTH SITE

GENOVESA DR.

0 (0) <0> [0]
28 (0) <0> [28]
3 (12) <0> [15]

5 (36) <0> [41]
0 (0) <0> [0]
2 (19) <0> [21]

[1] <0> (0) 1
[0] <0> (0) 0
[5] <0> (0) 5

[2] <0> (0) 2
[41] <0> (0) 41
[6] <0> (6) 0

NORTH SITE

LEGEND

XX BACKGROUND TRAFFIC
(XX) SITE TRAFFIC – NORTH SIDE
<XX> SITE TRAFFIC – SOUTH SIDE
[XX] TOTAL BUILD–OUT TRAFFIC

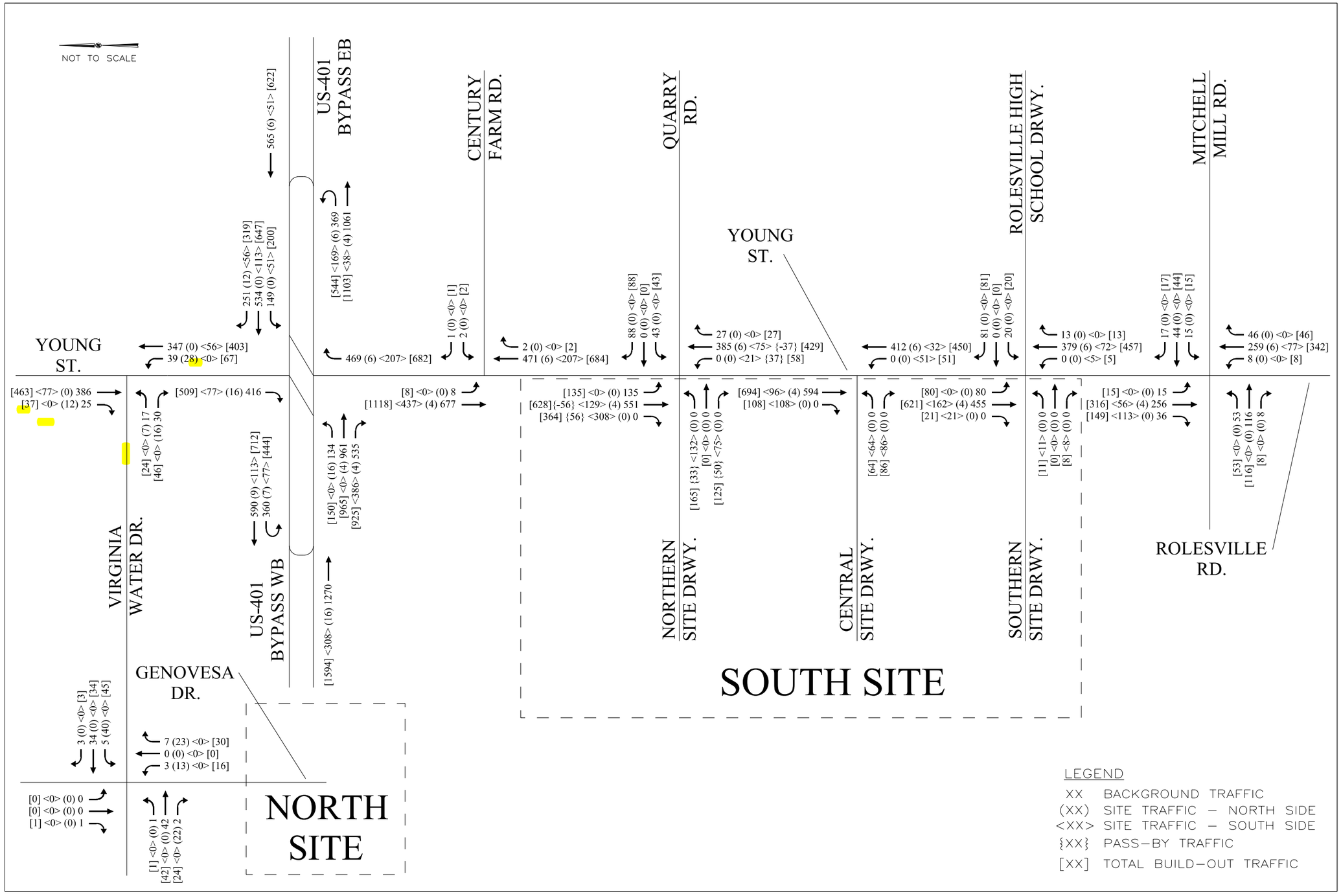
FIGURE 11

PROJECTED (2025)
BUILD–OUT AM PEAK HOUR
TRAFFIC VOLUMES –
RESIDENTIAL BUILD–OUT

YOUNG STREET PUD
ROLESVILLE, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

NOT TO SCALE



PROJECTED (2025) BUILD–OUT PM PEAK HOUR TRAFFIC VOLUMES – COMMERCIAL BUILD–OUT

FIGURE 16

YOUNG STREET PUD
ROLESVILLE, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

NOT TO SCALE

YOUNG ST.

[449] <63> (0) 386
[37] <0> (12) 25

347 (0) <37> [384]
39 (28) <0> [67]

[495] <63> (16) 416

251 (12) <37> [300]
534 (0) <74> [608]
149 (0) <42> [191]

565 (6) <42> [613]

[24] <0> (7) 17
[46] <0> (16) 30

590 (9) <74> [673]
360 (7) <63> [430]

VIRGINIA WATER DR.

US-401 BYPASS EB

[486] <111> (6) 369
[1090] <25> (4) 1061

469 (6) <135> [610]

[150] <0> (16) 134
[965] <0> (4) 961
[853] <314> (4) 535

US-401 BYPASS WB

[1537] <251> (16) 1270

CENTURY FARM RD.

1 (0) <0> [1]
2 (0) <0> [2]

2 (0) <0> [2]
471 (6) <135> [612]

[8] <0> (0) 8
[1037] <356> (4) 677

QUARRY RD.

88 (0) <0> [88]
0 (0) <0> [0]
43 (0) <0> [43]

[135] <0> (0) 135
[660] <105> (4) 551
[250] <250> (0) 0

YOUNG ST.

27 (0) <0> [27]
385 (6) <49> [440]
0 (0) <17> [17]

[85] <85> (0) 0
[0] <0> (0) 0
[49] <49> (0) 0

[664] <66> (4) 594
[88] <88> (0) 0

412 (6) <24> [442]
0 (0) <42> [42]

[42] <42> (0) 0
[57] <57> (0) 0

ROLESVILLE HIGH SCHOOL DRWY.

81 (0) <0> [81]
0 (0) <0> [0]
20 (0) <0> [20]

[80] <0> (0) 80
[565] <106> (4) 455
[17] <17> (0) 0

13 (0) <0> [13]
379 (6) <59> [444]
0 (0) <4> [4]

[7] <7> (0) 0
[0] <0> (0) 0
[5] <5> (0) 0

MITCHELL MILL RD.

17 (0) <0> [17]
44 (0) <0> [44]
15 (0) <0> [15]

[15] <0> (0) 15
[297] <37> (4) 256
[110] <74> (0) 36

46 (0) <0> [46]
259 (6) <63> [328]
8 (0) <0> [8]

[53] <0> (0) 53
[116] <0> (0) 116
[8] <0> (0) 8

ROLESVILLE RD.

NORTHERN SITE DRWY.

CENTRAL SITE DRWY.

SOUTHERN SITE DRWY.

SOUTH SITE

GENOVESA DR.

3 (0) <0> [3]
34 (0) <0> [34]
5 (40) <0> [45]

7 (23) <0> [30]
0 (0) <0> [0]
3 (13) <0> [16]

[0] <0> (0) 0
[0] <0> (0) 0
[1] <0> (0) 1

[1] <0> (0) 1
[42] <0> (0) 42
[24] <0> (22) 2

NORTH SITE

LEGEND

XX BACKGROUND TRAFFIC
(XX) SITE TRAFFIC – NORTH SIDE
<XX> SITE TRAFFIC – SOUTH SIDE
[XX] TOTAL BUILD–OUT TRAFFIC

FIGURE 13

PROJECTED (2025) BUILD–OUT PM PEAK HOUR TRAFFIC VOLUMES – RESIDENTIAL BUILD–OUT

YOUNG STREET PUD
ROLESVILLE, NC
TRAFFIC IMPACT ANALYSIS

Kimley»Horn

APPENDIX E

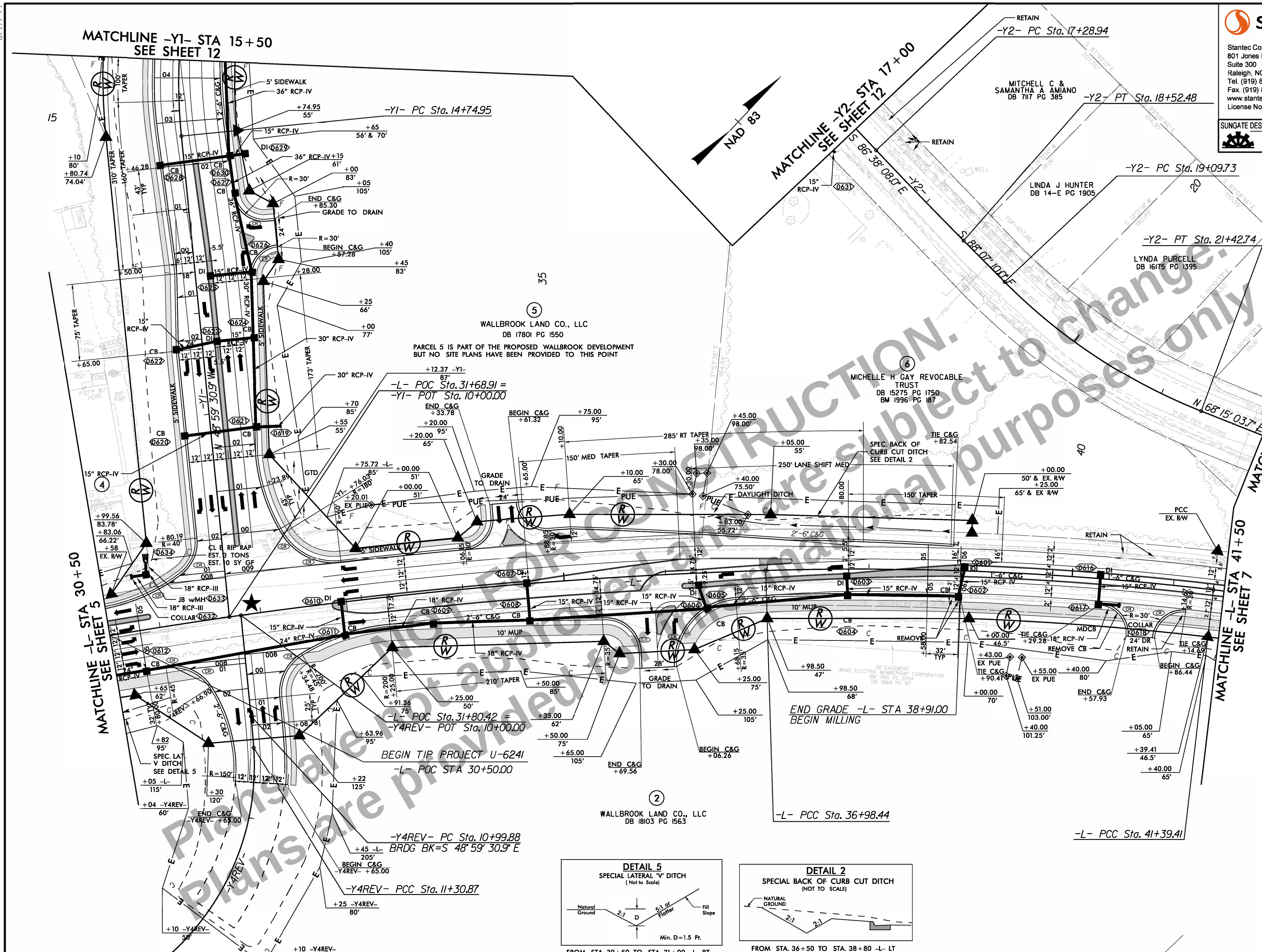
FUTURE ROADWAY IMPROVEMENTS

Stantec

Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6866
Fax. (919) 851-7024
www.stantec.com
License No. F-0672

SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
NC COA No. C-0890

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



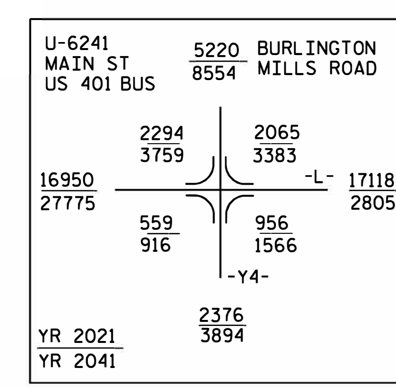
MATCHLINE -Y1- STA 15+50 SEE SHEET 12
MATCHLINE -Y2- STA 17+00 SEE SHEET 12
MATCHLINE -Y2- STA 22+07.76 SEE SHEET 7
MATCHLINE -L- STA 41+50 SEE SHEET 7
MATCHLINE -L- STA 30+50 SEE SHEET 5
NAD 83
-Y1- PC Sta. 14+74.95
-Y2- PC Sta. 17+28.94
-Y2- PT Sta. 18+52.48
-Y2- PC Sta. 19+09.73
-Y2- PT Sta. 21+42.74
MITCHELL C & SAMANTHA A AMIANO DB 7117 PG 385
LINDA J HUNTER DB 14-E PG 1905
LYNDA PURCELL DB 16175 PG 1395
WALLBROOK LAND CO., LLC DB 17801 PG 1550
PARCEL 5 IS PART OF THE PROPOSED WALLBROOK DEVELOPMENT BUT NO SITE PLANS HAVE BEEN PROVIDED TO THIS POINT
MICHELLE H GAY REVOCABLE TRUST DB 15275 PG 1750 BM 1996 PG 187
-L- POC Sta. 31+68.91 = -Y1- POT Sta. 10+00.00
-L- POC Sta. 31+80.42 = -Y4REV- POT Sta. 10+00.00
BEGIN TIP PROJECT U-6241 -L- POC STA 30+50.00
END GRADE -L- STA 38+91.00 BEGIN MILLING
-L- PCC Sta. 36+98.44
-L- PCC Sta. 41+39.41
-Y4REV- PC Sta. 10+99.88 BRDG BK=S 48° 59' 30.9" E
-Y4REV- PCC Sta. 11+30.87
WALLBROOK LAND CO., LLC DB 18103 PG 1563
DETAIL 5 SPECIAL LATERAL "V" DITCH (Not to Scale)
Min. D=1.5 Ft.
FROM STA. 30+50 TO STA. 31+00 -L- RT
DETAIL 2 SPECIAL BACK OF CURB CUT DITCH (NOT TO SCALE)
FROM STA. 36+50 TO STA. 38+80 -L- LT
NOT FOR CONSTRUCTION. Plans are not approved and are subject to change. Plans are provided for informational purposes only.

-L-		
PI Sta 33+62.25	PI Sta 39+19.33	PI Sta 43+74.02
Δ = 8° 05' 24.3" (RT)	Δ = 8° 25' 18.5" (RT)	Δ = 2° 20' 06.0" (RT)
D = 1° 12' 04.2"	D = 1° 54' 35.5"	D = 0° 29' 51.7"
L = 673.52'	L = 440.97'	L = 469.15'
T = 337.32'	T = 220.88'	T = 234.61'
R = 4,770.00'	R = 3,000.00'	R = 11,512.00'
SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS

-Y1-
PI Sta 16+89.75
Δ = 43° 53' 56.0" (RT)
D = 10° 44' 58.8"
L = 408.37'
T = 214.80'
R = 533.00'
SE = SEE PLANS

-Y2-	
PI Sta 17+90.71	PI Sta 20+27.92
Δ = 1° 29' 02.0" (LT)	Δ = 23° 37' 46.3" (LT)
D = 1° 12' 04.2"	D = 10° 08' 27.0"
L = 123.54'	L = 233.01'
T = 61.77'	T = 118.19'
R = 4,770.00'	R = 565.00'
SE = SEE PLANS	SE = SEE PLANS

-Y4REV-	
PI Sta 11+15.38	PI Sta 13+71.38
Δ = 1° 46' 32.8" (RT)	Δ = 87° 46' 55.7" (RT)
D = 5° 43' 46.5"	D = 22° 55' 05.9"
L = 30.99'	L = 383.02'
T = 15.50'	T = 240.51'
R = 1,000.00'	R = 250.00'
SE = SEE PLANS	SE = SEE PLANS



★ NEW SIGNAL

NOTE:
FOR -L- PROFILE SEE SHEET 15
FOR -Y1- PROFILE SEE SHEET 18
FOR -Y4REV- PROFILE SEE SHEET 20

8/17/99

Stantec
Stantec Consulting Services Inc.
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SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
NC COA No. C-0890

PROJECT REFERENCE NO.	SHEET NO.
U-6241	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NAD 83

TOWN OF ROLESVILLE
DB 16750 PG 1076

DVM SERVICES REALTY LLC
DB 14572 PG 1308
BM 2011 PG 1218

CITY OF RALEIGH
DB 13097 PG 1634

VISTAS PROPERTIES LLC
DB 15798 PG 2102
BM 2005 PG 1750

TOWN OF ROLESVILLE
DB 16251 PG 1625
BM 2015 PG 2076

LLOYDS OF ROLESVILLE LLC
DB 13037 PG 1536
BM 2013 PG 557

LLOYDS OF ROLESVILLE
DB 13037 PG 1538
BM 2015 PG 299

HOWARD R & DOLLY H FLEMING
DB 13557 PG 914

-Y2- PC Sta. 22+43.64

-Y2- PT Sta. 24+15.93

BRDG AH=S 35°48'41.7"E

SEE NOTE

PAVING LIMITS 39.50'

PAVING LIMITS 40.00'

100' TRANSITION

150' LANE SHIFT

65' LANE SHIFT

MATCHLINE -L- STA 41+50
SEE SHEET 6

MATCHLINE -L- STA 55+00
SEE SHEET 8

CLEAN OUT
REMOVE 3 LF OF 18" RCP

CLEAN OUT
REMOVE CB

BEGIN C&G
REMAIN AND CLEAN OUT

10' MUP

15" RCP-IV

18" RCP-III

5' SIDEWALK

8'x12" CURB

PAVING LIMITS 24.77'

PAVING LIMITS 22.50'

TIE TO EX C&G & SIDEWALK

ADJUST CB

REMOVE DI AND 9 LF OF 18" RCP

REMOVE 17 LF OF 18" RCP

PAVING LIMITS 35.00'

END C&G

-L- POC Sta.43+01JI =
-Y2- POT Sta. 24+36.77

-L- PT Sta. 46+08.56

-L- PC Sta. 54+74.89

N 55°43'07.1" E

EHAB GEORGE KHALIL
DB 6821 PG 5
(12)

GBWR HOLDINGS LLC
DB 17626 PG 1933
(13)
NO TAKE

CHERRY, KAREN YVETTE
DB 17759 PG 1820
(14)
NO TAKE

BARTHOLOMEW, JOYCE C
DB 18172 PG 1793
(15)

JOYCE C BARTHOLOMEW
NO DEED REFERENCE
BM 1990 PG 1013
(16)

TOY STORAGE LLC
DB 18244 PG 2611
BM 2013 PG 1030

WALLBROOK LAND CO., LLC
DB 18103 PG 1563
(2)

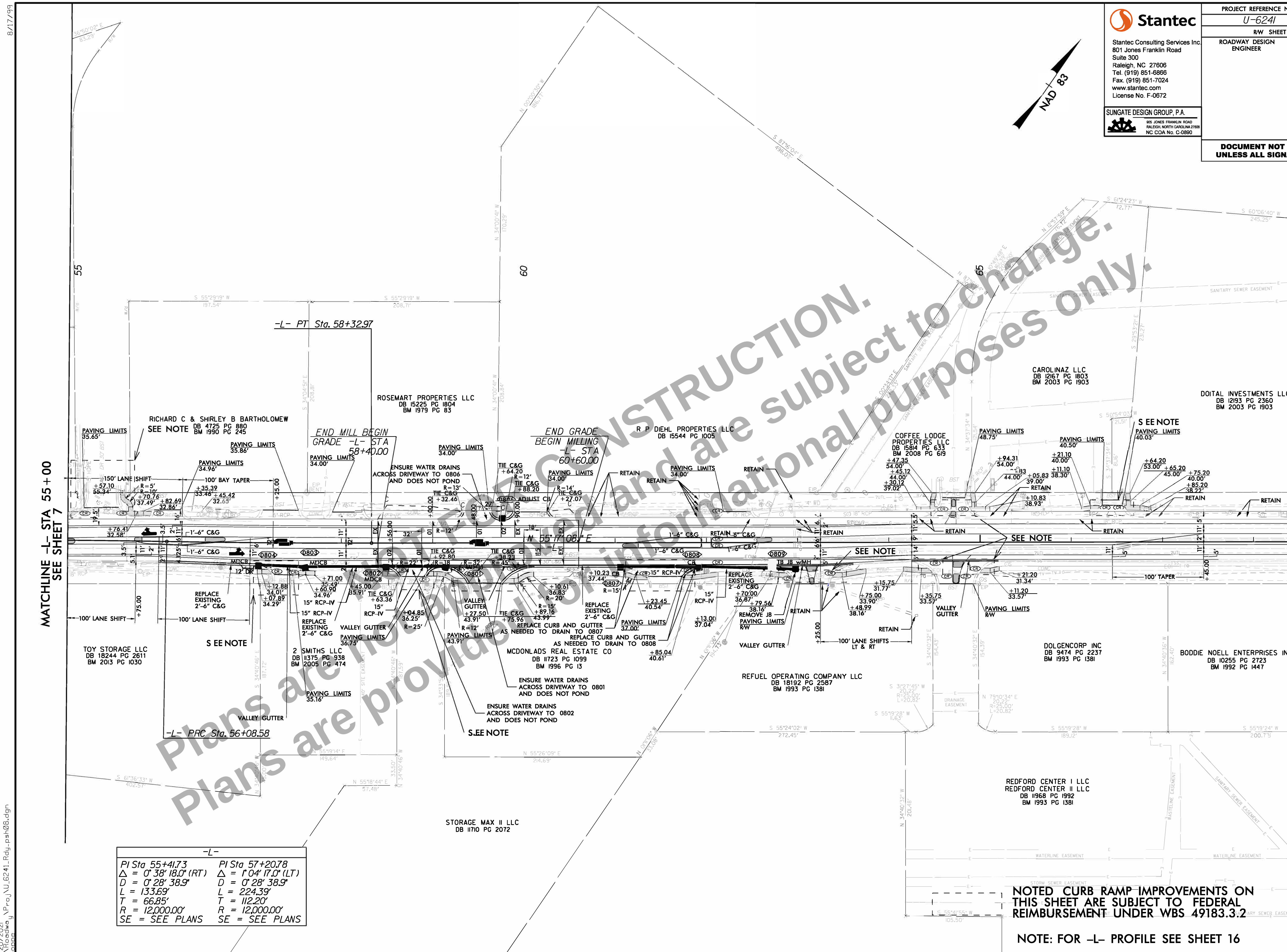
-L-	
PI Sta 43+74.02	PI Sta 55+41.73
Δ = 2°20'06.0" (RT)	Δ = 0°38'18.0" (RT)
D = 0°29'51.7"	D = 0°28'38.9"
L = 469.15'	L = 133.69'
T = 234.61'	T = 66.85'
R = 11,512.00'	R = 12,000.00'
SE = SEE PLANS	SE = SEE PLANS

-Y2-
PI Sta 23+45.09
Δ = 75°56'14.6" (RT)
D = 44°04'25.2"
L = 172.30'
T = 101.45'
R = 130.00'
SE = SEE PLANS

NOTED CURB RAMP IMPROVEMENTS ON THIS SHEET ARE SUBJECT TO FEDERAL REIMBURSEMENT UNDER WBS 49183.3.2

NOTE: FOR -L- PROFILE SEE SHEET 15 & 16

9/20/2021
U:\Roadway\Proj\U-6241_Rdy_psh07.dgn
tbarnes



MATCHLINE -L- STA 55+00
SEE SHEET 7
MATCHLINE -L- STA 68+50
SEE SHEET 9
NAD 83
-L- PT Sta. 58+32.97
-L- PRC Sta. 56+08.58
END MILL BEGIN GRADE -L- STA 58+40.00
END GRADE BEGIN MILLING -L- STA 60+60.00
N 55°17'06.1" E
RICHARD C & SHIRLEY B BARTHOLOMEW
DB 4725 PG 880
BM 1990 PG 245
ROSEMART PROPERTIES LLC
DB 15225 PG 1804
BM 1979 PG 83
R P DIEHL PROPERTIES LLC
DB 15544 PG 1005
COFFEE LODGE PROPERTIES LLC
DB 15814 PG 633
BM 2008 PG 619
CAROLINAZ LLC
DB 12167 PG 1803
BM 2003 PG 1903
DOITAL INVESTMENTS LLC
DB 12193 PG 2360
BM 2003 PG 1903
TOY STORAGE LLC
DB 18244 PG 2611
BM 2013 PG 1030
2 SMITHS LLC
DB 11375 PG 938
BM 2005 PG 474
MCDONLADS REAL ESTATE CO
DB 11723 PG 1099
BM 1996 PG 13
REFUEL OPERATING COMPANY LLC
DB 18192 PG 2587
BM 1993 PG 1381
DOLGENCORP INC
DB 9474 PG 2237
BM 1993 PG 1381
BODDIE NOELL ENTERPRISES INC
DB 10255 PG 2723
BM 1992 PG 1447
REDFORD CENTER I LLC
REDFORD CENTER II LLC
DB 11968 PG 1992
BM 1993 PG 1381
STORAGE MAX II LLC
DB 11710 PG 2072
ENSURE WATER DRAINS ACROSS DRIVEWAY TO 0806 AND DOES NOT POND
ENSURE WATER DRAINS ACROSS DRIVEWAY TO 0801 AND DOES NOT POND
ENSURE WATER DRAINS ACROSS DRIVEWAY TO 0802 AND DOES NOT POND
REPLACE CURB AND GUTTER AS NEEDED TO DRAIN TO 0807
REPLACE CURB AND GUTTER AS NEEDED TO DRAIN TO 0808
100' LANE SHIFT
150' LANE SHIFT
100' BAY TAPER
100' TAPER
100' LANE SHIFTS LT & RT
SEE NOTE

PROJECT REFERENCE NO. U-6241 | SHEET NO. 8

R/W SHEET NO.

ROADWAY DESIGN ENGINEER | HYDRAULICS ENGINEER

Stantec

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Fax. (919) 851-7024
www.stantec.com
License No. F-0672

SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
NC COA No. C-0890

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-	
PI Sta 55+41.73	PI Sta 57+20.78
Δ = 0°38' 18.0" (RT)	Δ = 1°04' 17.0" (LT)
D = 0°28' 38.9"	D = 0°28' 38.9"
L = 133.69'	L = 224.39'
T = 66.85'	T = 112.20'
R = 12,000.00'	R = 12,000.00'
SE = SEE PLANS	SE = SEE PLANS

NOTED CURB RAMP IMPROVEMENTS ON THIS SHEET ARE SUBJECT TO FEDERAL REIMBURSEMENT UNDER WBS 49183.3.2

NOTE: FOR -L- PROFILE SEE SHEET 16

8/17/99

9/20/2021
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thoppe

PROJECT REFERENCE NO.	SHEET NO.
U-6241	9

R/W SHEET NO.

ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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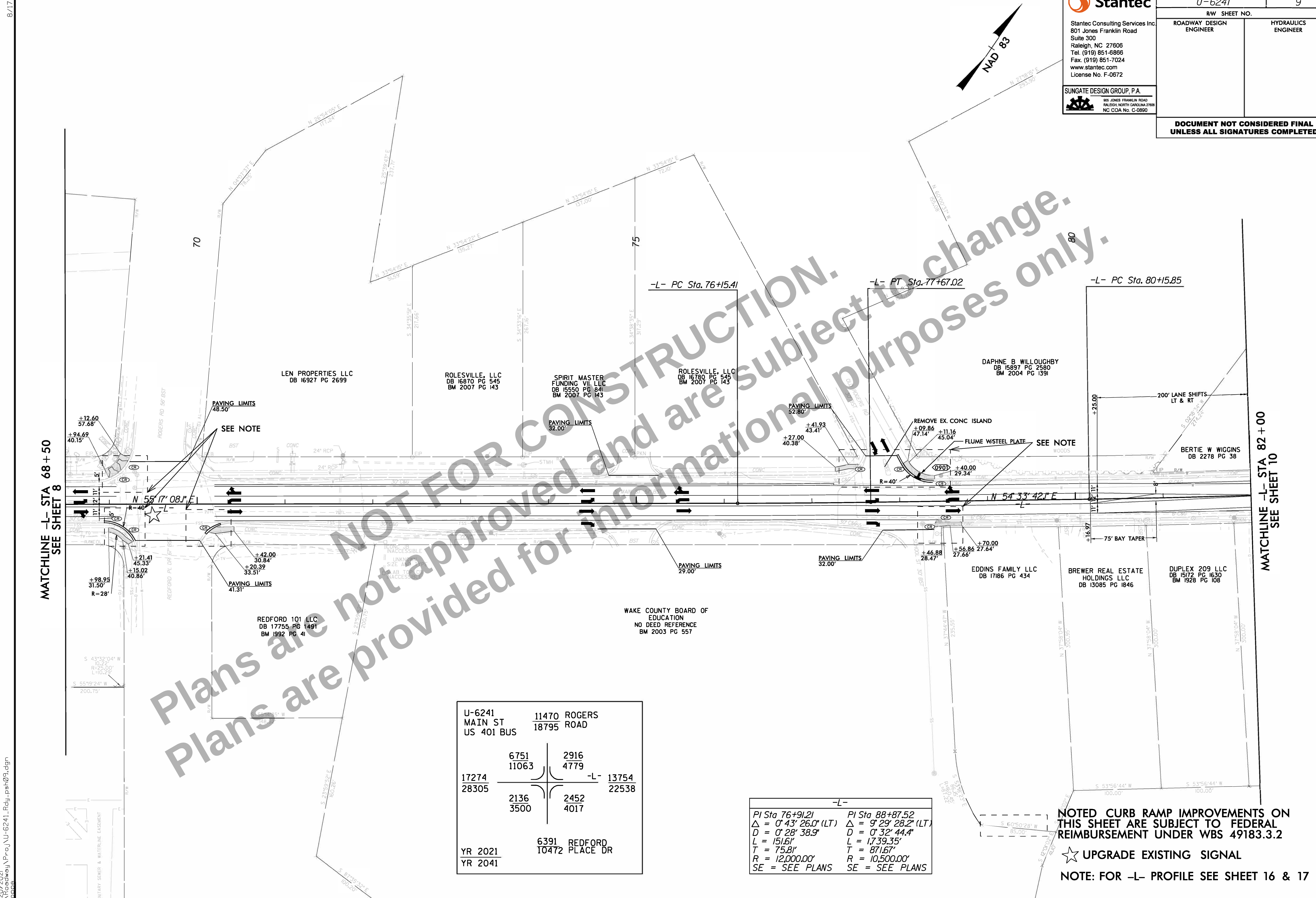

U-6241 MAIN ST US 401 BUS		
ROGERS ROAD	11470 / 18795	
-L- (west)	17274 / 28305	
-L- (east)	13754 / 22538	
Movements	6751 / 11063	2916 / 4779
Movements	2136 / 3500	2452 / 4017
REDFORD PLACE DR	6391 / 10472	
YR 2021 / YR 2041		

-L-	
PI Sta 76+91.21	PI Sta 88+87.52
Δ = 0° 43' 26.0" (LT)	Δ = 9° 29' 28.2" (LT)
D = 0° 28' 38.9"	D = 0° 32' 44.4"
L = 151.61'	L = 1,739.35'
T = 75.81'	T = 871.67'
R = 12,000.00'	R = 10,500.00'
SE = SEE PLANS	SE = SEE PLANS

NOTED CURB RAMP IMPROVEMENTS ON THIS SHEET ARE SUBJECT TO FEDERAL REIMBURSEMENT UNDER WBS 49183.3.2

☆ UPGRADE EXISTING SIGNAL

NOTE: FOR -L- PROFILE SEE SHEET 16 & 17

8/17/99
9/20/2021
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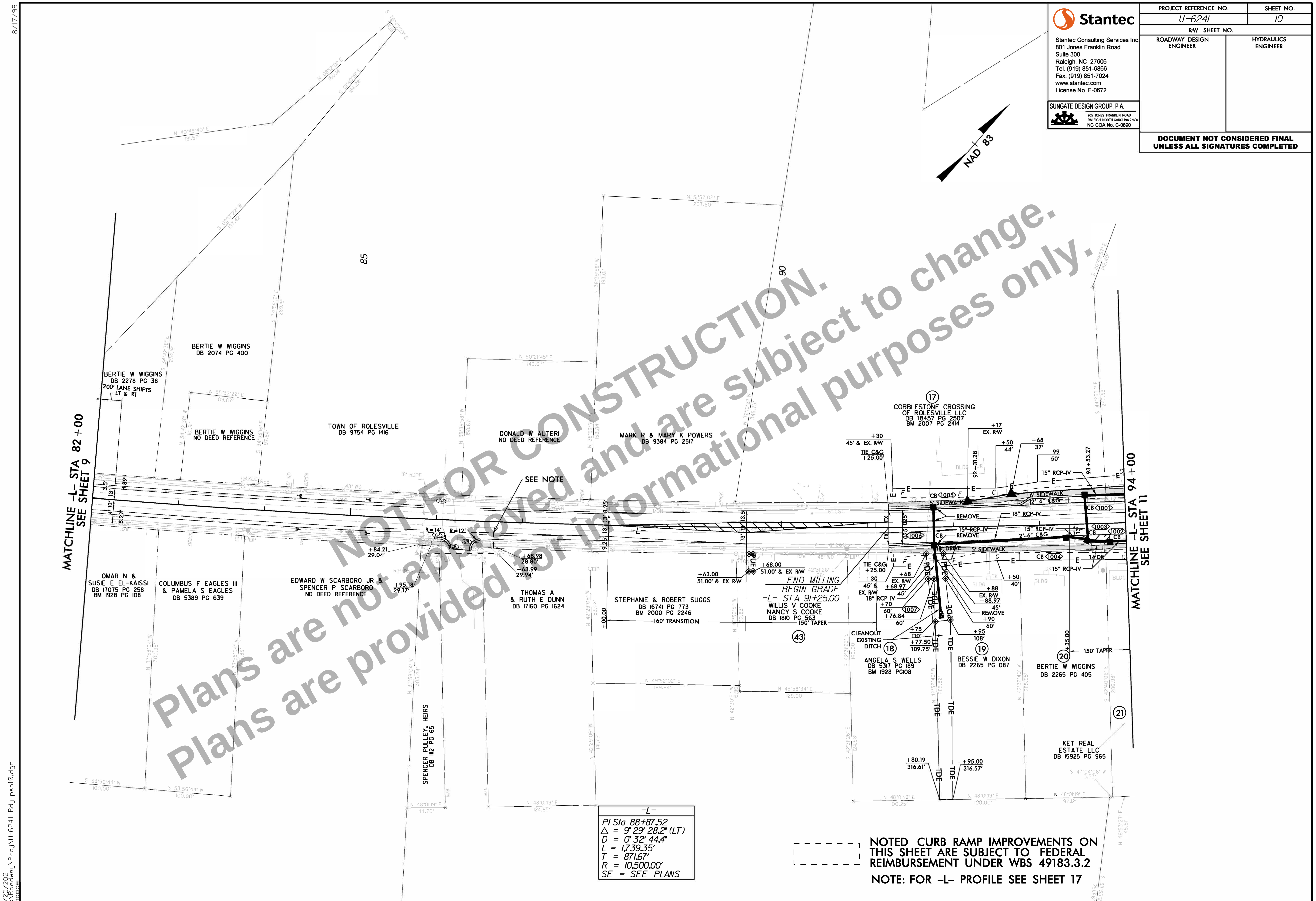

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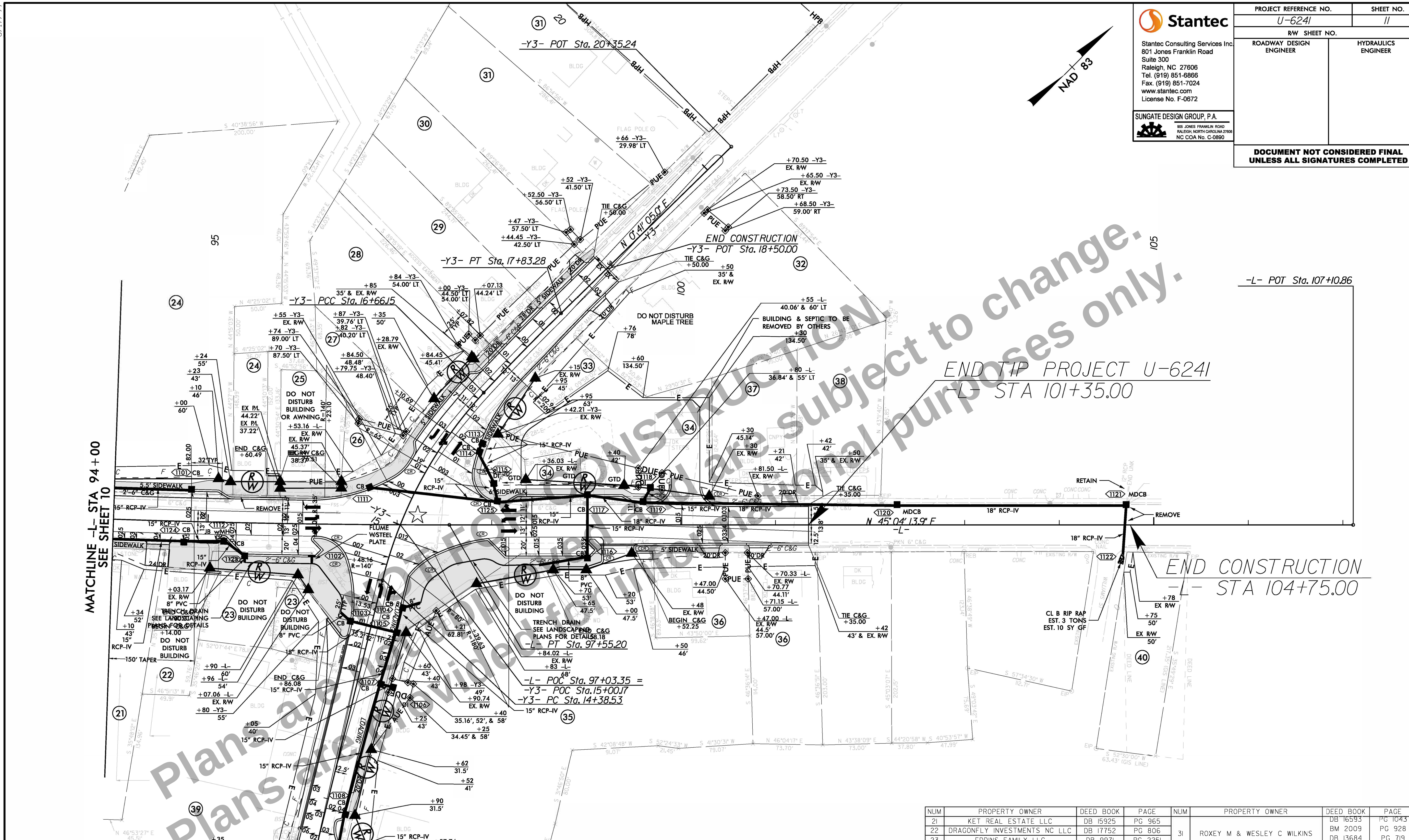
License No. F-0672
SUNGATE DESIGN GROUP, P.A.
NC COA No. C-0890
PROJECT REFERENCE NO.
U-6241
SHEET NO.
10
R/W SHEET NO.
ROADWAY DESIGN ENGINEER
HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
NAD 83
NOT FOR CONSTRUCTION.
Plans are not approved and are subject to change.
Plans are provided for informational purposes only.
MATCHLINE -L- STA 82+00
SEE SHEET 9
MATCHLINE -L- STA 94+00
SEE SHEET 11
BERTIE W WIGGINS
DB 2074 PG 400
BERTIE W WIGGINS
DB 2278 PG 38
200' LANE SHIFTS
LT & RT
BERTIE W WIGGINS
NO DEED REFERENCE
TOWN OF ROLESVILLE
DB 9754 PG 1416
DONALD W AUTERI
NO DEED REFERENCE
MARK R & MARY K POWERS
DB 9384 PG 2517
COBBLESTONE CROSSING
OF ROLESVILLE LLC
DB 18457 PG 2507
BM 2007 PG 2414
OMAR N &
SUSIE E EL-KAISSI
DB 17075 PG 258
BM 1928 PG 108
COLUMBUS F EAGLES III
& PAMELA S EAGLES
DB 5389 PG 639
EDWARD W SCARBORO JR &
SPENCER P SCARBORO
NO DEED REFERENCE
THOMAS A
& RUTH E DUNN
DB 17160 PG 1624
STEPHANIE & ROBERT SUGGS
DB 16741 PG 773
BM 2000 PG 2246
WILLIS V COOKE
NANCY S COOKE
DB 1810 PG 563
ANGELA S WELLS
DB 5317 PG 189
BM 1928 PG108
BESSIE W DIXON
DB 2265 PG 087
BERTIE W WIGGINS
DB 2265 PG 405
KET REAL
ESTATE LLC
DB 15925 PG 965
SPENCER PULLEY, HEIRS
DB 1112 PG 65
SEE NOTE
END MILLING
BEGIN GRADE
-L- STA 91+25.00
160' TRANSITION
150' TAPER
REMOVE
SIDEWALK
5' SIDEWALK
18" RCP-IV
15" RCP-IV
CLEANOUT
EXISTING DITCH
TIE C&G
-L-
PI Sta 88+87.52
Δ = 9° 29' 28.2" (LT)
D = 0° 32' 44.4"
L = 1,739.35'
T = 871.67'
R = 10,500.00'
SE = SEE PLANS
NOTED CURB RAMP IMPROVEMENTS ON
THIS SHEET ARE SUBJECT TO FEDERAL
REIMBURSEMENT UNDER WBS 49183.3.2
NOTE: FOR -L- PROFILE SEE SHEET 17



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SUNGATE DESIGN GROUP, P.A.
905 JONES FRANKLIN ROAD
RALEIGH, NORTH CAROLINA 27606
NC COA No. C-0890

PROJECT REFERENCE NO.	SHEET NO.
U-6241	11
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-L-
PI Sta 88+87.52 Δ = 9° 29' 28.2" (LT) D = 0° 32' 44.4" L = 1,739.35' T = 871.67' R = 10,500.00' SE = SEE PLANS

-Y3-	
PI Sta 15+54.83 Δ = 28° 58' 52.1" (RT) D = 12° 43' 56.6" L = 227.62' T = 116.30' R = 450.00' SE = SEE PLANS	PI Sta 17+24.72 Δ = 2° 44' 21.3" (RT) D = 2° 20' 19.0" L = 117.13' T = 58.58' R = 2,450.00' SE = SEE PLANS

☆ UPGRADE EXISTING SIGNAL

NOTE:
FOR -L- PROFILE SEE SHEET 17
FOR -Y3- PROFILE SEE SHEET 19
FOR DIMENSIONS SEE SHEET 2B-4

NUM	PROPERTY OWNER	DEED BOOK	PAGE
21	KET REAL ESTATE LLC	DB 15925	PG 965
22	DRAGONFLY INVESTMENTS NC LLC	DB 17752	PG 806
23	EDDINS FAMILY LLC	DB 9971	PG 2251
24	COBBLESTONE CROSSING OF ROLESVILLE LLC	DB 18457 BM 1958	PG 2507 PG 95
25	PRIVETTE PROPERTIES LLC	DB 12763 BM 1981	PG 2560 PG 506
26	COBBLESTONE CROSSING OF ROLESVILLE LLC	DB 18457	PG 2507
27	COBBLESTONE CROSSING OF ROLESVILLE LLC	DB 18457 BM 1999	PG 2507 PG 2152
28	COBBLESTONE CROSSING OF ROLESVILLE LLC	DB 18457	PG 2507
29	COBBLESTONE CROSSING OF ROLESVILLE LLC	DB 18457	PG 2507
30	LINDA ESTELLE MERRITT, ROXEY M WILKINS	DB 16423 BM 1964	PG 2434 PG 148
31	ROXEY M & WESLEY C WILKINS	DB 16593 BM 2009 DB 13684 BM 2009	PG 1043 PG 928 PG 719 PG 928
32	ELIZABETH & FRED J. WILLIAMS III	N/A	N/A
33	SUSIE H. WILLIAMS	DB 12976	PG 1157
34	TOWN OF ROLESVILLE	DB 14567 DB 2228	PG 741 PG 240
35	EDDINS FAMILY LLC	DB 9971 BM 2016	PG 2251 PG 660
36	EDDINS FAMILY LLC	DB 9971 BM 2016 DB 17835	PG 2251 PG 660 PG 2092
37	WENDY LEIGH BANNER	DB 15275	PG 1362
38	DRCW INVESTMENTS LLC	DB 15530	PG 1231
39	ROLESVILLE RURAL FIRE DEPT INC	DB 6469 BM 1995	PG 282 PG 404
40	ALICE FAULKNER COOK	DB 4134	PG 583

8/17/99
9/20/2021
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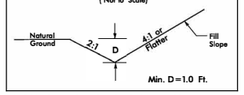
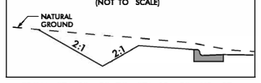
8/17/99

DETAIL 3
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



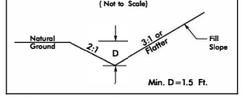
FROM STA. 23+50 TO STA. 25+00 -Y1- LT

DETAIL 2
SPECIAL BACK OF CURB CUT DITCH
(NOT TO SCALE)



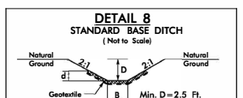
FROM STA. 10+50 TO STA. 12+50 -Y2- RT

DETAIL 6
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM STA. 21+50 TO STA. 24+50 -Y1- RT

DETAIL 8
STANDARD BASE DITCH
(Not to Scale)



STA. 16+15 -Y1- LT

NAD 83

END GRADE, BEGIN MILL & FILL
-Y2- POT Sta. 16+60.00

MATCHLINE -Y2- STA 17+00 SEE SHEET 6

BEGIN CONSTRUCTION
-Y1- STA 25+00.00

(11) CAPITAL COMPANIES GROUP LLC
DB 16742 PG 2382
-Y2- PT Sta. 16+53.65
BRDG AH=S 86° 38' 08.0" E

(10) JASON DAVIS
JULIA DAVIS
DB 18302 PG 878
BM 2017 PG 2255

(8) WILLARD PARKS,
BARBARA FREEMAN PARKS
DB 1781 PG 10

(9) BERTIE WALL WIGGINS
& BESSIE WAKE DIXON
DB 11256 PG 2438

(5) WALLBROOK LAND CO., LLC
DB 17801 PG 1550

(7) BROTHERS FORTY SIX LLC
DB 13125 PG PG 2343
BM 2008 PG 1281

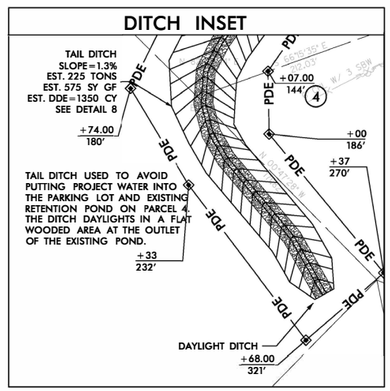
-Y1- PC Sta. 25+40.73
-Y1- PT Sta. 26+32.04
-Y1- PT Sta. 23+99.38
-Y1- PC Sta. 20+19.10
-Y1- PT Sta. 18+83.32
-Y2- PC Sta. 11+00.00
-Y2- PRC Sta. 12+70.69
-Y1- POC Sta. 16+79.14 =
-Y2- POT Sta. 10+00.00
BRDG AH = N 62° 57' 27.1" E

N 45° 58' 18.2" W

-Y1-		
PI Sta 16+89.75	PI Sta 22+17.74	PI Sta 25+86.41
△ = 43° 53' 56.0" (RT)	△ = 40° 52' 43.3" (LT)	△ = 5° 13' 54.0" (LT)
D = 10° 44' 58.8"	D = 10° 44' 58.8"	D = 5° 43' 46.5"
L = 408.37'	L = 380.28'	L = 91.31'
T = 214.80'	T = 198.64'	T = 45.69'
R = 533.00'	R = 533.00'	R = 1,000.00'
SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS

-Y2-	
PI Sta 11+86.66	PI Sta 14+78.28
△ = 24° 26' 57.0" (LT)	△ = 54° 51' 21.9" (RT)
D = 14° 19' 26.2"	D = 14° 19' 26.2"
L = 170.69'	L = 382.97'
T = 86.66'	T = 207.59'
R = 400.00'	R = 400.00'
SE = SEE PLANS	SE = SEE PLANS

DITCH INSET



SYSTEM 1222 SIZED FOR ANTICIPATED FUTURE IMPERVIOUS AREA. CALCS AND PREPOST DO NOT ACCOUNT FOR FUTURE DETENTION THAT WOULD BE REQUIRED FOR DEVELOPMENT.

MATCHLINE SEE DITCH INSET

MATCHLINE -Y1- STA 15+50 SEE SHEET 6

NOTE:
FOR -Y1- PROFILE SEE SHEET 18
FOR -Y2- PROFILE SEE SHEET 19

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RALEIGH, NORTH CAROLINA 27606
NC COA No. C-0890

PROJECT REFERENCE NO.	SHEET NO.
U-6241	12
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

9/20/2021
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thomas

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
U-6241	13
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

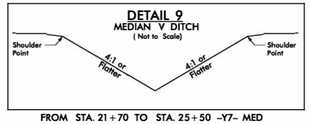
NAD 83

20

25

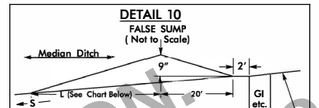
30

DETAIL 9
MEDIAN V DITCH
(Not to Scale)



FROM STA. 21+70 TO STA. 25+50 -Y7- MED

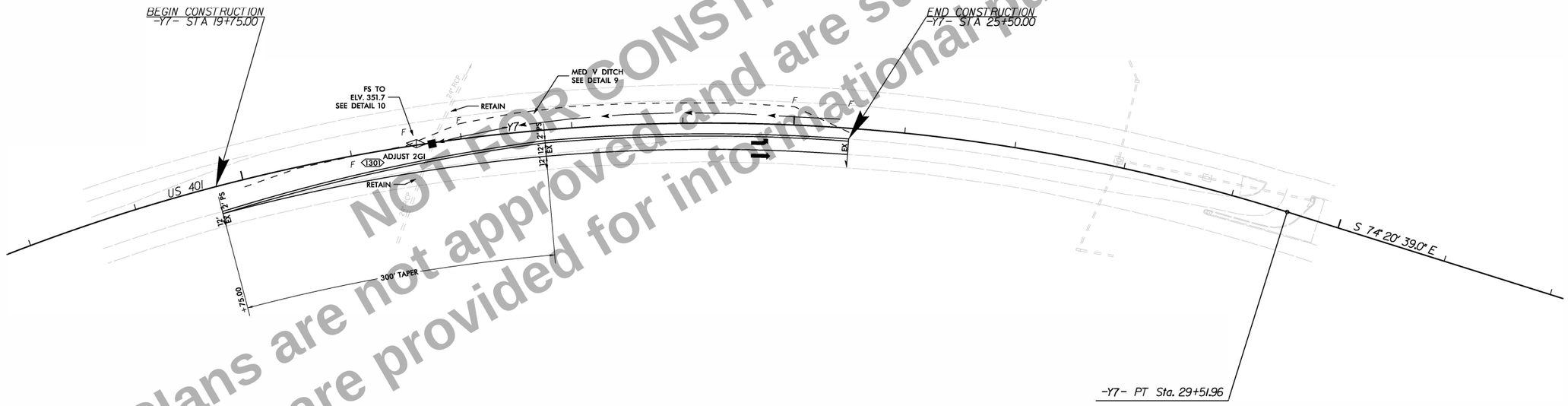
DETAIL 10
FALSE SUMP
(Not to Scale)



S= Ditch Slope

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

STA. 21+70 -Y7- MED



-Y7-
PI Sta 23+34.65
△ = 42° 38' 33.8" (RT)
D = 3° 17' 06.4"
L = 1,298.06'
T = 680.75'
R = 1,744.10'
SE = SEE PLANS

U-6241
MAIN ST
US 401 BUS

16404 / 26880 US 401 BUS

-L-

15142 / 24812

1262 / 2068

32493 / 53243

18613 / 30499

US 401 BYPASS
-Y7-

YR 2021
YR 2041

ALL WORK ON THIS SHEET IS ASSOCIATED WITH WALLBROOK DEVELOPMENT AND IS NOT SUBJECT TO FEDERAL REIMBURSEMENT.

9/20/2021
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kbrooks

APPENDIX F

CAPACITY ANALYSIS CALCULATIONS

MAIN STREET

&

YOUNG STREET

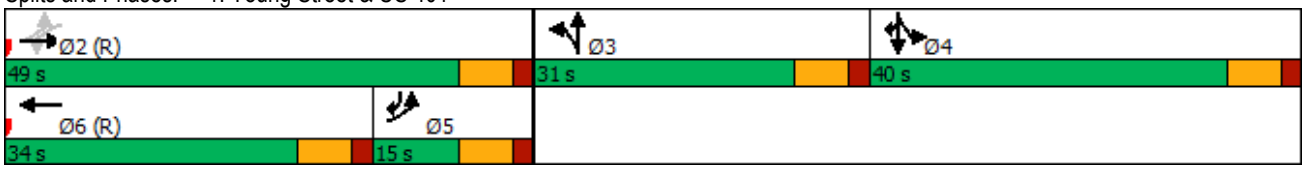
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	117	120	5	203	16	205	176	7	10	304	246
Future Volume (vph)	151	117	120	5	203	16	205	176	7	10	304	246
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			-1%	
Storage Length (ft)	400		0	350		0	100		0	0		250
Storage Lanes	1		0	1		0	1		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		0.924			0.989			0.994				0.850
Flt Protected	0.950			0.950			0.950				0.998	
Satd. Flow (prot)	1778	1730	0	1761	1833	0	1770	1852	0	0	1868	1591
Flt Permitted	0.500			0.527			0.950				0.998	
Satd. Flow (perm)	936	1730	0	977	1833	0	1770	1852	0	0	1868	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2380			764			3307			1203	
Travel Time (s)		46.4			14.9			64.4			23.4	
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)	168	130	133	6	226	18	228	196	8	11	338	273
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	263	0	6	244	0	228	204	0	0	349	273
Turn Type	pm+pt	NA		D.Pm	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2			6		3	3		4	4	4 5
Permitted Phases	2			2								
Detector Phase	5	2		2	6		3	3		4	4	4 5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	17.0		17.0	17.0		14.0	14.0		14.0	14.0	
Total Split (s)	15.0	49.0		49.0	34.0		31.0	31.0		40.0	40.0	
Total Split (%)	12.5%	40.8%		40.8%	28.3%		25.8%	25.8%		33.3%	33.3%	
Maximum Green (s)	8.0	42.0		42.0	27.0		24.0	24.0		33.0	33.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0			-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag	Lag				Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes				Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Act Effct Green (s)	53.8	53.8		53.8	38.8		21.9	21.9			29.3	39.3
Actuated g/C Ratio	0.45	0.45		0.45	0.32		0.18	0.18			0.24	0.33
v/c Ratio	0.34	0.34		0.01	0.41		0.71	0.61			0.77	0.52
Control Delay	27.9	25.4		23.4	37.0		58.0	52.4			53.2	21.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	27.9	25.4		23.4	37.0		58.0	52.4			53.2	21.6
LOS	C	C		C	D		E	D			D	C
Approach Delay		26.4			36.7			55.3			39.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			D			E			D	
Queue Length 50th (ft)	80	133		3	151		166	146			249	94
Queue Length 95th (ft)	146	227		12	253		246	219			340	125
Internal Link Dist (ft)		2300			684			3227			1123	
Turn Bay Length (ft)	400			350			100					250
Base Capacity (vph)	489	775		438	592		383	401			544	596
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	0.34	0.34		0.01	0.41		0.60	0.51			0.64	0.46

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBWB and 6:WBT, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 39.7 Intersection LOS: D
Intersection Capacity Utilization 66.4% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Young Street & US 401

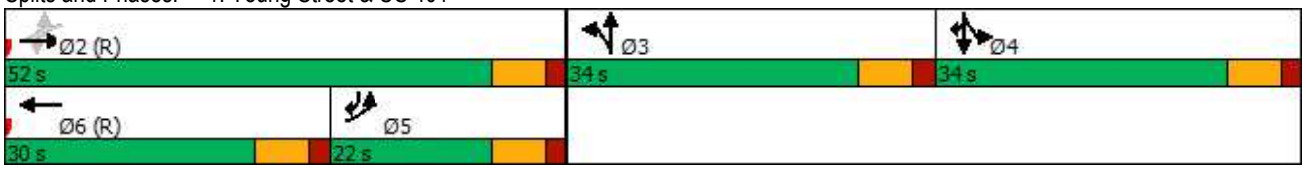


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	262	250	180	9	152	27	132	250	9	19	238	218
Future Volume (vph)	262	250	180	9	152	27	132	250	9	19	238	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			-1%	
Storage Length (ft)	400		0	350		0	100		0	0		250
Storage Lanes	1		0	1		0	1		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		0.937			0.977			0.995				0.850
Flt Protected	0.950			0.950			0.950				0.996	
Satd. Flow (prot)	1778	1754	0	1761	1811	0	1770	1853	0	0	1865	1591
Flt Permitted	0.537			0.327			0.950				0.996	
Satd. Flow (perm)	1005	1754	0	606	1811	0	1770	1853	0	0	1865	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2380			764			3307			1203	
Travel Time (s)		46.4			14.9			64.4			23.4	
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)	291	278	200	10	169	30	147	278	10	21	264	242
Shared Lane Traffic (%)												
Lane Group Flow (vph)	291	478	0	10	199	0	147	288	0	0	285	242
Turn Type	pm+pt	NA		D.Pm	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2			6		3	3		4	4	4 5
Permitted Phases	2			2								
Detector Phase	5	2		2	6		3	3		4	4	4 5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	17.0		17.0	17.0		14.0	14.0		14.0	14.0	
Total Split (s)	22.0	52.0		52.0	30.0		34.0	34.0		34.0	34.0	
Total Split (%)	18.3%	43.3%		43.3%	25.0%		28.3%	28.3%		28.3%	28.3%	
Maximum Green (s)	15.0	45.0		45.0	23.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0			-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag	Lag				Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes				Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Act Effct Green (s)	55.3	55.3		55.3	33.3		24.9	24.9			24.8	41.8
Actuated g/C Ratio	0.46	0.46		0.46	0.28		0.21	0.21			0.21	0.35
v/c Ratio	0.51	0.59		0.04	0.40		0.40	0.75			0.74	0.44
Control Delay	31.2	29.9		22.6	40.8		43.6	56.9			56.2	17.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	31.2	29.9		22.6	40.8		43.6	56.9			56.2	17.6
LOS	C	C		C	D		D	E			E	B
Approach Delay		30.4			39.9			52.4			38.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	146	275		4	128		98	209			207	71
Queue Length 95th (ft)	241	433		17	216		156	298			294	101
Internal Link Dist (ft)		2300			684			3227			1123	
Turn Bay Length (ft)	400			350			100					250
Base Capacity (vph)	572	808		279	502		427	447			451	610
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	0.51	0.59		0.04	0.40		0.34	0.64			0.63	0.40

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 17 (14%), Referenced to phase 2:EBWB and 6:WBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 38.5		Intersection LOS: D	
Intersection Capacity Utilization 76.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Young Street & US 401



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	168	149	16	246	19	244	375	14	12	446	285
Future Volume (vph)	175	168	149	16	246	19	244	375	14	12	446	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			-1%	
Storage Length (ft)	400		0	350		0	100		0	0		250
Storage Lanes	1		0	1		0	1		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		0.929			0.989			0.994				0.850
Flt Protected	0.950			0.950			0.950				0.999	
Satd. Flow (prot)	1778	1739	0	1761	1833	0	1770	1852	0	0	1870	1591
Flt Permitted	0.323			0.345			0.950				0.999	
Satd. Flow (perm)	605	1739	0	639	1833	0	1770	1852	0	0	1870	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2380			764			3307			1203	
Travel Time (s)		46.4			14.9			64.4			23.4	
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)	194	187	166	18	273	21	271	417	16	13	496	317
Shared Lane Traffic (%)												
Lane Group Flow (vph)	194	353	0	18	294	0	271	433	0	0	509	317
Turn Type	pm+pt	NA		D.Pm	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2			6		3	3		4	4	4 5
Permitted Phases	2			2								
Detector Phase	5	2		2	6		3	3		4	4	4 5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	17.0		17.0	17.0		14.0	14.0		14.0	14.0	
Total Split (s)	14.0	43.0		43.0	29.0		36.0	36.0		41.0	41.0	
Total Split (%)	11.7%	35.8%		35.8%	24.2%		30.0%	30.0%		34.2%	34.2%	
Maximum Green (s)	7.0	36.0		36.0	22.0		29.0	29.0		34.0	34.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0			-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag	Lag				Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes				Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Act Effct Green (s)	39.3	39.3		39.3	25.3		30.4	30.4			35.2	44.2
Actuated g/C Ratio	0.33	0.33		0.33	0.21		0.25	0.25			0.29	0.37
v/c Ratio	0.68	0.62		0.09	0.76		0.60	0.92			0.93	0.54
Control Delay	53.5	40.3		30.4	59.0		45.9	70.2			65.6	20.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	53.5	40.3		30.4	59.0		45.9	70.2			65.6	20.6
LOS	D	D		C	E		D	E			E	C
Approach Delay		45.0			57.4			60.8			48.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			E			E			D	
Queue Length 50th (ft)	115	234		10	219		184	326			379	96
Queue Length 95th (ft)	#187	340		29	#354		276	#514			#581	176
Internal Link Dist (ft)		2300			684			3227			1123	
Turn Bay Length (ft)	400			350			100					250
Base Capacity (vph)	286	569		209	386		457	478			561	596
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	0.68	0.62		0.09	0.76		0.59	0.91			0.91	0.53

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 5 (4%), Referenced to phase 2:EBWB and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 52.4 Intersection LOS: D
Intersection Capacity Utilization 87.7% 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: Young Street & US 401

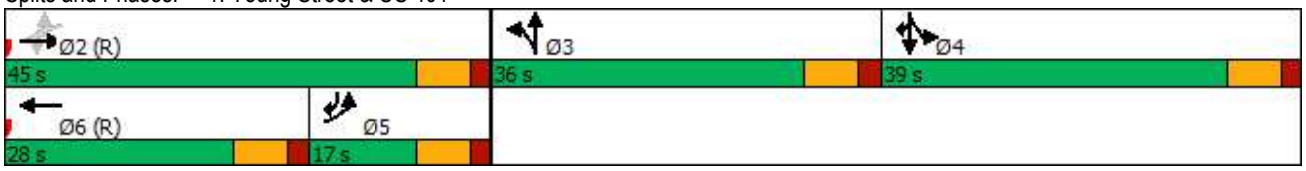
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	304	312	217	18	210	31	164	430	21	22	464	253
Future Volume (vph)	304	312	217	18	210	31	164	430	21	22	464	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			-1%	
Storage Length (ft)	400		0	350		0	100		0	0		250
Storage Lanes	1		0	1		0	1		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		0.939			0.981			0.993				0.850
Flt Protected	0.950			0.950			0.950				0.998	
Satd. Flow (prot)	1778	1758	0	1761	1818	0	1770	1850	0	0	1868	1591
Flt Permitted	0.342			0.100			0.950				0.998	
Satd. Flow (perm)	640	1758	0	185	1818	0	1770	1850	0	0	1868	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2380			764			3307			1203	
Travel Time (s)		46.4			14.9			64.4			23.4	
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)	338	347	241	20	233	34	182	478	23	24	516	281
Shared Lane Traffic (%)												
Lane Group Flow (vph)	338	588	0	20	267	0	182	501	0	0	540	281
Turn Type	pm+pt	NA		D.Pm	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2			6		3	3		4	4	4 5
Permitted Phases	2			2								
Detector Phase	5	2		2	6		3	3		4	4	4 5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	17.0		17.0	17.0		14.0	14.0		14.0	14.0	
Total Split (s)	17.0	45.0		45.0	28.0		36.0	36.0		39.0	39.0	
Total Split (%)	14.2%	37.5%		37.5%	23.3%		30.0%	30.0%		32.5%	32.5%	
Maximum Green (s)	10.0	38.0		38.0	21.0		29.0	29.0		32.0	32.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0			-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag	Lag				Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes				Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Act Effct Green (s)	40.0	40.0		40.0	23.0		31.0	31.0			34.0	46.0
Actuated g/C Ratio	0.33	0.33		0.33	0.19		0.26	0.26			0.28	0.38
v/c Ratio	1.03	1.00		0.33	0.77		0.40	1.05			1.02	0.46
Control Delay	102.9	78.4		47.4	61.6		40.0	98.4			87.3	16.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	102.9	78.4		47.4	61.6		40.0	98.4			87.3	16.8
LOS	F	E		D	E		D	F			F	B
Approach Delay		87.4			60.6			82.8			63.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		F			E			F			E	
Queue Length 50th (ft)	~225	~457		12	198		117	~422			~444	83
Queue Length 95th (ft)	#445	#696		39	#320		187	#635			#660	125
Internal Link Dist (ft)		2300			684			3227			1123	
Turn Bay Length (ft)	400			350			100					250
Base Capacity (vph)	327	586		61	348		457	477			529	609
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	1.03	1.00		0.33	0.77		0.40	1.05			1.02	0.46

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 14 (12%), Referenced to phase 2:EBWB and 6:WBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 76.1 Intersection LOS: E
Intersection Capacity Utilization 104.2% 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: Young Street & US 401



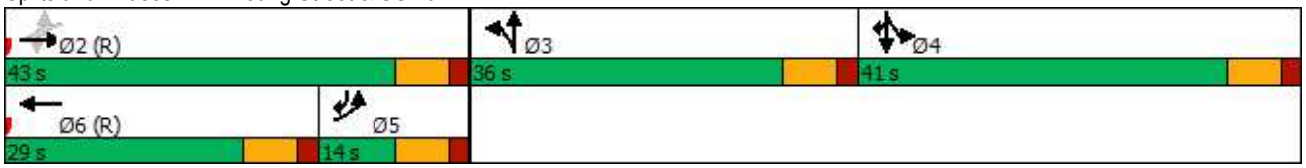
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	171	149	19	253	19	244	376	15	12	449	290
Future Volume (vph)	177	171	149	19	253	19	244	376	15	12	449	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			-1%	
Storage Length (ft)	400		0	350		0	100		0	0		250
Storage Lanes	1		0	1		0	1		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		0.930			0.990			0.994				0.850
Flt Protected	0.950			0.950			0.950				0.999	
Satd. Flow (prot)	1778	1741	0	1761	1835	0	1770	1852	0	0	1870	1591
Flt Permitted	0.307			0.340			0.950				0.999	
Satd. Flow (perm)	575	1741	0	630	1835	0	1770	1852	0	0	1870	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2380			764			3307			1203	
Travel Time (s)		46.4			14.9			64.4			23.4	
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)	197	190	166	21	281	21	271	418	17	13	499	322
Shared Lane Traffic (%)												
Lane Group Flow (vph)	197	356	0	21	302	0	271	435	0	0	512	322
Turn Type	pm+pt	NA		D.Pm	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2			6		3	3		4	4	4 5
Permitted Phases	2			2								
Detector Phase	5	2		2	6		3	3		4	4	4 5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	17.0		17.0	17.0		14.0	14.0		14.0	14.0	
Total Split (s)	14.0	43.0		43.0	29.0		36.0	36.0		41.0	41.0	
Total Split (%)	11.7%	35.8%		35.8%	24.2%		30.0%	30.0%		34.2%	34.2%	
Maximum Green (s)	7.0	36.0		36.0	22.0		29.0	29.0		34.0	34.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0			-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag	Lag				Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes				Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Act Effct Green (s)	39.2	39.2		39.2	25.2		30.5	30.5			35.3	44.3
Actuated g/C Ratio	0.33	0.33		0.33	0.21		0.25	0.25			0.29	0.37
v/c Ratio	0.71	0.63		0.10	0.78		0.60	0.93			0.93	0.55
Control Delay	56.2	40.5		30.8	60.7		45.8	70.7			66.4	20.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	56.2	40.5		30.8	60.7		45.8	70.7			66.4	20.9
LOS	E	D		C	E		D	E			E	C
Approach Delay		46.1			58.7			61.1			48.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			E			E			D	
Queue Length 50th (ft)	117	236		12	226		184	328			382	98
Queue Length 95th (ft)	#201	343		32	#370		276	#519			#586	182
Internal Link Dist (ft)		2300			684			3227			1123	
Turn Bay Length (ft)	400			350			100					250
Base Capacity (vph)	278	569		206	386		457	478			561	596
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	0.71	0.63		0.10	0.78		0.59	0.91			0.91	0.54

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 5 (4%), Referenced to phase 2:EBWB and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 53.1 Intersection LOS: D
Intersection Capacity Utilization 88.1% 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: Young Street & US 401



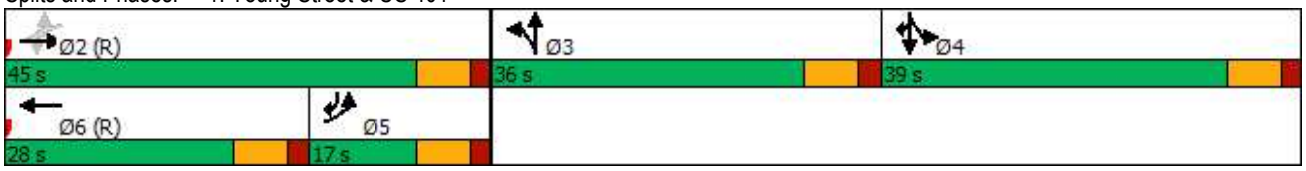
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	308	318	217	20	214	31	164	432	23	22	466	256
Future Volume (vph)	308	318	217	20	214	31	164	432	23	22	466	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			-1%	
Storage Length (ft)	400		0	350		0	100		0	0		250
Storage Lanes	1		0	1		0	1		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		0.939			0.981			0.992				0.850
Flt Protected	0.950			0.950			0.950				0.998	
Satd. Flow (prot)	1778	1758	0	1761	1818	0	1770	1848	0	0	1868	1591
Flt Permitted	0.333			0.100			0.950				0.998	
Satd. Flow (perm)	623	1758	0	185	1818	0	1770	1848	0	0	1868	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		2380			764			3307			1203	
Travel Time (s)		46.4			14.9			64.4			23.4	
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)	342	353	241	22	238	34	182	480	26	24	518	284
Shared Lane Traffic (%)												
Lane Group Flow (vph)	342	594	0	22	272	0	182	506	0	0	542	284
Turn Type	pm+pt	NA		D.Pm	NA		Split	NA		Split	NA	pt+ov
Protected Phases	5	2			6		3	3		4	4	4 5
Permitted Phases	2			2								
Detector Phase	5	2		2	6		3	3		4	4	4 5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	14.0	17.0		17.0	17.0		14.0	14.0		14.0	14.0	
Total Split (s)	17.0	45.0		45.0	28.0		36.0	36.0		39.0	39.0	
Total Split (%)	14.2%	37.5%		37.5%	23.3%		30.0%	30.0%		32.5%	32.5%	
Maximum Green (s)	10.0	38.0		38.0	21.0		29.0	29.0		32.0	32.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0			-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	
Lead/Lag	Lag				Lead		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes				Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Act Effct Green (s)	40.0	40.0		40.0	23.0		31.0	31.0			34.0	46.0
Actuated g/C Ratio	0.33	0.33		0.33	0.19		0.26	0.26			0.28	0.38
v/c Ratio	1.06	1.01		0.36	0.78		0.40	1.06			1.02	0.47
Control Delay	110.0	80.8		50.1	62.8		40.0	101.3			88.2	16.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	0.0
Total Delay	110.0	80.8		50.1	62.8		40.0	101.3			88.2	16.9
LOS	F	F		D	E		D	F			F	B
Approach Delay		91.5			61.8			85.1			63.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		F			E			F			E	
Queue Length 50th (ft)	~236	~471		13	202		117	~431			~447	84
Queue Length 95th (ft)	#458	#709		43	#330		187	#644			#665	127
Internal Link Dist (ft)		2300			684			3227			1123	
Turn Bay Length (ft)	400			350			100					250
Base Capacity (vph)	323	586		61	348		457	477			529	609
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	1.06	1.01		0.36	0.78		0.40	1.06			1.02	0.47

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 14 (12%), Referenced to phase 2:EBWB and 6:WBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 78.3 Intersection LOS: E
Intersection Capacity Utilization 104.9% 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: Young Street & US 401



APPENDIX G

CAPACITY ANALYSIS CALCULATIONS

YOUNG STREET

&

WILLIAMS STREET

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	126	4	4	218	4	4
Future Vol, veh/h	126	4	4	218	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	140	4	4	242	4	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	144	0	392	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	250	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1438	-	612	906
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	792	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1438	-	610	906
Mov Cap-2 Maneuver	-	-	-	-	656	-
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	790	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	761	-	-	1438	-
HCM Lane V/C Ratio	0.012	-	-	0.003	-
HCM Control Delay (s)	9.8	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	269	4	4	168	4	4
Future Vol, veh/h	269	4	4	168	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	299	4	4	187	4	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	303	0	496	301
Stage 1	-	-	-	-	301	-
Stage 2	-	-	-	-	195	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1258	-	533	739
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	838	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1258	-	531	739
Mov Cap-2 Maneuver	-	-	-	-	601	-
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	835	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	663	-	-	1258	-
HCM Lane V/C Ratio	0.013	-	-	0.004	-
HCM Control Delay (s)	10.5	-	-	7.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	184	4	4	274	4	4
Future Vol, veh/h	184	4	4	274	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	204	4	4	304	4	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	208	0	518	206
Stage 1	-	-	-	-	206	-
Stage 2	-	-	-	-	312	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1363	-	518	835
Stage 1	-	-	-	-	829	-
Stage 2	-	-	-	-	742	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1363	-	516	835
Mov Cap-2 Maneuver	-	-	-	-	590	-
Stage 1	-	-	-	-	829	-
Stage 2	-	-	-	-	740	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	691	-	-	1363	-
HCM Lane V/C Ratio	0.013	-	-	0.003	-
HCM Control Delay (s)	10.3	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	345	4	5	237	4	5
Future Vol, veh/h	345	4	5	237	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	383	4	6	263	4	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	387	0	660	385
Stage 1	-	-	-	-	385	-
Stage 2	-	-	-	-	275	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1171	-	428	663
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	771	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1171	-	426	663
Mov Cap-2 Maneuver	-	-	-	-	524	-
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	767	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	593	-	-	1171	-
HCM Lane V/C Ratio	0.017	-	-	0.005	-
HCM Control Delay (s)	11.2	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	188	4	4	284	4	4
Future Vol, veh/h	188	4	4	284	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	25	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	209	4	4	316	4	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	213	0	535	211
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	324	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1357	-	506	829
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	733	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1357	-	504	829
Mov Cap-2 Maneuver	-	-	-	-	581	-
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	731	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	683	-	-	1357	-
HCM Lane V/C Ratio	0.013	-	-	0.003	-
HCM Control Delay (s)	10.3	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	353	4	5	243	4	5
Future Vol, veh/h	353	4	5	243	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	25	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	392	4	6	270	4	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	396	0	676	394
Stage 1	-	-	-	-	394	-
Stage 2	-	-	-	-	282	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1163	-	419	655
Stage 1	-	-	-	-	681	-
Stage 2	-	-	-	-	766	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1163	-	417	655
Mov Cap-2 Maneuver	-	-	-	-	517	-
Stage 1	-	-	-	-	681	-
Stage 2	-	-	-	-	762	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	586	-	-	1163	-
HCM Lane V/C Ratio	0.017	-	-	0.005	-
HCM Control Delay (s)	11.3	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

APPENDIX H

CAPACITY ANALYSIS CALCULATIONS

YOUNG STREET

&

GRANITE FALLS BOULEVARD

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	94	4	12	16	4	4	14	306	11	4	538	135
Future Vol, veh/h	94	4	12	16	4	4	14	306	11	4	538	135
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	-	200	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	104	4	13	18	4	4	16	340	12	4	598	150

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1063	1065	673	1068	1134	346	748	0	0	352	0	0
Stage 1	681	681	-	378	378	-	-	-	-	-	-	-
Stage 2	382	384	-	690	756	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	201	223	455	199	203	697	861	-	-	1207	-	-
Stage 1	440	450	-	644	615	-	-	-	-	-	-	-
Stage 2	640	611	-	435	416	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	193	218	455	187	199	697	861	-	-	1207	-	-
Mov Cap-2 Maneuver	193	218	-	187	199	-	-	-	-	-	-	-
Stage 1	432	449	-	632	603	-	-	-	-	-	-	-
Stage 2	620	599	-	417	415	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	39.6	24.1	0.4	0
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	861	-	-	193	358	215	1207	-	-
HCM Lane V/C Ratio	0.018	-	-	0.541	0.05	0.124	0.004	-	-
HCM Control Delay (s)	9.3	-	-	43.7	15.6	24.1	8	-	-
HCM Lane LOS	A	-	-	E	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.8	0.2	0.4	0	-	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	4	17	11	4	4	22	500	12	4	439	79
Future Vol, veh/h	90	4	17	11	4	4	22	500	12	4	439	79
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	-	200	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	100	4	19	12	4	4	24	556	13	4	488	88

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1155	1157	532	1163	1195	563	576	0	0	569	0	0
Stage 1	540	540	-	611	611	-	-	-	-	-	-	-
Stage 2	615	617	-	552	584	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	174	196	547	172	186	526	997	-	-	1003	-	-
Stage 1	526	521	-	481	484	-	-	-	-	-	-	-
Stage 2	479	481	-	518	498	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	166	191	547	160	181	526	997	-	-	1003	-	-
Mov Cap-2 Maneuver	166	191	-	160	181	-	-	-	-	-	-	-
Stage 1	513	519	-	469	472	-	-	-	-	-	-	-
Stage 2	459	469	-	494	496	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	47.3	25.9	0.4	0.1
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	997	-	-	166	404	193	1003	-	-
HCM Lane V/C Ratio	0.025	-	-	0.602	0.058	0.109	0.004	-	-
HCM Control Delay (s)	8.7	-	-	55	14.5	25.9	8.6	-	-
HCM Lane LOS	A	-	-	F	B	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	3.3	0.2	0.4	0	-	-

Intersection	
Int Delay, s/veh	21.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	109	4	14	19	4	4	16	526	13	4	718	157
Future Vol, veh/h	109	4	14	19	4	4	16	526	13	4	718	157
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	-	200	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	121	4	16	21	4	4	18	584	14	4	798	174

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1524	1527	885	1530	1607	591	972	0	0	598	0	0
Stage 1	893	893	-	627	627	-	-	-	-	-	-	-
Stage 2	631	634	-	903	980	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 97	117	344	96	105	507	709	-	-	979	-	-
Stage 1	336	360	-	471	476	-	-	-	-	-	-	-
Stage 2	469	473	-	332	328	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 91	114	344	87	102	507	709	-	-	979	-	-
Mov Cap-2 Maneuver	~ 91	114	-	87	102	-	-	-	-	-	-	-
Stage 1	328	359	-	459	464	-	-	-	-	-	-	-
Stage 2	449	461	-	312	327	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	251.9	54.4	0.3	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	709	-	-	91	238	102	979	-	-
HCM Lane V/C Ratio	0.025	-	-	1.331	0.084	0.294	0.005	-	-
HCM Control Delay (s)	10.2	-	-	290	21.5	54.4	8.7	-	-
HCM Lane LOS	B	-	-	F	C	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	8.9	0.3	1.1	0	-	-

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

Intersection	
Int Delay, s/veh	31.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	5	20	13	4	4	26	720	14	4	697	92
Future Vol, veh/h	104	5	20	13	4	4	26	720	14	4	697	92
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	-	200	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	116	6	22	14	4	4	29	800	16	4	774	102

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1703	1707	825	1713	1750	808	876	0	0	816	0	0
Stage 1	833	833	-	866	866	-	-	-	-	-	-	-
Stage 2	870	874	-	847	884	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 72	91	372	71	86	381	771	-	-	812	-	-
Stage 1	363	384	-	348	370	-	-	-	-	-	-	-
Stage 2	346	367	-	357	363	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 66	87	372	61	82	381	771	-	-	812	-	-
Mov Cap-2 Maneuver	~ 66	87	-	61	82	-	-	-	-	-	-	-
Stage 1	349	382	-	335	356	-	-	-	-	-	-	-
Stage 2	325	353	-	329	361	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s$	404.3	70.9	0.3	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	771	-	-	66	225	77	812	-	-
HCM Lane V/C Ratio	0.037	-	-	1.751	0.123	0.303	0.005	-	-
HCM Control Delay (s)	9.9	-	-	$ 495.9	23.2	70.9	9.5	-	-
HCM Lane LOS	A	-	-	F	C	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	10.4	0.4	1.1	0	-	-

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

Intersection	
Int Delay, s/veh	22

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	109	4	14	19	4	4	16	531	13	4	720	157
Future Vol, veh/h	109	4	14	19	4	4	16	531	13	4	720	157
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	-	200	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	121	4	16	21	4	4	18	590	14	4	800	174

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1532	1535	887	1538	1615	597	974	0	0	604	0	0
Stage 1	895	895	-	633	633	-	-	-	-	-	-	-
Stage 2	637	640	-	905	982	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 95	116	343	94	104	503	708	-	-	974	-	-
Stage 1	335	359	-	468	473	-	-	-	-	-	-	-
Stage 2	465	470	-	331	327	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 89	113	343	85	101	503	708	-	-	974	-	-
Mov Cap-2 Maneuver	~ 89	113	-	85	101	-	-	-	-	-	-	-
Stage 1	327	358	-	456	461	-	-	-	-	-	-	-
Stage 2	445	458	-	311	326	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	263.7	55.7	0.3	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	708	-	-	89	236	100	974	-	-
HCM Lane V/C Ratio	0.025	-	-	1.361	0.085	0.3	0.005	-	-
HCM Control Delay (s)	10.2	-	-	$ 303.7	21.7	55.7	8.7	-	-
HCM Lane LOS	B	-	-	F	C	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	9	0.3	1.1	0	-	-

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

Intersection	
Int Delay, s/veh	32.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	5	20	13	4	4	26	723	14	4	701	92
Future Vol, veh/h	104	5	20	13	4	4	26	723	14	4	701	92
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	225	-	-	-	-	-	200	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	116	6	22	14	4	4	29	803	16	4	779	102

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1711	1715	830	1721	1758	811	881	0	0	819	0	0
Stage 1	838	838	-	869	869	-	-	-	-	-	-	-
Stage 2	873	877	-	852	889	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 71	90	370	70	85	379	767	-	-	810	-	-
Stage 1	361	382	-	347	369	-	-	-	-	-	-	-
Stage 2	345	366	-	354	361	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 65	86	370	61	81	379	767	-	-	810	-	-
Mov Cap-2 Maneuver	~ 65	86	-	61	81	-	-	-	-	-	-	-
Stage 1	347	380	-	334	355	-	-	-	-	-	-	-
Stage 2	324	352	-	326	359	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 415	70.9	0.3	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	767	-	-	65	223	77	810	-	-
HCM Lane V/C Ratio	0.038	-	-	1.778	0.125	0.303	0.005	-	-
HCM Control Delay (s)	9.9	-	-	$ 509.1	23.4	70.9	9.5	-	-
HCM Lane LOS	A	-	-	F	C	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	10.5	0.4	1.1	0	-	-

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

APPENDIX I

CAPACITY ANALYSIS CALCULATIONS

YOUNG STREET

&

SCARBORO STREET/SITE ACCESS A

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	4	10	331	556	6
Future Vol, veh/h	4	4	10	331	556	6
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	-	25	-	-	-
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	4	4	11	368	618	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1012	622	625	0	-	0
Stage 1	622	-	-	-	-	-
Stage 2	390	-	-	-	-	-
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	265	487	956	-	-	-
Stage 1	535	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	262	487	956	-	-	-
Mov Cap-2 Maneuver	388	-	-	-	-	-
Stage 1	529	-	-	-	-	-
Stage 2	684	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	956	-	432	-	-
HCM Lane V/C Ratio	0.012	-	0.021	-	-
HCM Control Delay (s)	8.8	-	13.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	7	4	523	464	4
Future Vol, veh/h	4	7	4	523	464	4
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	-	25	-	-	-
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	4	8	4	581	516	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1107	518	520	0	-	0
Stage 1	518	-	-	-	-	-
Stage 2	589	-	-	-	-	-
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	558	1046	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	554	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	232	558	1046	-	-	-
Mov Cap-2 Maneuver	368	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	554	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.9	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1046	-	470	-	-
HCM Lane V/C Ratio	0.004	-	0.026	-	-
HCM Control Delay (s)	8.5	-	12.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	4	12	555	739	7
Future Vol, veh/h	4	4	12	555	739	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	-	25	-	-	-
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	4	4	13	617	821	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1468	825	829	0	-	0
Stage 1	825	-	-	-	-	-
Stage 2	643	-	-	-	-	-
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	141	372	803	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	523	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	139	372	803	-	-	-
Mov Cap-2 Maneuver	276	-	-	-	-	-
Stage 1	423	-	-	-	-	-
Stage 2	523	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	803	-	317	-	-
HCM Lane V/C Ratio	0.017	-	0.028	-	-
HCM Control Delay (s)	9.6	-	16.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	8	5	746	726	4
Future Vol, veh/h	4	8	5	746	726	4
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	-	25	-	-	-
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	4	9	6	829	807	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1650	809	811	0	-	0
Stage 1	809	-	-	-	-	-
Stage 2	841	-	-	-	-	-
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	109	380	815	-	-	-
Stage 1	438	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	108	380	815	-	-	-
Mov Cap-2 Maneuver	245	-	-	-	-	-
Stage 1	435	-	-	-	-	-
Stage 2	423	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	815	-	321	-	-
HCM Lane V/C Ratio	0.007	-	0.042	-	-
HCM Control Delay (s)	9.4	-	16.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	4	4	8	4	5	12	555	4	4	739	7
Future Vol, veh/h	4	4	4	8	4	5	12	555	4	4	739	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	25	-	-	25	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	4	4	9	4	6	13	617	4	4	821	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1483	1480	825	1482	1482	619	829	0	0	621	0	0
Stage 1	833	833	-	645	645	-	-	-	-	-	-	-
Stage 2	650	647	-	837	837	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	103	125	372	103	125	489	803	-	-	960	-	-
Stage 1	363	384	-	461	467	-	-	-	-	-	-	-
Stage 2	458	467	-	361	382	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	98	123	372	97	123	489	803	-	-	960	-	-
Mov Cap-2 Maneuver	98	123	-	97	123	-	-	-	-	-	-	-
Stage 1	357	382	-	454	460	-	-	-	-	-	-	-
Stage 2	441	460	-	351	380	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	32.7	35.7	0.2	0
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	803	-	-	143	136	960	-	-
HCM Lane V/C Ratio	0.017	-	-	0.093	0.139	0.005	-	-
HCM Control Delay (s)	9.6	-	-	32.7	35.7	8.8	-	-
HCM Lane LOS	A	-	-	D	E	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.5	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	4	8	5	4	4	5	746	6	4	726	4
Future Vol, veh/h	4	4	8	5	4	4	5	746	6	4	726	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	25	-	-	25	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	4	9	6	4	4	6	829	7	4	807	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1666	1665	809	1669	1664	833	811	0	0	836	0	0
Stage 1	817	817	-	845	845	-	-	-	-	-	-	-
Stage 2	849	848	-	824	819	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	77	97	380	76	97	369	815	-	-	798	-	-
Stage 1	370	390	-	357	379	-	-	-	-	-	-	-
Stage 2	356	378	-	367	389	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	73	96	380	71	96	369	815	-	-	798	-	-
Mov Cap-2 Maneuver	73	96	-	71	96	-	-	-	-	-	-	-
Stage 1	367	388	-	355	376	-	-	-	-	-	-	-
Stage 2	345	375	-	353	387	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	35.4	44.2	0.1	0.1
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	815	-	-	136	106	798	-	-
HCM Lane V/C Ratio	0.007	-	-	0.131	0.136	0.006	-	-
HCM Control Delay (s)	9.4	-	-	35.4	44.2	9.5	-	-
HCM Lane LOS	A	-	-	E	E	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.5	0	-	-

APPENDIX J

CAPACITY ANALYSIS CALCULATIONS

MAIN STREET

&

SITE ACCESS B

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	186	276	4	4	10
Future Vol, veh/h	4	186	276	4	4	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	207	307	4	4	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	311	0	-	0	524	309
Stage 1	-	-	-	-	309	-
Stage 2	-	-	-	-	215	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1249	-	-	-	514	731
Stage 1	-	-	-	-	745	-
Stage 2	-	-	-	-	821	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1249	-	-	-	512	731
Mov Cap-2 Maneuver	-	-	-	-	512	-
Stage 1	-	-	-	-	743	-
Stage 2	-	-	-	-	821	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1249	-	-	-	651
HCM Lane V/C Ratio	0.004	-	-	-	0.024
HCM Control Delay (s)	7.9	-	-	-	10.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	349	241	4	4	6
Future Vol, veh/h	8	349	241	4	4	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	25	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	388	268	4	4	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	272	0	-	0	676	270
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	406	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1291	-	-	-	419	769
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	673	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1291	-	-	-	416	769
Mov Cap-2 Maneuver	-	-	-	-	416	-
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	673	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1291	-	-	-	574
HCM Lane V/C Ratio	0.007	-	-	-	0.019
HCM Control Delay (s)	7.8	-	-	-	11.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

APPENDIX K

SIMTRAFFIC QUEUEING REPORTS

Intersection: 1: Young Street & US 401

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	LT	R
Maximum Queue (ft)	123	183	17	217	200	2715	1124	350
Average Queue (ft)	56	84	2	94	192	1688	961	310
95th Queue (ft)	112	158	10	178	226	2944	1403	465
Link Distance (ft)		2338		663		3266	1110	
Upstream Blk Time (%)						1	31	
Queuing Penalty (veh)						0	176	
Storage Bay Dist (ft)	400		350		100			250
Storage Blk Time (%)					79	71	78	4
Queuing Penalty (veh)					145	145	191	12

Intersection: 2: Williams Street & US 401

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	12	28
Average Queue (ft)	0	7
95th Queue (ft)	6	27
Link Distance (ft)		1342
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Young Street & Granite Falls Boulevard

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	TR	LTR	L	L	TR
Maximum Queue (ft)	127	32	52	35	51	642
Average Queue (ft)	44	9	17	6	2	134
95th Queue (ft)	90	29	48	27	30	503
Link Distance (ft)		1492	1650			1310
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	225			200	100	
Storage Blk Time (%)						17
Queuing Penalty (veh)						1

Intersection: 4: Young Street & Scarboro Street

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (ft)	53	30	509
Average Queue (ft)	11	3	257
95th Queue (ft)	46	18	622
Link Distance (ft)	1702		493
Upstream Blk Time (%)			13
Queuing Penalty (veh)			76
Storage Bay Dist (ft)		25	
Storage Blk Time (%)		1	
Queuing Penalty (veh)		4	

Network Summary

Network wide Queuing Penalty: 750

Intersection: 1: Young Street & US 401

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	LT	R
Maximum Queue (ft)	205	271	25	171	200	3302	628	350
Average Queue (ft)	102	149	3	80	148	2256	320	192
95th Queue (ft)	183	241	14	144	267	3647	572	380
Link Distance (ft)		2338		663		3266	1110	
Upstream Blk Time (%)						21		
Queuing Penalty (veh)						0		
Storage Bay Dist (ft)	400		350		100			250
Storage Blk Time (%)					24	91	30	1
Queuing Penalty (veh)					63	120	65	3

Intersection: 2: Williams Street & US 401

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	30	28
Average Queue (ft)	1	7
95th Queue (ft)	11	26
Link Distance (ft)		1342
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Young Street & Granite Falls Boulevard

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	TR	LTR	L	L	TR
Maximum Queue (ft)	90	34	48	43	16	4
Average Queue (ft)	37	10	16	9	1	0
95th Queue (ft)	72	28	44	33	9	3
Link Distance (ft)		1492	1650			1310
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	225			200	100	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 4: Young Street & Scarboro Street

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	36	31
Average Queue (ft)	9	2
95th Queue (ft)	32	14
Link Distance (ft)	1702	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		25
Storage Blk Time (%)		0
Queuing Penalty (veh)		1

Network Summary

Network wide Queuing Penalty: 252

Intersection: 1: Young Street & US 401

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	LT	R
Maximum Queue (ft)	329	353	118	377	200	994	726	350
Average Queue (ft)	178	201	12	215	183	594	366	188
95th Queue (ft)	328	310	75	343	240	973	702	415
Link Distance (ft)		2338		663		3266	1110	
Upstream Blk Time (%)							0	
Queuing Penalty (veh)							0	
Storage Bay Dist (ft)	400		350		100			250
Storage Blk Time (%)	1	0		2	34	65	26	
Queuing Penalty (veh)	2	0		0	134	158	75	

Intersection: 2: Williams Street & US 401

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	12	28
Average Queue (ft)	0	7
95th Queue (ft)	6	26
Link Distance (ft)		1342
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Young Street & Granite Falls Boulevard

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	TR	LTR	L	L	TR
Maximum Queue (ft)	189	42	69	43	21	18
Average Queue (ft)	77	11	22	10	2	1
95th Queue (ft)	161	31	55	34	13	10
Link Distance (ft)		1492	1650			1310
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	225			200	100	
Storage Blk Time (%)	1					
Queuing Penalty (veh)	0					

Intersection: 4: Young Street & Scarboro Street

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (ft)	31	36	6
Average Queue (ft)	8	6	0
95th Queue (ft)	29	27	4
Link Distance (ft)	1702		493
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		25	
Storage Blk Time (%)		1	
Queuing Penalty (veh)		5	

Network Summary

Network wide Queuing Penalty: 375

Intersection: 1: Young Street & US 401

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	LT	R
Maximum Queue (ft)	500	2305	39	290	200	2321	929	350
Average Queue (ft)	494	1818	8	176	159	1501	588	268
95th Queue (ft)	540	2693	27	269	254	2748	973	484
Link Distance (ft)		2338		663		3266	1110	
Upstream Blk Time (%)		28				5		
Queuing Penalty (veh)		0				0		
Storage Bay Dist (ft)	400		350		100			250
Storage Blk Time (%)	52	50			16	73	54	
Queuing Penalty (veh)	276	151			73	119	138	

Intersection: 2: Williams Street & US 401

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	30	28
Average Queue (ft)	2	6
95th Queue (ft)	13	26
Link Distance (ft)		1342
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	150	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Young Street & Granite Falls Boulevard

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	TR	LTR	L	L	TR
Maximum Queue (ft)	183	46	60	67	17	26
Average Queue (ft)	68	12	23	14	1	1
95th Queue (ft)	138	33	55	47	9	11
Link Distance (ft)		1492	1650			1310
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	225			200	100	
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 4: Young Street & Scarboro Street

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	52	30
Average Queue (ft)	12	3
95th Queue (ft)	39	18
Link Distance (ft)	1702	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		25
Storage Blk Time (%)		0
Queuing Penalty (veh)		2

Network Summary

Network wide Queuing Penalty: 760

Intersection: 1: Young Street & US 401

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	LT	R
Maximum Queue (ft)	330	322	54	352	200	1128	756	350
Average Queue (ft)	164	202	11	204	184	667	419	193
95th Queue (ft)	283	295	36	316	238	1269	872	431
Link Distance (ft)		2338		663		3266	1104	
Upstream Blk Time (%)							2	
Queuing Penalty (veh)							13	
Storage Bay Dist (ft)	400		350		100			250
Storage Blk Time (%)	0			1	31	63	30	1
Queuing Penalty (veh)	0			0	120	153	88	3

Intersection: 2: Williams Street & US 401

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	12	28
Average Queue (ft)	1	7
95th Queue (ft)	8	27
Link Distance (ft)		1342
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	25	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Young Street & Granite Falls Boulevard

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	TR	LTR	L	L	TR
Maximum Queue (ft)	179	37	54	47	22	64
Average Queue (ft)	80	9	22	12	2	4
95th Queue (ft)	160	27	50	39	13	45
Link Distance (ft)		1492	1650			1310
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	225			200	100	
Storage Blk Time (%)	1					0
Queuing Penalty (veh)	0					0

Intersection: 4: Young Street & Scarboro Street/Access A

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	L	TR
Maximum Queue (ft)	40	44	36	21	98
Average Queue (ft)	11	14	4	1	21
95th Queue (ft)	36	43	22	8	148
Link Distance (ft)	1702	1510			479
Upstream Blk Time (%)					0
Queuing Penalty (veh)					1
Storage Bay Dist (ft)			25	25	
Storage Blk Time (%)			1	0	4
Queuing Penalty (veh)			4	3	0

Intersection: 5: US 401 & Access B

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	12	31
Average Queue (ft)	1	10
95th Queue (ft)	8	34
Link Distance (ft)		705
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	25	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Network Summary

Network wide Queuing Penalty: 385

Intersection: 1: Young Street & US 401

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	LT	R
Maximum Queue (ft)	500	2362	129	358	200	1679	1057	350
Average Queue (ft)	494	1873	16	193	163	1042	780	294
95th Queue (ft)	548	2697	80	342	257	1705	1242	479
Link Distance (ft)		2338		663		3266	1104	
Upstream Blk Time (%)		35					5	
Queuing Penalty (veh)		0					36	
Storage Bay Dist (ft)	400		350		100			250
Storage Blk Time (%)	60	46		3	18	72	61	1
Queuing Penalty (veh)	324	141		1	81	119	155	3

Intersection: 2: Williams Street & US 401

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	25	28
Average Queue (ft)	1	6
95th Queue (ft)	11	25
Link Distance (ft)		1342
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	25	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 3: Young Street & Granite Falls Boulevard

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	TR	LTR	L	L	TR
Maximum Queue (ft)	162	53	56	51	27	124
Average Queue (ft)	70	15	19	13	2	16
95th Queue (ft)	134	39	49	39	14	137
Link Distance (ft)		1492	1650			1310
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	225			200	100	
Storage Blk Time (%)	0					2
Queuing Penalty (veh)	0					0

Intersection: 4: Young Street & Scarboro Street/Access A

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	L	TR
Maximum Queue (ft)	48	37	29	39	242
Average Queue (ft)	16	10	2	3	58
95th Queue (ft)	44	32	15	28	284
Link Distance (ft)	1702	1475			488
Upstream Blk Time (%)					1
Queuing Penalty (veh)					7
Storage Bay Dist (ft)			25	25	
Storage Blk Time (%)			0	0	9
Queuing Penalty (veh)			3	2	0

Intersection: 5: US 401 & Access B

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	25	23
Average Queue (ft)	2	4
95th Queue (ft)	13	18
Link Distance (ft)		997
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	25	
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Network Summary

Network wide Queuing Penalty: 873

DRMP

TRAFFIC IMPACT ANALYSIS

FOR

OPAL AT MAIN

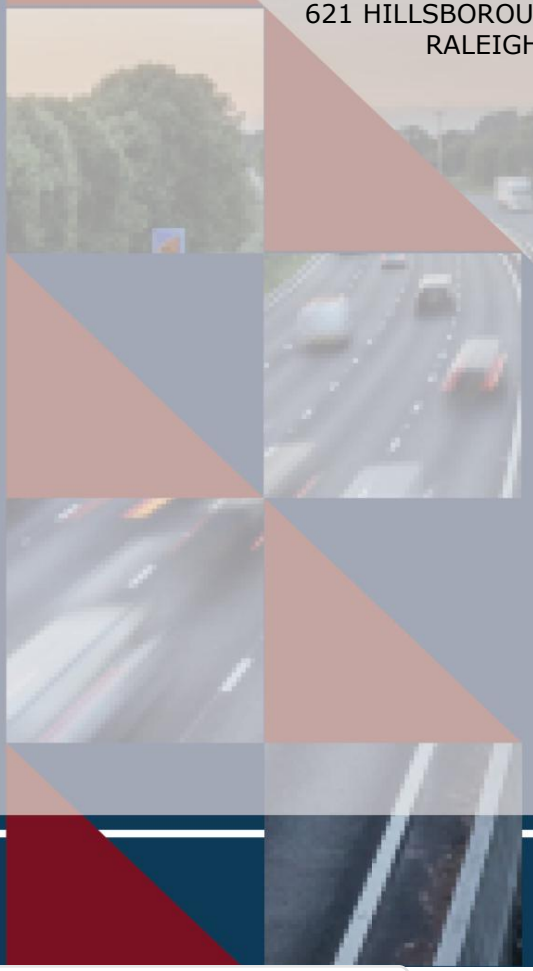
LOCATED

IN

ROLESVILLE, NC

Prepared For:

MCADAMS CO.
621 HILLSBOROUGH STREET, STE 500
RALEIGH, NC 27603



FEBRUARY 2026

DRMP Project No. 251334

Prepared By: LK

Reviewed By: CC

DRMP

TRAFFIC IMPACT ANALYSIS

FOR

OPAL AT MAIN

LOCATED IN

ROLESVILLE, NC

Prepared For:

MCADAMS CO.

621 HILLSBOROUGH STREET, STE 500

RALEIGH, NC 27603

Prepared By:

DRMP, Inc.

License #F-1524

TRAFFIC IMPACT ANALYSIS
OPAL AT MAIN

Rolesville, North Carolina

EXECUTIVE SUMMARY

1. Development Overview

A Traffic Impact Analysis (TIA) was conducted for the proposed Opal at Main development in accordance with the Rolesville (Town) Unified Development Ordinance (UDO) and North Carolina Department of Transportation (NCDOT) capacity analysis guidelines. The proposed Opal at Main development to be located Rolesville, North Carolina. The proposed development, anticipated to be completed in 2030, is assumed to consist of 2 single-family detached homes and 71 single-family attached homes. Site access is proposed via two (2) full-movement driveways, one (1) along Young Street and one (1) along North Main Street. Refer to the attached site plan.

2. Existing Traffic Conditions

The study area for the TIA was determined through coordination with the North Carolina Department of Transportation (NCDOT) and the Rolesville (Town) and consists of the following existing intersections:

- Main Street (US 401) and Young Street
- Main Street (US 401) and Williams Street
- Young Street and Granite Falls Boulevard
- Young Street and Scarboro Street

Existing peak hour traffic volumes were determined based on traffic counts conducted at the study intersection listed above, in December of 2025 by DRMP during a typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods. Traffic volumes were balanced between study intersections, where appropriate.

3. Future Traffic Conditions

Through coordination with the NCDOT and the Town, it was determined that an annual growth rate of 3% would be used to generate 2030 projected weekday AM and PM peak

hour traffic volumes. the following adjacent developments were identified to be included as an approved adjacent development in this study:

- Parker Ridge
- Rolesville Town Center
- Young Street PUD

Additionally, based on coordination with the NCDOT and the Town, it was determined that the roadway improvements associated with the NCDOT State Transportation Improvement Program (STIP) U-6241 should be considered in this study.

4. Site 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, 11.1th Edition. Table E-1 provides a summary of the trip generation potential for the site.

Table E-1: Site Trip Generation

Land Use (ITE Code)	Intensity	Daily Traffic (vpd)	Weekday AM Peak Hour Trips (vph)		Weekday PM Peak Hour Trips (vph)	
			Enter	Exit	Enter	Exit
Single-Family Detached Housing (210)	2 DU	18	2	5	2	1
Single-Family Attached Housing (215)	71 DU	467	7	20	19	14
Total Trips		**485**	**9**	**25**	**21**	**15**

To estimate traffic conditions with the site fully built-out, the total site trips were added to the 2030 no-build traffic volumes to determine the 2030 build traffic volumes. The study analyzes traffic conditions during the weekday AM and PM peak hours for the following scenarios:

- 2025 Existing Traffic Conditions
- 2030 No-Build Traffic Conditions
- 2030 Build Traffic Conditions

5. Capacity Analysis Summary

The analysis considered weekday AM and PM peak hour traffic for 2026 existing, 2030 no-build, and 2030 build conditions. Refer to Section 7 of the TIA for the capacity analysis summary performed at each study intersection.

6. Recommendations

Based on the findings of this study, specific geometric and traffic control improvements have been identified at study intersections. The improvements are summarized below and are illustrated in Figure E-1.

Recommended Improvements by Developer

Young Street and Scarboro Street/Site Access A

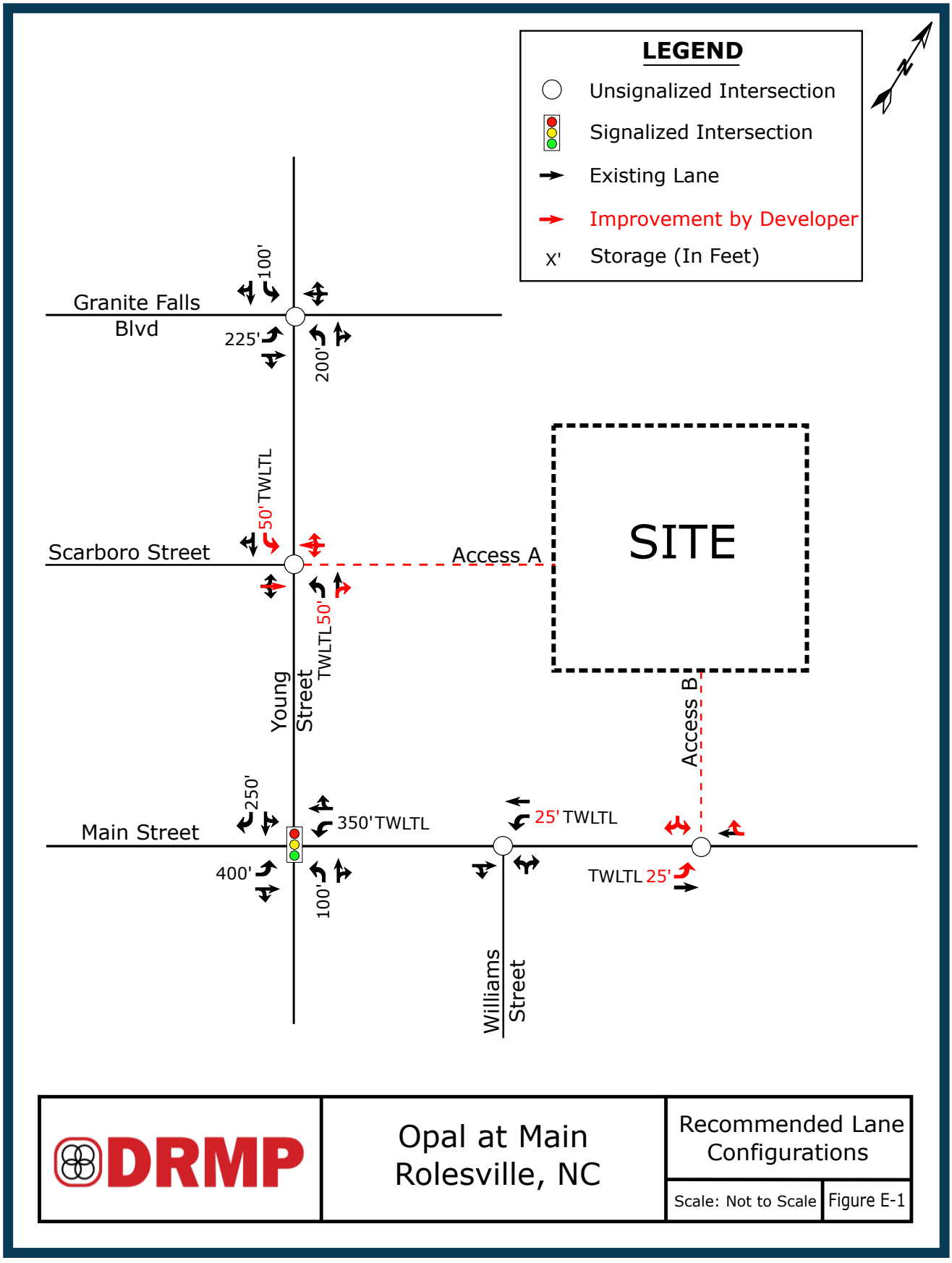
- Construct Access A (westbound approach) as full movement access with one ingress and one egress lane (shared left-through-right lane).
- Provide 100 feet of Internal Protected Stem (IPS) length.
- Restripe the existing two-way left-turn lane (TWLTL) to provide 50 feet of storage for the southbound left-turn movement.
- Restripe the existing two-way left-turn lane (TWLTL) to provide 50 feet of storage for the northbound left-turn movement.
- Provide stop control for the westbound approach

Main Street and Site Access B

- Construct Access B (southbound approach) as full movement access with one ingress lane and one egress lane (shared left-right lane).
- Provide 100 feet of Internal Protected Stem (IPS) length.
- Restripe the existing two-way left-turn lane (TWLTL) to provide 25 feet of storage for the eastbound left-turn movement into the site.
- Provide stop control for the southbound approach.

Main Street and Williams Street

- Restripe the existing 150 feet two-way left-turn lane (TWLTL) to provide 25 feet of storage for the westbound left-turn movement into Williams Street and 25 feet of storage for the eastbound left-turn movement into Site Access B.



DRMP	Opal at Main Rolesville, NC	Recommended Lane Configurations	
		Scale: Not to Scale	Figure E-1

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TECHNICAL APPENDIX

OPAL AT MAIN

Rolesville, North Carolina

1. INTRODUCTION

The contents of this report present the findings of the Traffic Impact Analysis (TIA) conducted for the proposed Opal at Main development to be located Rolesville, North Carolina. The purpose of this study is to determine the potential impacts to the surrounding transportation system created by traffic generated by the proposed development, as well as recommend improvements to mitigate the impacts.

The proposed development, anticipated to be completed in 2030, is assumed to consist of the following uses:

- 2 single-family detached homes
- 71 single-family attached homes

The study analyzes traffic conditions during the weekday AM and PM peak hours for the following scenarios:

- 2025 Existing Traffic Conditions
- 2030 No-Build Traffic Conditions
- 2030 Build Traffic Conditions

1.1. Site Location and Study Area

The development is proposed to be located Rolesville, North Carolina. Refer to Figure 1 for the site location map.

The study area for the TIA was determined through coordination with the North Carolina Department of Transportation (NCDOT) and the Rolesville (Town) and consists of the following existing intersections:

- Main Street (US 401) and Young Street
- Main Street (US 401) and Williams Street
- Young Street and Granite Falls Boulevard
- Young Street and Scarboro Street

1.2. Proposed Land Use and Site Access

The proposed development, anticipated to be completed in 2030, is assumed to consist of 2 single-family detached homes and 71 single-family attached homes. Site access is proposed via two (2) full-movement driveways, one (1) along Young Street and one (1) along North Main Street. Refer to Figure 2 for a copy of the preliminary site plan.

1.3. Adjacent Land Uses

The proposed development is located in an area consisting primarily of commercial and residential development, as well as undeveloped land.

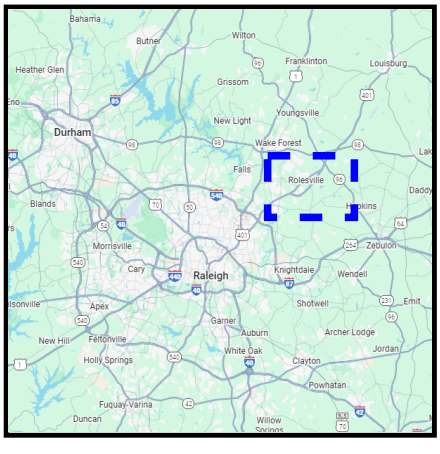
1.4. Existing Roadways

Existing lane configurations (number of traffic lanes on each intersection approach), speed limits, storage capacities, and other intersection and roadway information within the study area are shown in Figure 3. Table 1 provides a summary of this information, as well.

Table 1: Existing Roadway Inventory

Road Name	Route Number	Typical Cross Section	Speed Limit	AADT (vpd)
Young Street	SR 1945	2-lane undivided	35 mph	10,500
Main Street	US 401	2-lane undivided	35 mph	4,100
Main Street	US 401	2-lane undivided	35 mph	12,000

*ADT based on the traffic counts from 2023 and assuming the weekday PM peak hour volume is 10% of the average daily traffic.

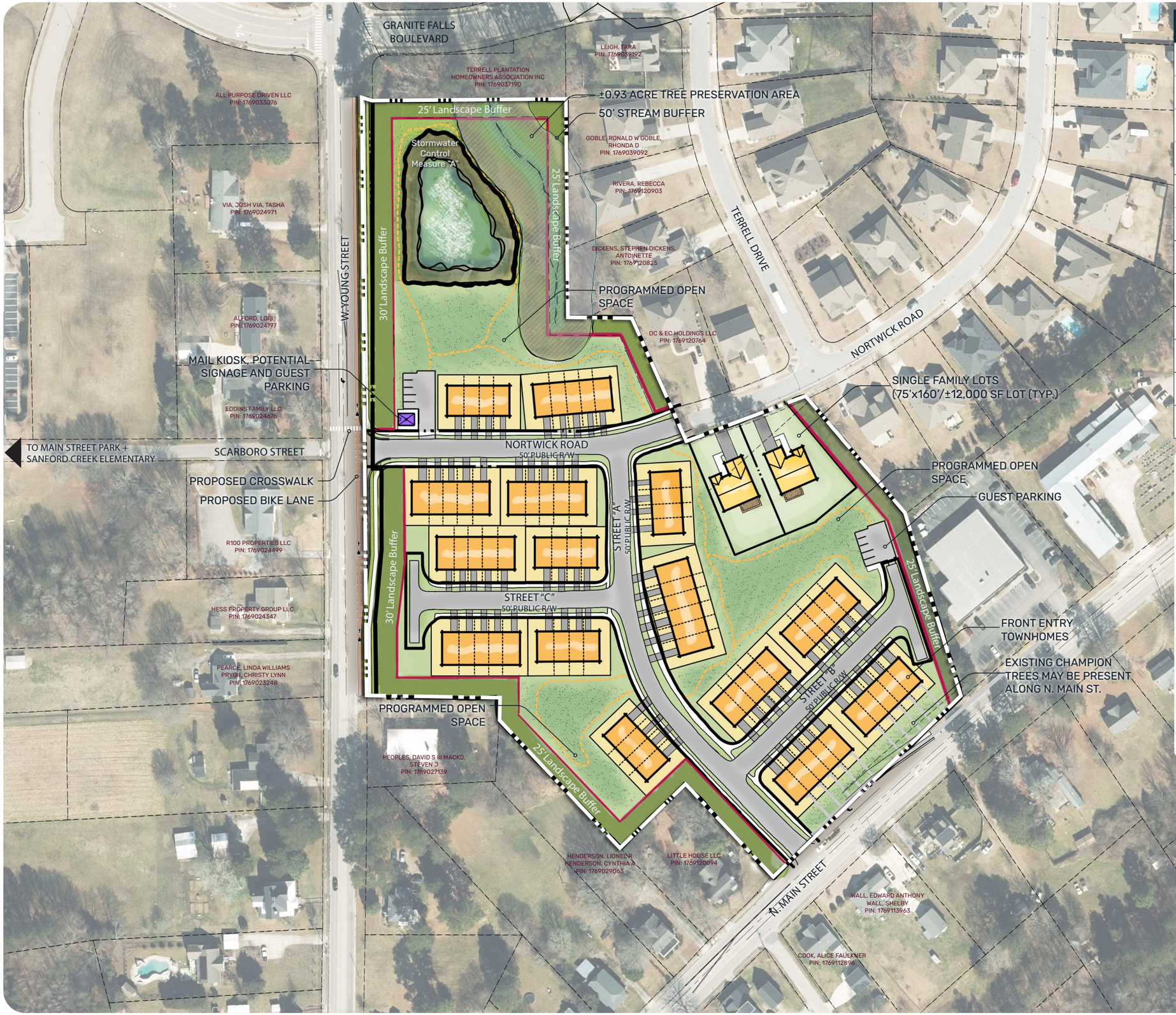


N

LEGEND

- Study Intersection
- Proposed Site Access
- Study Area

DRMP	Opal at Main Rolesville, NC	Site Location Map Scale: Not to Scale | Figure 1



SITE DATA TABLE	
PIN(S)	1769027985 1769029362
Total Site Area	± 11.5 acres
Current Zoning	RL
Proposed Zoning	RHD
Tree Preservation Area Required (10% Site Area)	± 0.92 acre
Tree Preservation Area Provided	± 0.93 acre
Open Space Required (15% Site Area)	± 1.72 acre
Open Space Provided	± 1.75 acre
Proposed Residential Units	± 73 DU
Townhome Units	71 units
Single Family Lots	2 lots
Maximum Density	To be determined

CONCEPT PLAN NOTES

01 Development on this site will comply with the Town's Unified Development Ordinance and other applicable standards and plans adopted by the Town of Rolesville

02 Sidewalks, trails, and open space areas shown on this plan are approximate. Final location and design to be determined at site or subdivision plan review.

03 Utilities and easements shown on this plan are conceptual. Final location and design to be determined at site or subdivision plan review.

04 Where a conflict between graphic representation and text information on this sheet is present, the text shall prevail.

05 All base file information taken from GIS is subject to change unless otherwise stated.

06 All assumptions shown herein are in accordance with current LDO standards as of the date shown on the plan. Changes to LDO standards, or jurisdictional text changes after that date may impact plan.

07 Lighting requirements will comply with the standards set forth in the LDO.

08 Master plan is conceptual, with final layout to be determined at subdivision plan.

09 Tree coverage areas are conceptual, with final location to be determined at subdivision plan.

McADAMS

PREPARED FOR:
Fischer Homes

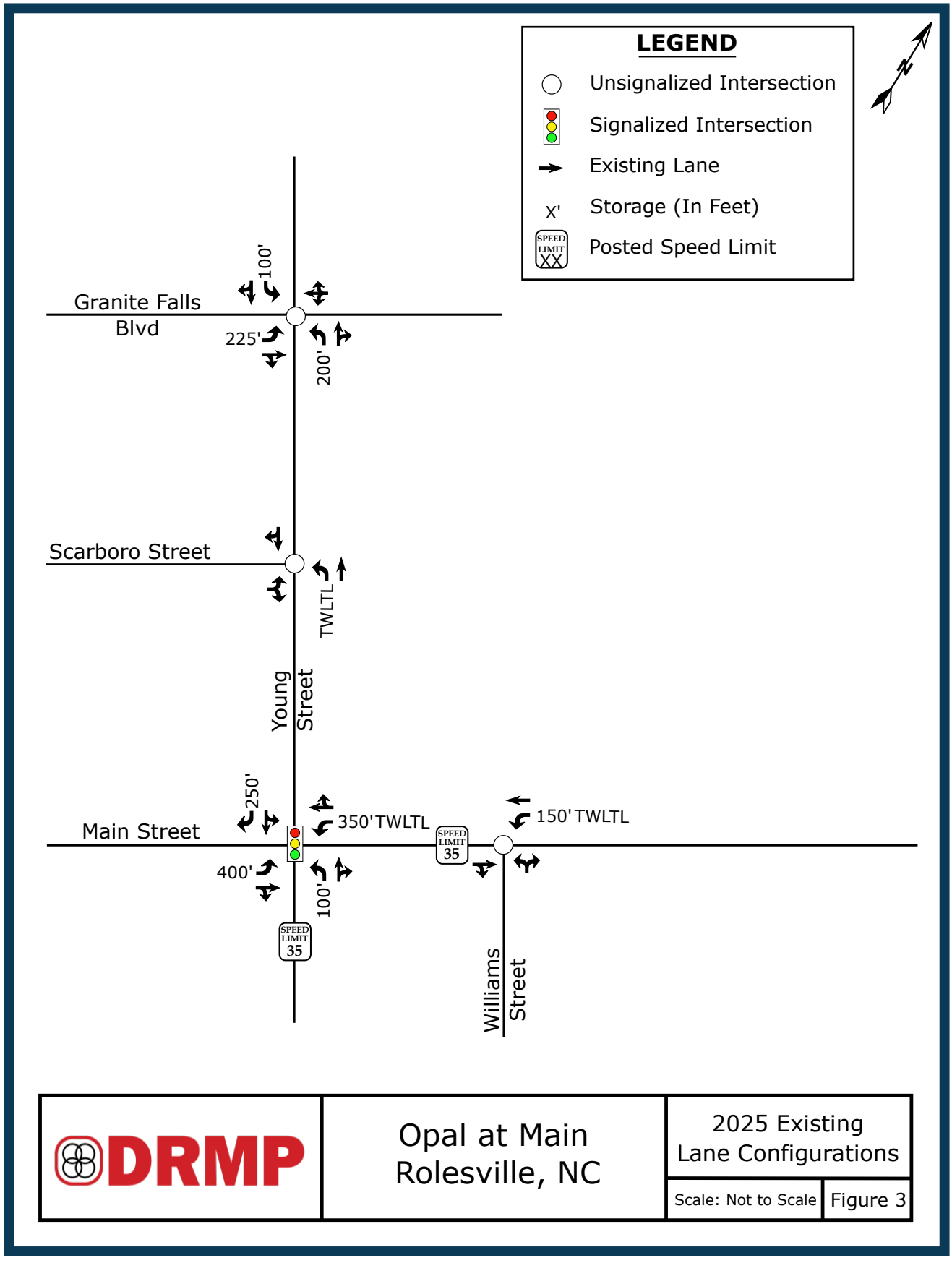
Opal at Main Concept Site Plan

Rolesville, North Carolina
Rolesville Case # REZ-25-04

10' 60'
SCALE: 1" = 60'

SPEC24634
10. 30. 2025

01



DRMP	Opal at Main Rolesville, NC	2025 Existing Lane Configurations	
		Scale: Not to Scale	Figure 3

2. 2025 EXISTING PEAK HOUR CONDITIONS

2.1. 2025 Existing Peak Hour Traffic Volumes

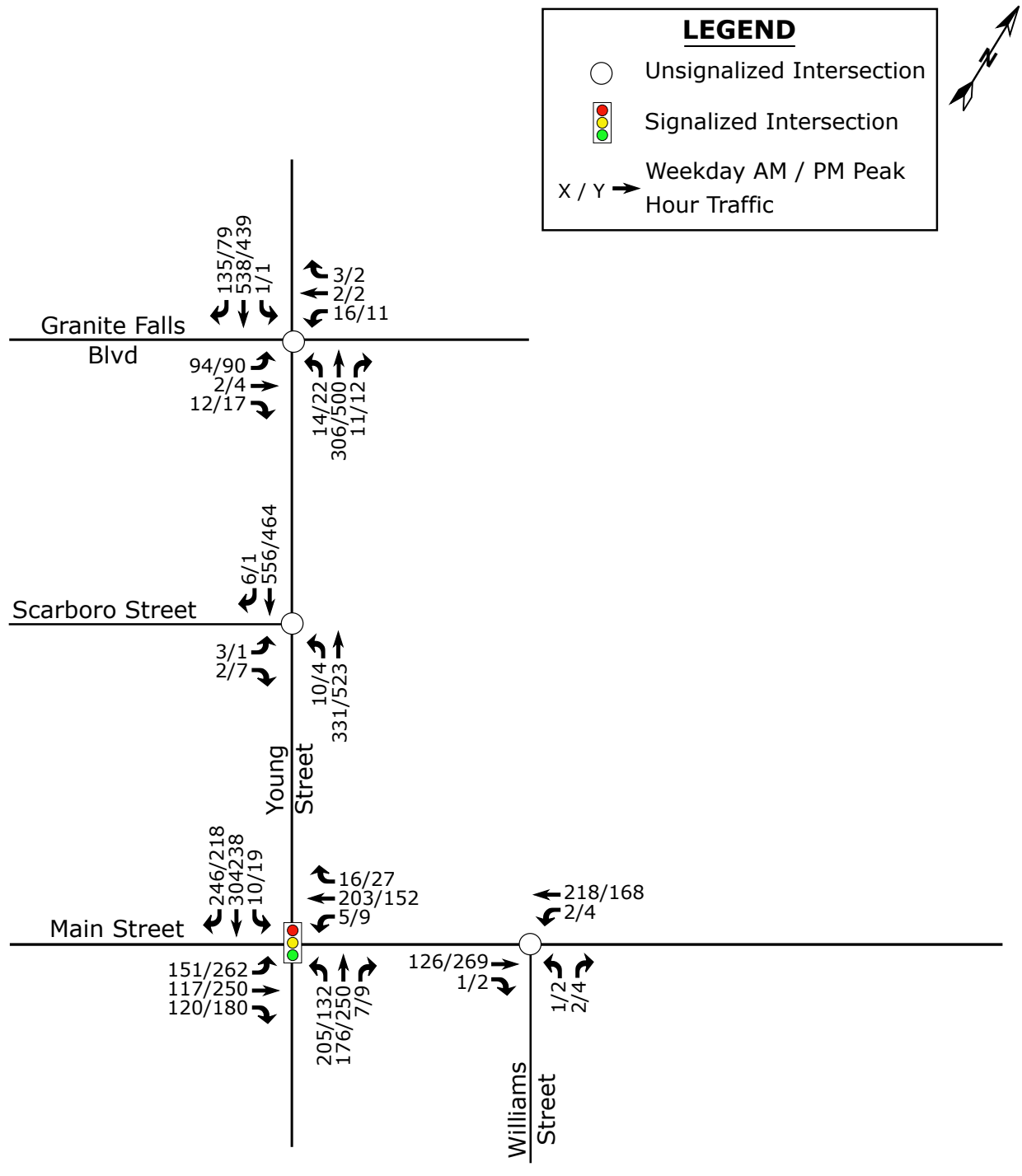
Existing peak hour traffic volumes were determined based on traffic counts conducted at the study intersections listed below, in December of 2025 by DRMP during a typical weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods:

- Main Street (US 401) and Young Street
- Main Street (US 401) and Williams Street
- Young Street and Granite Falls Boulevard
- Young Street and Scarboro Street

Weekday AM and PM traffic volumes were balanced between study intersections, where appropriate. Refer to Figure 4 for 2025 existing weekday AM and PM peak hour traffic volumes. A copy of the count data is located in Appendix B of this report.

2.2. Analysis of 2025 Existing Peak Hour Traffic Conditions

The 2025 existing weekday AM and PM peak hour traffic volumes were analyzed to determine the current levels of service at the study intersections under existing roadway conditions. Signal information was obtained from NCDOT and is included in Appendix C. The results of the analysis are presented in Section 7 of this report.



Note: Based on NCDOT Congestion Management guidelines, a volume of 4 vehicles per hour (vph) was analyzed for any movement with less than 4 vph.

DRMP	Opal at Main Rolesville, NC	2025 Existing Peak Hour Traffic
		Scale: Not to Scale | Figure 4

3. 2030 NO-BUILD PEAK HOUR CONDITIONS

In order to account for growth of traffic and subsequent traffic conditions at a future year, no-build traffic projections are needed. No-build traffic is the component of traffic due to the growth of the community and surrounding area that is anticipated to occur regardless of whether or not the proposed development is constructed. No-build traffic is comprised of existing traffic growth within the study area and additional traffic created as a result of adjacent approved developments.

3.1. Ambient Traffic Growth

Through coordination with the NCDOT and the Town, it was determined that background traffic associated with the approved adjacent developments will be captured within the assumed 3% annual background growth rate. This growth rate was applied to develop the 2030 weekday AM and PM peak hour traffic projections. Refer to Figure 5 for the 2030 projected peak hour volumes.

3.2. Adjacent Development Traffic

Through coordination with the NCDOT and the Town, Table 2 provides a summary of the adjacent developments.

Table 2: Adjacent Development Information

Development Name	Location	Build-Out Year	Land Use / Intensity	TIA Performed
Parker Ridge	East and west sides of Redford Place Drive, south of Main Street	2028	162 single-family homes and 114 townhomes	August 2022 by Stantec
Rolesville Town Center	West side of Rolesville Road between Rolesville High School and Fowler Road	2030	20,680 s.f. fire station	September 2025 by Stantec
Young Street PUD	Along US 401, west of Young Street	2025	210 townhomes, 525 single-family homes and 320 townhomes	June 2019 by Kimley Horn

Traffic associated with the following adjacent developments will be captured within the assumed 3% annual background growth rate:

- 1216 Rolesville Road
- 302 S Main St – Learning Experience Rolesville
- 414 S. Main Street – Pine Glo Sports complex
- 6000 Rogers Road
- A-Master Team Townhomes
- Woodlief Assemblage
- Cobblestone Village
- North Wake Eye Center
- Jones Dairy Road

3.3. Future Roadway Improvements

Based on coordination with the NCDOT and the Town, it was determined that the roadway improvements associated with the NCDOT State Transportation Improvement Program (STIP) U-6241 should be considered in this study. STIP U-6241 is expected to realign the roadway and construct a new intersection with South Main Street, along with sidewalk extensions and complete streets improvements.

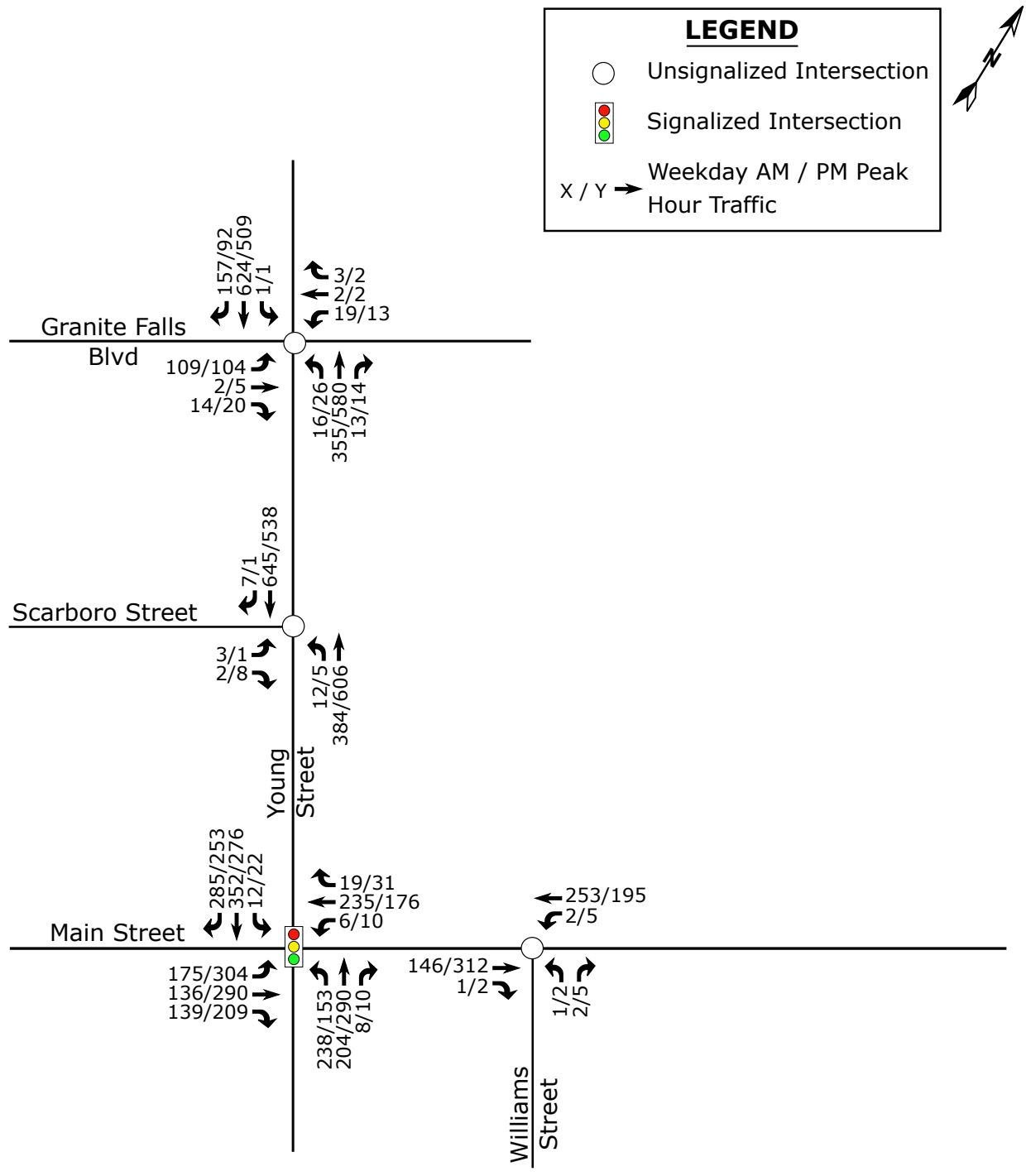
The STIP U-6241 future realignment plans can be found in Appendix E.

3.4. 2030 No-Build Peak Hour Traffic Volumes

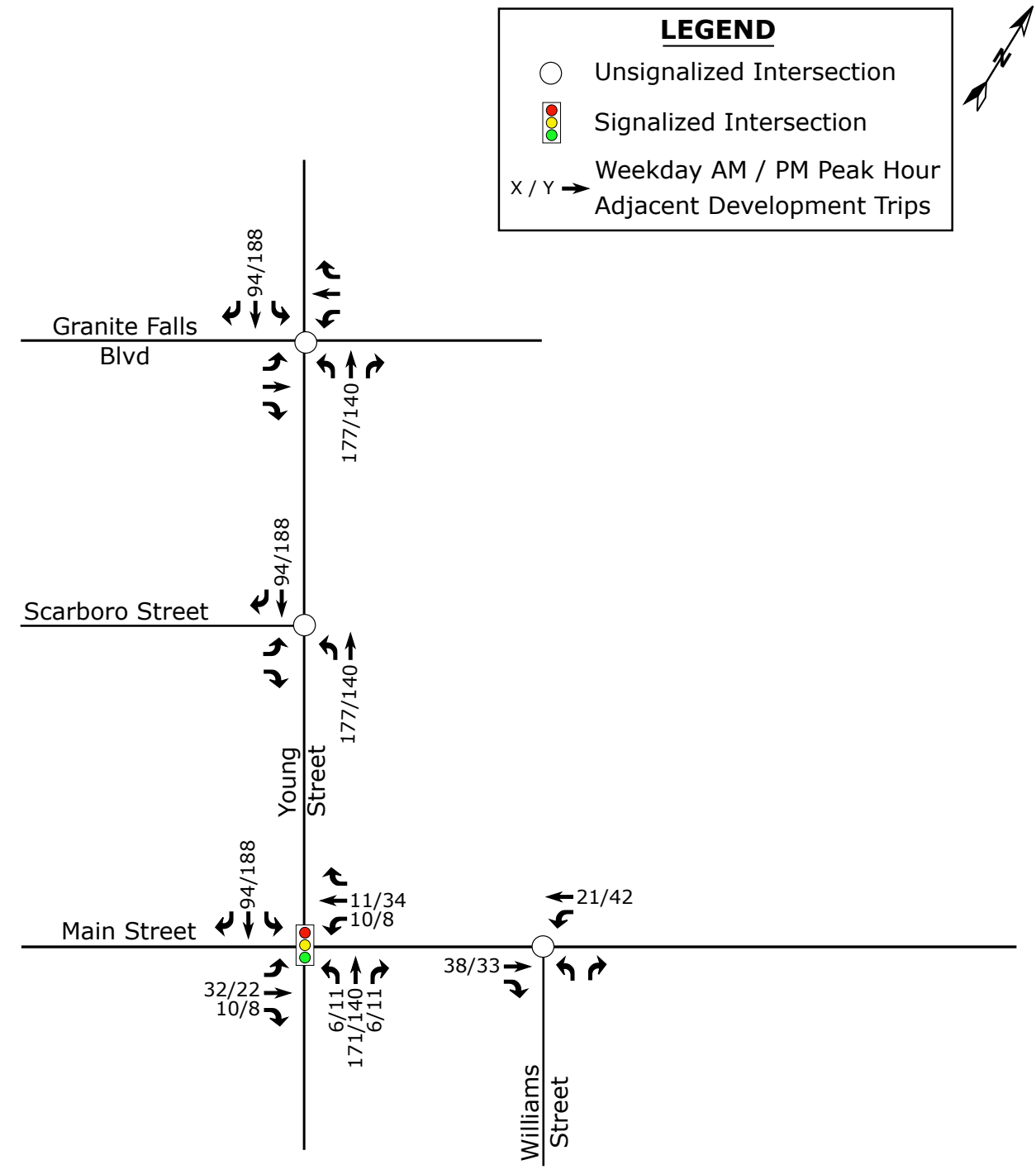
The 2030 no-build traffic volumes were determined by projecting the 2026 existing peak hour traffic to the year 2030, and adding the adjacent development trips. Refer to Figure 7 for an illustration of the 2030 no-build peak hour traffic volumes at the study intersections.

3.5. Analysis of 2030 No-Build Peak Hour Traffic Conditions

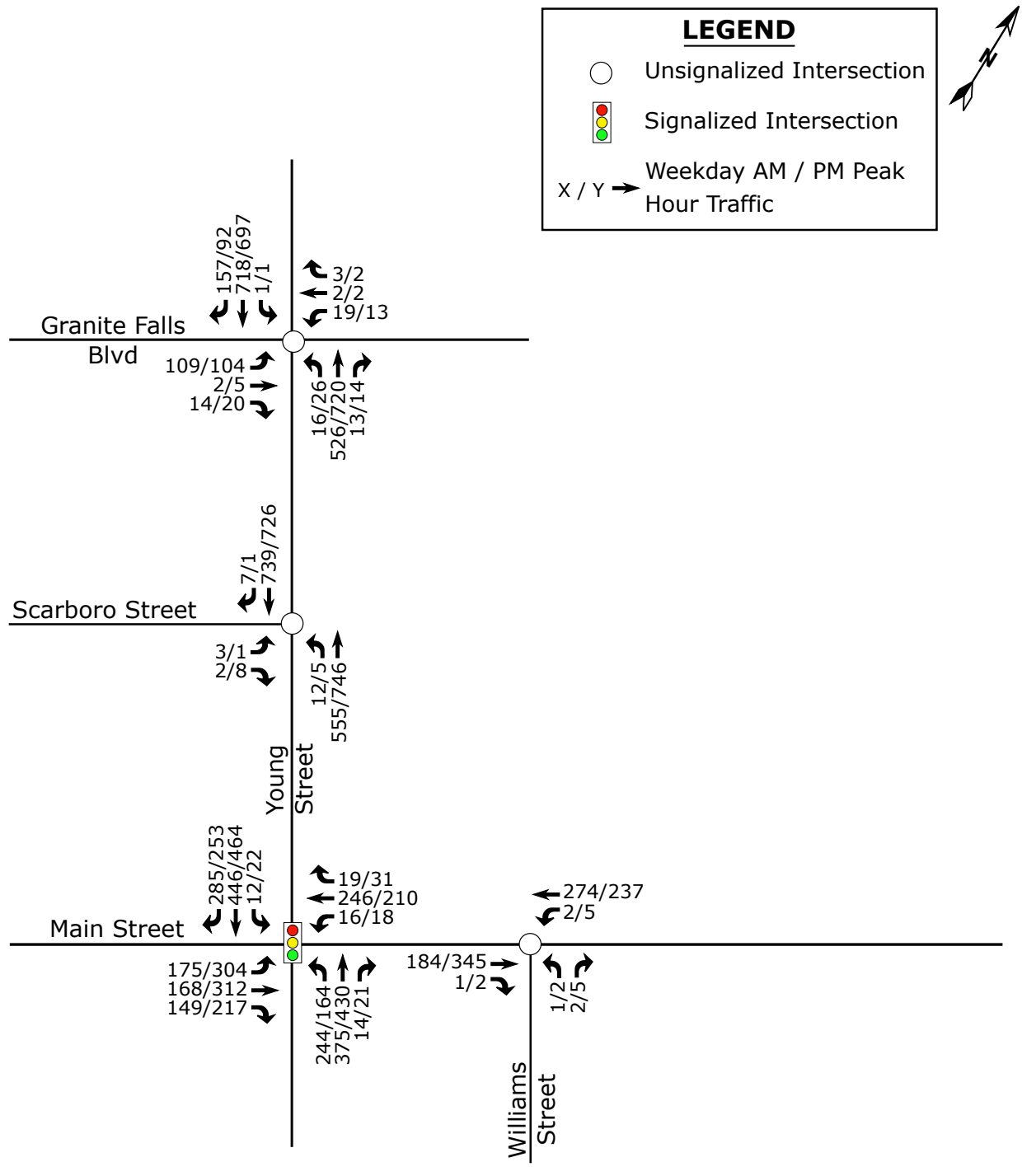
The 2030 no-build AM and PM peak hour traffic volumes at the study intersections were analyzed with future geometric roadway conditions and traffic control. The analysis results are presented in Section 7 of this report.



DRMP	Opal at Main Rolesville, NC	2030 Projected Peak Hour Traffic
		Scale: Not to Scale | Figure 5



DRMP	Opal at Main Rolesville, NC	Peak Hour Adjacent Development Trips Scale: Not to Scale | Figure 6



Note: Based on NCDOT Congestion Management guidelines, a volume of 4 vehicles per hour (vph) was analyzed for any movement with less than 4 vph.

DRMP	Opal at Main Rolesville, NC	2030 No-Build Peak Hour Traffic
		Scale: Not to Scale | Figure 7

4. SITE TRIP GENERATION AND DISTRIBUTION

4.1. Trip Generation

The proposed development is assumed to consist of 2 single-family detached homes and 71 single-family attached homes. 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*, 12 Edition. Table 3 provides a summary of the trip generation potential for the site.

Table 3: 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
Single-Family Detached Housing (210)	2 DU	18	2	5	2	1
Single-Family Attached Housing (215)	71 DU	467	7	20	19	14
Total Trips		**485**	**9**	**25**	**21**	**15**

It is estimated that the proposed development will generate approximately 485 total site trips on the roadway network during a typical 24-hour weekday period. Of the daily traffic volume, it is anticipated that 34 trips (9 entering and 25 exiting) will occur during the weekday AM peak hour and 36 trips (21 entering and 15 exiting) will occur during the weekday PM peak hour.

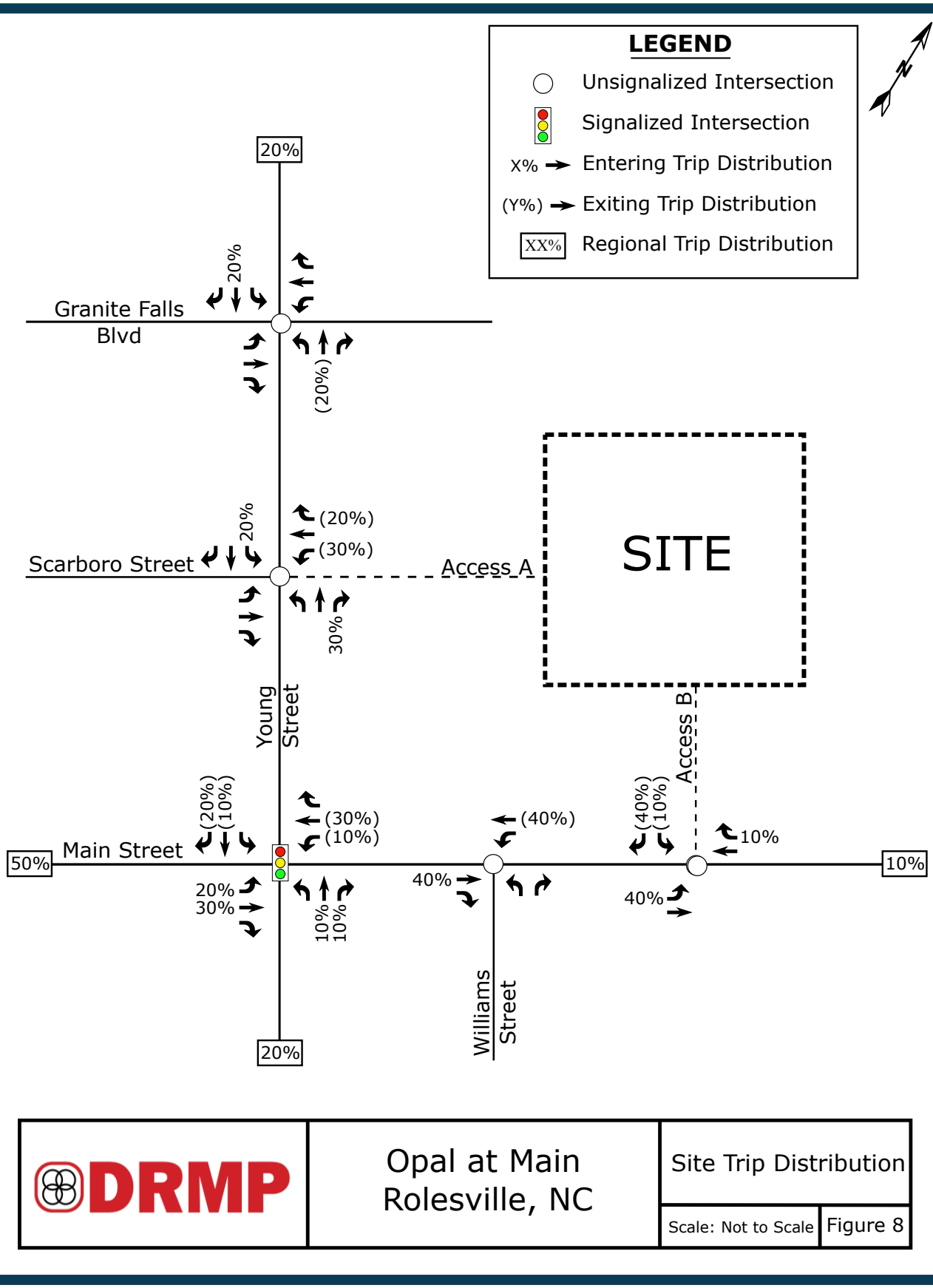
4.2. Site Trip Distribution and Assignment

Trip distribution percentages used in assigning site traffic for this development were estimated based on a combination of existing traffic patterns, population centers adjacent to the study area, and engineering judgment.

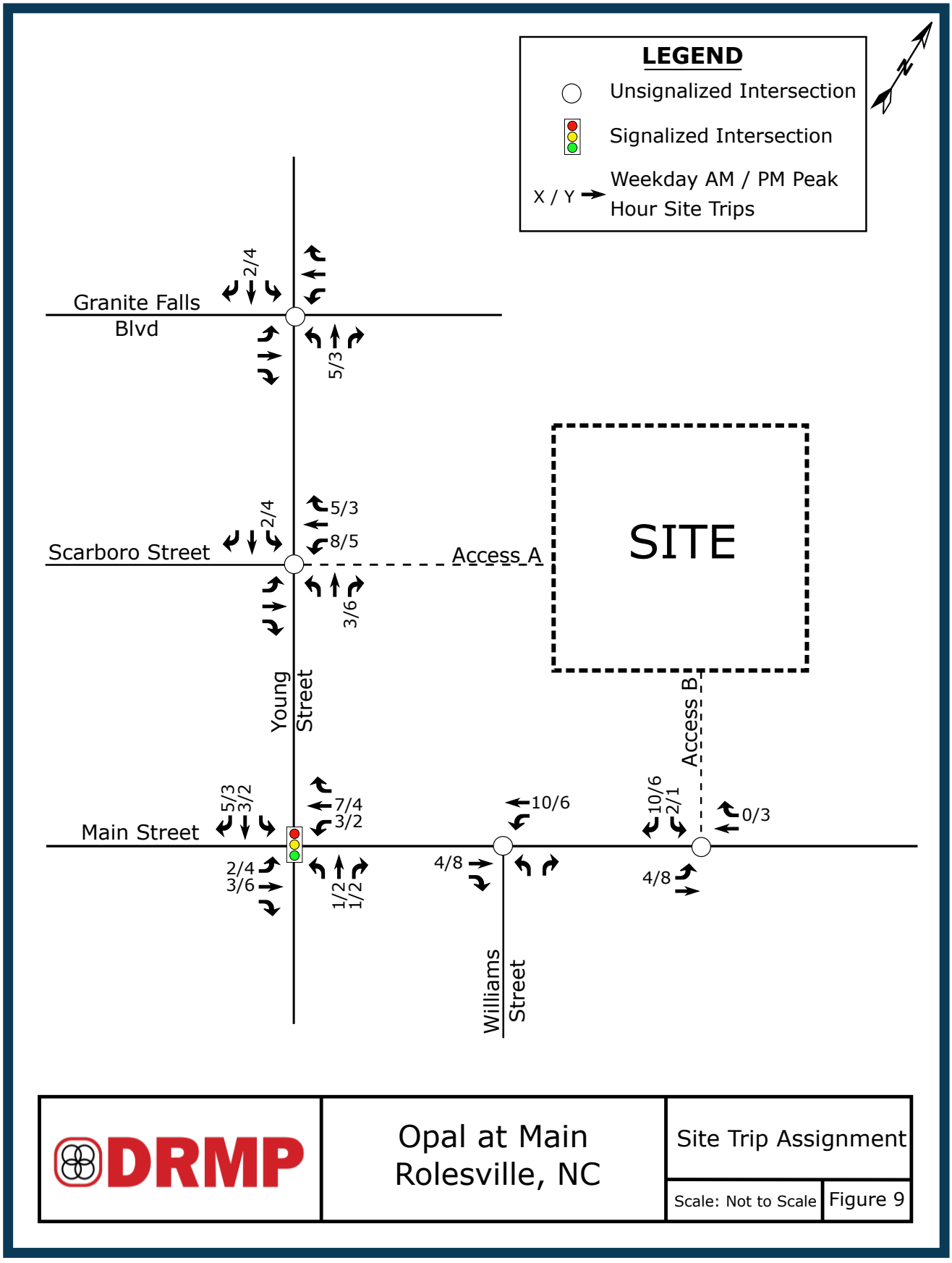
It is estimated that the site trips will be regionally distributed as follows:

- 20% to/from the north via Young Street
- 20% to/from the south via Young Street
- 50% to/from the east via Main Street
- 10% to/from the west via Main Street

The site trip distribution is shown in Figure 8. Refer to Figure 9 for the site trip assignment.



DRMP	Opal at Main Rolesville, NC	Site Trip Distribution
		Scale: Not to Scale | Figure 8



DRMP	Opal at Main Rolesville, NC	Site Trip Assignment	
		Scale: Not to Scale	Figure 9

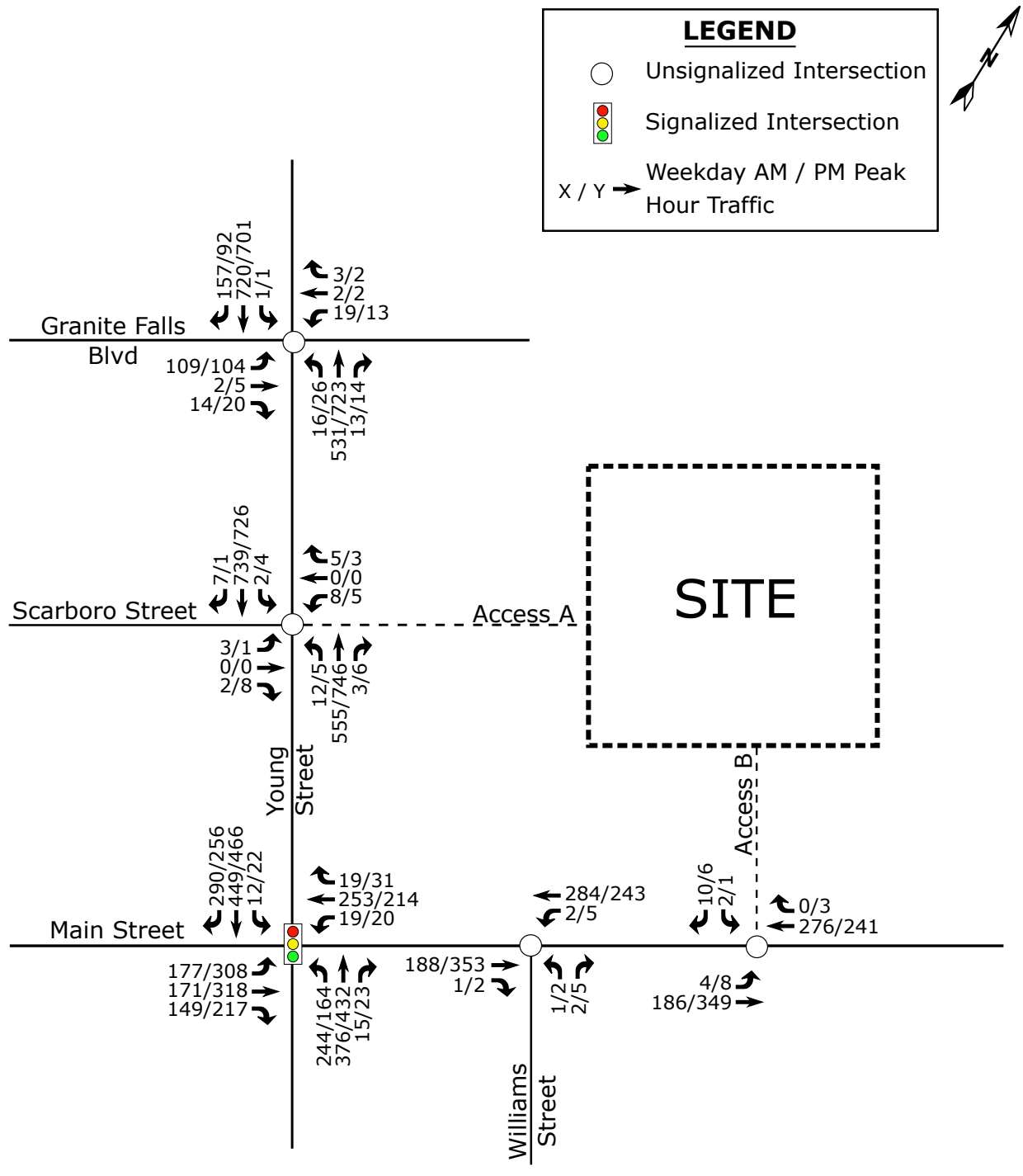
5. 2030 BUILD TRAFFIC CONDITIONS

5.1. 2030 Build Peak Hour Traffic Volumes

To estimate traffic conditions with the site fully built-out, the total site trips were added to the 2030 no-build traffic volumes to determine the 2030 build traffic volumes. Refer to Figure 10 for an illustration of the 2030 build peak hour traffic volumes with the proposed site fully developed.

5.2. Analysis of 2030 Build Peak Hour Traffic Conditions

Study intersections were analyzed with the 2030 build traffic volumes using the same methodology previously discussed for existing and no-build traffic conditions. Intersections were analyzed with improvements necessary to accommodate future traffic volumes. The results of the capacity analysis for each intersection are presented in Section 7 of this report.



Note: Based on NCDOT Congestion Management guidelines, a volume of 4 vehicles per hour (vph) was analyzed for any movement with less than 4 vph.

DRMP	Opal at Main Rolesville, NC	2030 Build Peak Hour Traffic
		Scale: Not to Scale | Figure 10

6. TRAFFIC ANALYSIS PROCEDURE

Study intersections were analyzed using the methodology outlined in the *Highway Capacity Manual* (HCM), 6th Edition published by the Transportation Research Board. Capacity and level of service are the design criteria for this traffic study. A computer software package, Synchro (Version 11.1), was used to complete the analyses for the study area intersections. Please note that the unsignalized capacity analysis does not provide an overall level of service for an intersection; only delay for an approach with a conflicting movement.

The HCM defines capacity as "the maximum hourly rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of a lane or roadway during a given time period under prevailing roadway, traffic, and control conditions." Level of service (LOS) is a term used to represent different driving conditions and is defined as a "qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers." Level of service varies from Level "A" representing free flow, to Level "F" where breakdown conditions are evident. Refer to Table 4 for HCM levels of service and related average control delay per vehicle for both signalized and unsignalized intersections. Control delay as defined by the HCM includes "initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay". An average control delay of 50 seconds at a signalized intersection results in LOS "D" operation at the intersection.

Table 4: Highway Capacity Manual – Levels-of-Service and Delay

UNSIGNALIZED INTERSECTION		SIGNALIZED INTERSECTION	
LEVEL OF SERVICE	AVERAGE CONTROL DELAY PER VEHICLE (SECONDS)	LEVEL OF SERVICE	AVERAGE CONTROL DELAY PER VEHICLE (SECONDS)
A	0-10	A	0-10
B	10-15	B	10-20
C	15-25	C	20-35
D	25-35	D	35-55
E	35-50	E	55-80
F	>50	F	>80

6.1. Adjustments to Analysis Guidelines

Capacity analysis at all study intersections was completed according to the NCDOT Congestion Management Guidelines.

7. CAPACITY ANALYSIS

The following study intersections were analyzed under 2026 existing, 2030 no-build, and 2030 build traffic conditions:

- Main Street (US 401) and Young Street
- Main Street (US 401) and Williams Street
- Young Street and Granite Falls Boulevard
- Young Street and Scarboro Street/Site Access A
- Main Street (US 401) and Site Access B

All proposed site driveways were analyzed under 2030 build traffic conditions. Refer to Tables 5-9 for a summary of capacity analysis results. Refer to Appendices F-J for the Synchro capacity analysis reports and SimTraffic queueing reports.

capacity analysis indicates that the intersection is expected to operate at an overall Level of Service (LOS) D during the weekday AM peak hour and LOS E during the weekday PM peak hour under both 2030 no-build and build conditions. The proposed development is expected to increase queues on the westbound left-turn movement by approximately 90 feet (about four vehicles) during the PM peak hour when comparing 2030 build conditions to 2030 no-build conditions; however, the proposed development contributes only two vehicles to this movement. The overall intersection delay is projected to increase by 2.0 seconds or less, indicating minimal operational impact from the proposed development. As a result, no improvements are recommended by the developer.

7.1. Main Street and Young Street

Refer to the table below for a summary of the capacity analysis of the subject intersection during the analysis scenarios.

Table 5: Analysis Summary of Main Street and Young Street

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2025 Existing	EB WB NB SB	1 LT, 1 TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH-RT 1 LT-TH, 1 RT	C (26) D (37) E (55) D (39)	D (40)	C (30) D (40) D (52) D (39)	D (39)
2030 No-Build	EB WB NB SB	1 LT, 1 TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH-RT 1 LT-TH, 1 RT	D (45) E (57) E (61) D (48)	D (52)	F (87) E (61) F (83) E (63)	E (76)
2030 Build	EB WB NB SB	1 LT, 1 TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH-RT 1 LT-TH, 1 RT	D (46) E (59) E (61) D (49)	D (53)	F (91) E (62) F (85) E (64)	E (78)

1. Level of service for major-street left-turn movement.
2. Level of service for minor-street approach.

Capacity analysis indicates that the intersection is expected to operate at an overall Level of Service LOS D during the weekday AM peak hour and LOS E during the weekday PM peak hour under both 2030 no-build and build conditions. The overall intersection delay is expected to increase by 2 seconds or less, indicating minimal operational impact from the proposed development. As a result, which equates to a less than 3% delay increase from the proposed development.

The intersection is currently under construction as part of STIP Project U-6241 and is assumed to be completed by 2025. Accordingly, the analysis was conducted using the future lane configurations shown in the STIP U-6241 for all traffic conditions. Coordinated signal timings were not recorded due to ongoing construction; therefore, signal timings were optimized for all existing and future scenarios.

7.2. Main Street and Williams Street

Refer to the table below for a summary of the capacity analysis of the subject intersection during the analysis scenarios.

Table 6: Analysis Summary of Main Street and Williams Street

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2025 Existing	EB WB NB	1 TH-RT 1 LT, 1 TH 1 LT-RT	-- A (8)[1] A (10)[2]	N/A	-- A (8)[1] B (11)[2]	N/A
2030 No-Build	EB WB NB	1 TH-RT 1 LT, 1 TH 1 LT-RT	-- A (8)[1] B (10)[2]	N/A	-- A (8)[1] B (11)[2]	N/A
2030 Build	EB WB NB	1 TH-RT 1 LT, 1 TH 1 LT-RT	-- A (8)[1] B (10)[2]	N/A	-- A (8)[1] B (11)[2]	N/A

1. Level of service for major-street left-turn movement.
2. Level of service for minor-street approach.

Capacity analysis indicates that the major street left turn movement and minor street approach are expected to operate at LOS B or better during the weekday AM and PM peak hours under all traffic conditions. The maximum westbound left-turn queue is approximately 25 feet during the weekday PM peak hour, which is shorter than the existing two-way left-turn lane (TWLTL) storage length. Accordingly, the effective left-turn storage length can be shortened without affecting intersection operations, allowing a portion of the TWLTL to be reallocated to provide storage for the eastbound left-turn movement into Site Access B. With the reduced storage length, major street left-turn queues are expected to remain fully contained within the TWLTL, and no queuing issues are anticipated. The following improvements are recommended by the developer under 2030 Build traffic conditions:

- Restripe the existing 150 feet of two-way left-turn lane (TWLTL) to provide 25 feet of storage for the westbound left-turn movement into Williams Street.

7.3. Young Street and Granite Falls Boulevard

Refer to the table below for a summary of the capacity analysis of the subject intersection during the analysis scenarios.

Table 7: Analysis Summary of Young Street and Granite Falls Boulevard

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2025 Existing	EB WB NB SB	1 LT, 1 TH-RT 1 LT-TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH-RT	E (40)[2] C (24)[2] A (9)[1] A (8)[1]	N/A	E (47)[2] D (26)[2] A (9)[1] A (9)[1]	N/A
2030 No-Build	EB WB NB SB	1 LT, 1 TH-RT 1 LT-TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH-RT	F (252)[2] F (54)[2] B (10)[1] A (9)[1]	N/A	F (404)[2] F (71)[2] A (10)[1] A (10)[1]	N/A
2030 Build	EB WB NB SB	1 LT, 1 TH-RT 1 LT-TH-RT 1 LT, 1 TH-RT 1 LT, 1 TH-RT	F (264)[2] F (56)[2] B (10)[1] A (9)[1]	N/A	F (415)[2] F (71)[2] A (10)[1] A (10)[1]	N/A

1. Level of service for major-street left-turn movement.
2. Level of service for minor-street approach.

Capacity analysis indicates that the major street left turn movements are expected to operate at LOS B or better during the weekday AM and PM peak hours under all traffic conditions. The minor street approach is expected to operate at LOS F under both 2030 no-build and build conditions. Reasonable queues are expected at the minor-street approaches. Traffic on the minor street has access to alternate routes, including the two (2) proposed full-movement driveways along Young Street and North Main Street. Poor levels of service and higher delays are not uncommon for an unsignalized minor-street approach during the weekday peak hours when mainline volumes are heaviest. A traffic signal was considered at this intersection, and 2030 build peak hour traffic volumes were analyzed utilizing the criteria contained in the Manual on Uniform Traffic Control Devices (MUTCD). A traffic signal was not warranted during either weekday peak hour. The NCDOT typically prefers the 4-hour and 8-hour warrants to be met, which is highly unlikely at this intersection due to the primarily residential traffic on the minor streets.

7.4. Young Street and Scarboro Street/Site Access A

Refer to the table below for a summary of the capacity analysis of the subject intersection during the analysis scenarios.

Table 8: Analysis Summary of Young Street and Scarboro Street/Site Access A

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2025 Existing	EB NB SB	1 LT-RT 1 LT, 1 TH 1 TH-RT	B (14)[2] A (9)[1] --	N/A	B (13)[2] A (9)[1] --	N/A
2030 No-Build	EB NB SB	1 LT-RT 1 LT, 1 TH 1 TH-RT	C (17)[2] A (10)[1] --	N/A	C (17)[2] A (9)[1] --	N/A
2030 Build	EB **WB** NB SB	1 LT-**TH**-RT **1 LT-TH-RT** 1 LT, 1 TH-**RT** **1 LT**, 1 TH-RT	D (33)[2] E (36)[2] A (10)[1] A (9)[1]	N/A	E (35)[2] E (44)[2] A (9)[1] A (10)[1]	N/A

Improvements to lane configurations are shown in bold.
1. Level of service for major-street left-turn movement.
2. Level of service for minor-street approach.

Capacity analysis indicates that the major street left turn movements are expected to operate at LOS A and minor street approaches are expected to operate at LOS E or better during the weekday AM and PM peak hours under 2030 build traffic conditions. No queuing issues were identified. No turn lanes are warranted based on a review of NCDOT's "Policy on Street and Driveway Access to North Carolina Highways". The following improvements are recommended by the developer under 2030 build traffic conditions:

- Construct Access A (westbound approach) as full movement access with one ingress and one egress lane (shared left-through-right lane).
- Provide 100 feet of Internal Protected Stem (IPS) length.
- Restripe the existing two-way left-turn lane (TWLTL) to provide 50 feet of storage for the southbound left-turn movement.
- Restripe the existing two-way left-turn lane (TWLTL) to provide 50 feet of storage for the northbound left-turn movement.
- Provide stop control for the westbound approach

7.5. Main Street and Site Access B

Refer to the table below for a summary of the capacity analysis of the subject intersection during the analysis scenarios.

Table 9: Analysis Summary of Main Street and Site Access B

ANALYSIS SCENARIO	APPROACH	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach	Overall (seconds)	Approach	Overall (seconds)
2030 Build	EB WB **SB**	**1 LT**, 1 TH 1 TH-**RT** **1 LT-RT**	A (9)[1] -- B (11)[2]	N/A	A (8)[1] -- B (11)[2]	N/A

Improvements to lane configurations are shown in bold.
1. Level of service for major-street left-turn movement.
2. Level of service for minor-street approach.

Capacity analysis indicates that the major street left turn movement and minor street approach are expected to operate at LOS B or better during the weekday AM and PM peak hours under 2030 build traffic conditions. No queuing issues were identified. Based on a review of NCDOT's Policy on Street and Driveway Access to North Carolina Highways, no turn lanes are warranted.

NCDOT has raised concerns regarding the proximity of Site Access B to the existing Williams Street, as discussed during scoping and documented in the MOU, the intersection was analyzed as a full movement. Sim Traffic results indicate that the eastbound left-turn movement into the site generates a maximum queue length of approximately 25 feet during the weekday PM peak hour. Restriping the existing two-way left-turn lane (TWLTL) to provide 25 feet of storage for the eastbound left-turn movement is expected to fully accommodate projected queues at the intersection. The maximum queue length at the Williams Street intersection is 25 feet; therefore, the proposed restriping of the TWLTL will not affect intersection operations. The projected queue is fully contained within the TWLTL and does not extend into the functional area of the Williams Street intersection.

The following improvements are recommended by the developer under 2030 build traffic conditions:

- Construct Access B (southbound approach) as full movement access with one ingress lane and one egress lane (shared left-right lane).
- Provide 100 feet of Internal Protected Stem (IPS) length.
- Restripe the existing two-way left-turn lane (TWLTL) to provide 25 feet of storage for the eastbound left-turn movement into the site.
- Provide stop control for the southbound approach.

8. CONCLUSIONS

This Traffic Impact Analysis was conducted to determine the potential traffic impacts of the Opal at Main development to be located Rolesville, North Carolina. The proposed development, anticipated to be completed in 2030, is assumed to consist of 2 single-family detached homes and 71 single-family attached homes. Site access is proposed via two (2) full-movement driveways, one (1) along Young Street and one (1) along North Main Street.

The study analyzes traffic conditions during the weekday AM and PM peak hours for the following scenarios:

- 2025 Existing Traffic Conditions
- 2030 No-Build Traffic Conditions
- 2030 Build Traffic Conditions

Trip Generation

Primary site trips are expected to generate approximately 34 trips (9 entering and 25 exiting) during the weekday AM peak hour and 36 trips (21 entering and 15 exiting) during the weekday PM peak hour.

Adjustments to Analysis Guidelines

Capacity analysis at all study intersections was completed according to NCDOT Congestion Management Guidelines. Refer to section 6.1 of this report for a detailed description of any adjustments to these guidelines made throughout the analysis.

9. RECOMMENDATIONS

Based on the findings of this study, specific geometric improvements have been identified and are recommended to accommodate future traffic conditions. See a more detailed description of the recommended improvements below. Refer to Figure 11 for an illustration of the recommended lane configuration for the proposed development.

Recommended Improvements by Developer

Young Street and Scarboro Street/Site Access A

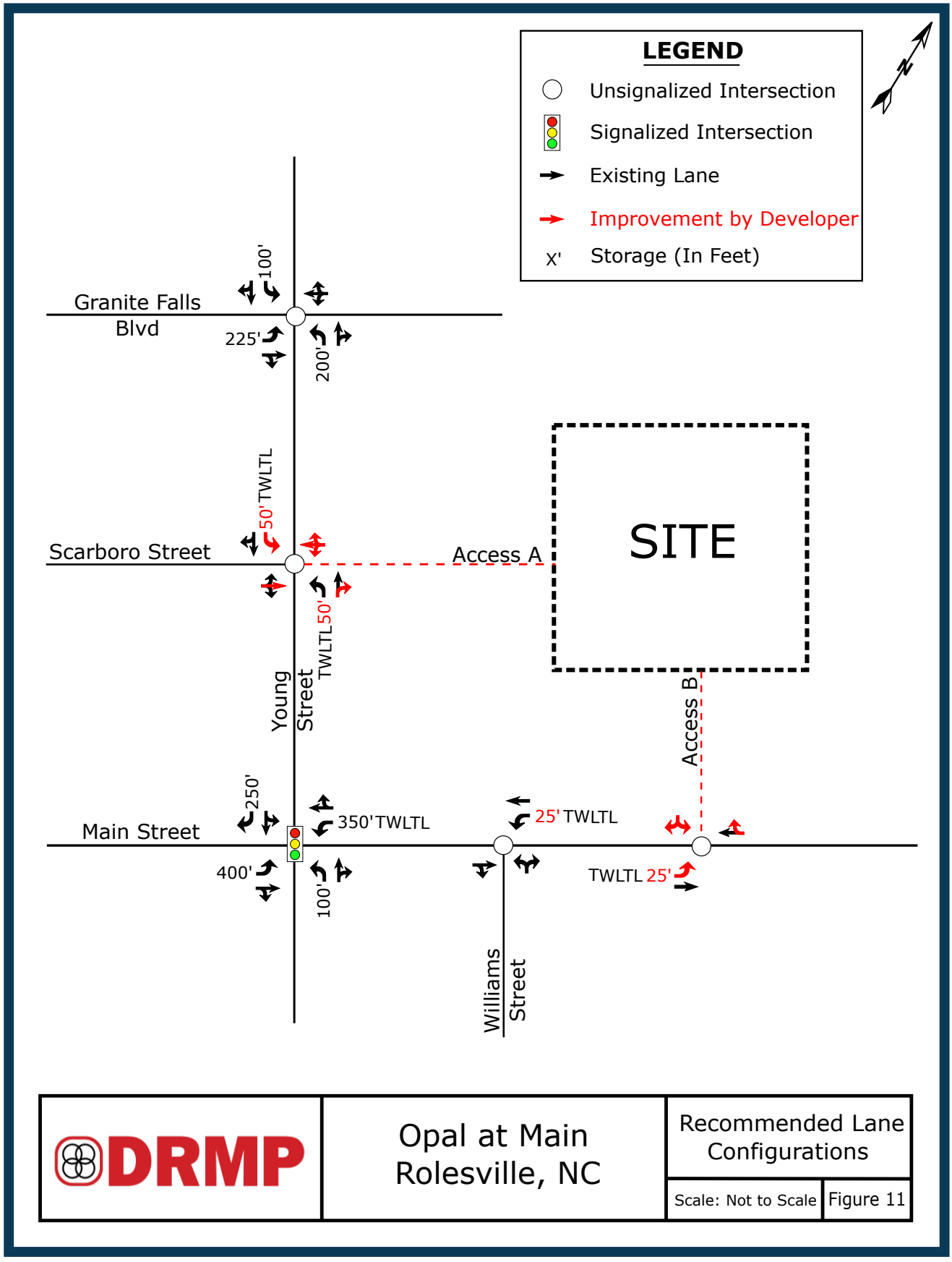
- Construct Access A (westbound approach) as full movement access with one ingress and one egress lane (shared left-through-right lane).
- Provide 100 feet of Internal Protected Stem (IPS) length.
- Restripe the existing two-way left-turn lane (TWLTL) to provide 50 feet of storage for the southbound left-turn movement.
- Restripe the existing two-way left-turn lane (TWLTL) to provide 50 feet of storage for the northbound left-turn movement.
- Provide stop control for the westbound approach

Main Street and Site Access B

- Construct Access B (southbound approach) as full movement access with one ingress lane and one egress lane (shared left-right lane).
- Provide 100 feet of Internal Protected Stem (IPS) length.
- Restripe the existing two-way left-turn lane (TWLTL) to provide 25 feet of storage for the eastbound left-turn movement into the site.
- Provide stop control for the southbound approach.

Main Street and Williams Street

- Restripe the existing 150 feet two-way left-turn lane (TWLTL) to provide 25 feet of storage for the westbound left-turn movement into Williams Street and 25 feet of storage for the eastbound left-turn movement into Site Access B.



DRMP	Opal at Main Rolesville, NC	Recommended Lane Configurations	
		Scale: Not to Scale	Figure 11

REZ-25-04 Opal at Main Rezoning Conditions Revised/Submitted: 04/06/2026

1. The subject property shall be developed generally in accordance with the Concept Site Plan attached hereto and incorporated herein.
2. The development shall allow for a maximum of sixty-four (64) single-family attached dwellings and two (2) single-family detached dwellings.
3. The stormwater control measure (SCM) shall be enhanced with trails, plantings, and a plaque to commemorate the historic significance of the site. The plaque shall be located to ensure public access to the memorial. The exact location and design of the plaque shall be determined at time of site plan.
4. For all townhome lots adjacent to a public street or private alley: A minimum of one (1) evergreen tree at 2-inch caliper at the time of planting and a minimum of two (2) medium shrubs, a minimum of 3-gallon size at the time of planting; shall be installed by the developer prior to the Certificate of Occupancy.
5. A thirty (30) foot-wide buffer shall be provided along the property boundary with PIN 1769120094 (Little House Museum) where the proposed homes abut the museum. This buffer shall achieve a Type 3 planting standard in accordance with Town of Rolesville LDO.
6. Garages will have fully finished interiors, with drywall, paint and trim.
7. The architectural commitments for this development shall be:

    a) No dwelling unit shall be clad with aluminum or vinyl siding. Vinyl windows, trim and soffit are allowed.

    b) No townhome building shall exceed six (6) units.

    c) The minimum square footage for townhomes shall be 1,575 square feet. Garages shall not be counted towards the minimum square footage.

    General architectural requirements of the neighborhood will be governed by recorded conditions, covenants, and restrictions. The developer shall submit a copy of the conditions, covenants, and restrictions to the Town of Rolesville to allow the Town Attorney to review them before recordation.
8. Conditions restricting the rental of dwelling units shall be governed by the Covenants, Conditions, and Restrictions of the HOA of this development. The Town shall verify that the Covenants, Conditions, and Restrictions contain language that regulates rental units at the time of construction drawings however enforcement of the covenants shall be the responsibility of the HOA.

8

2026-04-27 Opal at Main Zoning Conditions.pdf · Page 1

8 **Michele Raby**

Confirm these are applicable to the Terrell Plantation Covenants for the two single family dwelling units proposed to be located on Nortwick.

Site Address/PIN:

Property Owner Name: Date:

Site Address/PIN:

Property Owner Signature: Date:

Site Address/PIN:

Property Owner Name: Date:

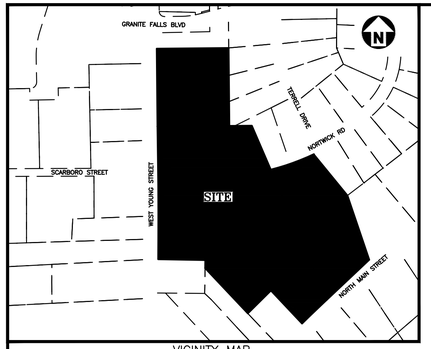
2026-04-27 Opal at Main Zoning Conditions.pdf · Page 2

9 **Michele Raby**

Submit signed conditions to be included in the Board of Commissioners Agenda Packet.

10 **Michele Raby**

There are four parcels. Consider adding a fourth site address/ PIN, property owner name, date for clarity.



VICINITY MAP
NOT TO SCALE

TO FISCHER HOMES; INVESTORS TITLE INSURANCE COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 8, 11, 13, 16, 17, 18, AND 19 OF TABLE A THEREOF.

THE FIELD WORK WAS COMPLETED ON APRIL 2, 2026
DATE OF PLAT OR MAP: APRIL 2, 2025
LAST REVISED: APRIL 23, 2026

JAY B. TAYLOR, P.L.S. L-5472 DATE

PRELIMINARY

NORTH CAROLINA PROFESSIONAL SEAL L-5472 SURVEYOR JAY B. TAYLOR
PRELIMINARY

I, JAY B. TAYLOR, CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL GPS SURVEY MADE UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:

(1) CLASS OF SURVEY: AA
(2) POSITIONAL ACCURACY: HORIZONTAL 0.048' VERTICAL 0.014'
(3) TYPE OF GPS FIELD PROCEDURE: VRS
(4) DATES OF SURVEY: 04-03-2025
(5) DATUM/EPOCH: NAD83 (2001)
(6) PUBLISHED/FIXED-CONTROL USE: VRS
(7) GEOID MODEL: 18
(8) COMBINED GRID FACTOR(S): 0.99994965794446
(9) UNITS: U.S. FEET

JAY B. TAYLOR, PLS #5472 DATE

PRELIMINARY

SURVEYOR'S CERTIFICATE

I, JAY B. TAYLOR, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTION RECORDED IN BOOK AND PAGE AS SHOWN); THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND IN BOOK AND PAGE AS SHOWN; THAT THE RATIO OF PRECISION OR POSITIONAL ACCURACY IS 1: AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56.1600).
WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL
THIS _____ DAY OF _____, A.D., _____

11

JAY B. TAYLOR, PROFESSIONAL LAND SURVEYOR L-5472

PRELIMINARY

GENERAL NOTES

1. THIS IS AN ALTA/NSPS LAND TITLE SURVEY.
2. BEARINGS FOR THIS SURVEY ARE BASED ON NC GRID NAD 83(2011).
3. ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES.
4. ZONING: TRACTS 1, 2, AND 4 ARE ROLESVILLE ZONE "RL," TRACT 3 IS ROLESVILLE ZONE "RM-CZ" PER WAKE COUNTY GIS; NO ZONING REPORT PROVIDED
5. AREA BY COORDINATE GEOMETRY.
6. FLOOD NOTE: THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD ZONE. IT IS LOCATED IN ZONE "X" AS DEFINED BY F.E.M.A F.I.R.M COMMUNITY PANEL #3720176900J DATED 05/02/2006.
7. REFERENCES: AS SHOWN
8. UTILITY STATEMENT
   THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.
9. NO GRID MONUMENTS FOUND WITHIN 2000' OF SITE.
10. NO EVIDENCE OF RECENT STREET OR SIDEWALK CONSTRUCTION OR REPAIRS, RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS OBSERVED IN THE PROCESS OF CONDUCTING FIELDWORK.
11. NO FIELD DELINEATION OF WETLANDS WAS PERFORMED AS A PART OF THIS SURVEY AND NO MARKERS FOR SUCH WERE OBSERVED
12. NO PARTY WALLS WERE LOCATED AS PART OF THIS SURVEY
13. NO DOCUMENTATION OF CEMETERIES PROVIDED TO THE SURVEYOR. NO PHYSICAL EVIDENCE OF CEMETERIES WERE OBSERVED DURING THE NORMAL COURSE OF THE SURVEY.
14. THE SURVEYED PROPERTY SHOWN AND DESCRIBED IN THE PROPERTY DESCRIPTION IS THE SAME PROPERTY DESCRIBED IN SCHEDULE A OF THE TITLE COMMITMENT.
15. PROPERTY HAS DIRECT ACCESS TO WEST YOUNG STREET, NORTH MAIN STREET, AND NORTWICK ROAD, ALL PUBLIC RIGHT-OF-WAYS

TITLE COMMITMENT
(FOR TRACT 1 AND TRACT 2)

INVESTORS TITLE INSURANCE COMPANY
COMMITMENT NUMBER: **202510043CA**
COMMITMENT DATE: **JANUARY 2, 2025 AT 08:00 AM**

SCHEDULE B, PART II
EXCEPTIONS

THE POLICY WILL NOT INSURE AGAINST LOSS OR DAMAGE RESULTING FROM THE TERMS AND CONDITIONS OF ANY LEASE OR EASEMENT IDENTIFIED IN SCHEDULE A, AND WILL INCLUDE THE FOLLOWING EXCEPTIONS UNLESS CLEARED TO THE SATISFACTION OF THE COMPANY:

1. ANY DEFECT, LIEN, ENCUMBRANCE, ADVERSE CLAIM, OR OTHER MATTER THAT APPEARS FOR THE FIRST TIME IN THE PUBLIC RECORDS OR IS CREATED, ATTACHES, OR IS DISCLOSED BETWEEN THE COMMITMENT DATE AND THE DATE ON WHICH ALL OF THE SCHEDULE B, PART I—REQUIREMENTS ARE MET. **—[NOT A SURVEY MATTER]**
2. TAXES FOR THE YEAR 2025, AND SUBSEQUENT YEARS, NOT YET DUE AND PAYABLE. **—[NOT A SURVEY MATTER]**
3. MATTERS SHOWN ON RECORDED BOOK OF MAPS 2002 AT PAGE 1740. **—[SHOWN AND REFERENCED HEREON]**
4. RIGHTS OF TENANTS IN POSSESSION UNDER UNRECORDED LEASE OF LESS THAN THREE (3) YEAR'S DURATION. (TO BE DELETED UPON RECEIPT OF NO TENANT AFFIDAVIT.) **—[NOT A SURVEY MATTER]**
5. TITLE TO THAT PORTION OF THE LAND WITHIN THE RIGHT-OF-WAY OF WEST YOUNG STREET. **—[WEST YOUNG STREET SHOWN HEREON]**
6. EASEMENT(S) TO CAROLINA TELEPHONE AND TELEGRAPH COMPANY RECORDED IN BOOK 926 AT PAGE 117. **—[BLANKET IN TYPE, NOT PLOTTABLE]**
7. DEED OF EASEMENT FOR TEMPORARY CONSTRUCTION PURPOSES TO TOWN OF ROLESVILLE RECORDED IN BOOK 6235 AT PAGE 531. **—[TEMPORARY CONSTRUCTION EASEMENT TERMINATED AT COMPLETION OF INSTALLATION OF WATERLINE AND LANDSCAPING]**
8. GENERAL PERMITS TO CAROLINA TELEPHONE AND TELEGRAPH COMPANY RECORDED IN BOOK 1080 AT PAGE 262 AND BOOK 1231 AT PAGE 401. **—[BLANKET IN TYPE, NOT PLOTTABLE]**
9. THE EFFECT OF THE TITLE OF AN ENCROACHMENT, ENCUMBRANCE, VIOLATION, VARIATION, OR ADVERSE CIRCUMSTANCE, BOUNDARY LINE OVERLAP, OR ENCROACHMENT (INCLUDING AN ENCROACHMENT OF AN IMPROVEMENT ACROSS THE BOUNDARY LINES OF THE LAND), BUT ONLY IF THE ENCUMBRANCE, VIOLATION, VARIATION, ADVERSE CIRCUMSTANCE, BOUNDARY LINE OVERLAP, OR ENCROACHMENT WOULD HAVE BEEN DISCLOSED BY AN ACCURATE AND COMPLETE LAND SURVEY OF THE LAND. PARAGRAPH 2 (C) OF THE COVERED RISKS IS HEREBY DELETED. **—[SURVEY SHOWN HEREON]**

NO INSURED CLOSING PROTECTION COVERAGE PROVIDED — AS TO THE TRANSACTION FOR WHICH THIS BINDER AND/OR POLICY IS ISSUED, THE COMPANY SPECIFICALLY EXCLUDES THIS TRANSACTION FROM ANY CLOSING PROTECTION SERVICES.

SCHEDULE "C"
LEGAL DESCRIPTION
(FOR TRACT 1 AND TRACT 2)

BEGINNING AT AN EXISTING IRON PIPE IN THE EASTERN RIGHT OF WAY OF WEST YOUNG STREET, A 60 FT. PUBLIC RIGHT OF WAY, SAID PIPE BEING THE NORTHWEST CORNER OF TRACT 1 AS REFERENCED IN BOOK OF MAPS 2002, PAGE 1740, AND BEING THE SOUTHWEST CORNER OF THE MARY C. PERRY PROPERTY AS REFERENCED IN DEED BOOK 2022, PAGE 249, SAID PIPE ALSO HAVING GRID NAD '83 COORDINATES OF N=792765.4848 FEET AND E=2160643.6612 FEET; THENCE LEAVING THE SAID RIGHT- OF WAY AND WITH THE COMMON LINE OF THE SAID PERRY PROPERTY, N89°30'10"E A DISTANCE OF 364.35 FEET TO A POINT IN THE LINE OF LOT 52 OF THE TERRELL PLANTATION AS REFERENCED IN BOOK OF MAPS 2012, PAGE 158; THENCE S23°18'36"E A DISTANCE OF 730.70 FEET TO A POINT IN THE NORTHWESTERN RIGHT OF WAY OF NORTH MAIN STREET- US 401, A VARIABLE PUBLIC RIGHT OF WAY; THENCE WITH THE SAID NORTH MAIN STREET RIGHT OF WAY, S47°04'48"W A DISTANCE OF 13.22 FEET TO A POINT, THENCE S46°17'02"W A DISTANCE OF 75.48 FEET TO A POINT; THENCE S45°42'52"W A DISTANCE OF 44.33 FEET TO A POINT BEING THE SOUTHEAST CORNER OF THE PROPERTY OF LITTLE HOUSE, LLC AND REFERENCED IN DEED BOOK 14739, PAGE 2454; THENCE WITH THE COMMON LINE OF THE SAID LITTLE HOUSE, LLC PROPERTY, N43°20'26"W A DISTANCE OF 175.10 FEET TO AN EXISTING IRON PIPE; THENCE S45°18'24"W A DISTANCE OF 124.99 FEET TO AN EXISTING IRON PIPE IN THE LINE OF THE PROPERTY OF MILDRED F. MATHENY, HEIRS AS REFERENCED IN DEED BOOK 614, PAGE 245; THENCE WITH THE SAID MATHENY HEIRS LINE, N43°20'12"W A DISTANCE OF 239.77 FEET TO AN EXISTING IRON PIPE IN THE LINE OF THE PROPERTY OF DENISE BROWN AS REFERENCED IN DEED BOOK 17010, PAGE 41; THENCE WITH THE COMMON LINE OF THE SAID BROWN PROPERTY, N0L 016'09"E A DISTANCE OF 31.03 FEET TO AN EXISTING IRON PIPE; THENCE N89°00'59"W A DISTANCE OF 181.74 FEET TO A POINT IN THE AFOREMENTIONED RIGHT OF WAY OF WEST YOUNG STREET; THENCE WITH THE SAID WEST YOUNG STREET RIGHT OF WAY, N00°12'54"E A DISTANCE OF 81.17 FEET TO A POINT; THENCE N00°08'34"E A DISTANCE OF 101.84 FEET TO A POINT; THENCE N00°09'08"W A DISTANCE OF 102.45 FEET TO A POINT; THENCE N00°47'19"W A DISTANCE OF 104.25 FEET TO A POINT; THENCE N00°49'13"W A DISTANCE OF 122.35 FEET TO THE POINT AND PLACE OF BEGINNING AND CONTAINING 314,148 SQUARE FEET OR 7.2118 ACRES AS SHOWN ON THAT SURVEY ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY FOR BROUGHTON TOWNHOMES", DATED 11 01 2019, REVISED 03 26 2020, AND PREPARED BY BASS, NIXON KENNEDY, INC. CONSULTING ENGINEERS.

TITLE COMMITMENT
(FOR TRACT 3 AND TRACT 4)

INVESTORS TITLE INSURANCE COMPANY
COMMITMENT NUMBER: **202610361CA**
COMMITMENT DATE: **MARCH 2, 2026 AT 08:00 AM**

SCHEDULE B, PART II
EXCEPTIONS

THE POLICY WILL NOT INSURE AGAINST LOSS OR DAMAGE RESULTING FROM THE TERMS AND CONDITIONS OF ANY LEASE OR EASEMENT IDENTIFIED IN SCHEDULE A, AND WILL INCLUDE THE FOLLOWING EXCEPTIONS UNLESS CLEARED TO THE SATISFACTION OF THE COMPANY:

1. ANY DEFECT, LIEN, ENCUMBRANCE, ADVERSE CLAIM, OR OTHER MATTER THAT APPEARS FOR THE FIRST TIME IN THE PUBLIC RECORDS OR IS CREATED, ATTACHES, OR IS DISCLOSED BETWEEN THE COMMITMENT DATE AND THE DATE ON WHICH ALL OF THE SCHEDULE B, PART I—REQUIREMENTS ARE MET. **—[NOT A SURVEY MATTER]**
2. TAXES FOR THE YEAR 2026, AND SUBSEQUENT YEARS, NOT YET DUE AND PAYABLE. **—[NOT A SURVEY MATTER]**
3. MATTERS SHOWN ON RECORDED BOOK OF MAPS 2006 AT PAGE 2675 AND PLAT BOOK 1997 AT PAGE 2005. **—[SHOWN AND REFERENCED HEREON]**
4. RIGHTS OF TENANTS IN POSSESSION UNDER UNRECORDED LEASE OF LESS THAN THREE (3) YEAR'S DURATION. **—[NOT A SURVEY MATTER]**
5. EASEMENT(S) TO CAROLINA POWER & LIGHT COMPANY RECORDED IN BOOK 779 AT PAGE 296, BOOK 760 AT PAGE 65, BOOK 742 AT PAGE 357, BOOK 813 AT PAGE 388, BOOK 1504 AT PAGE 638, AND BOOK 2057 AT PAGE 617. **—[BLANKET IN TYPE, NOT PLOTTABLE]**
6. THE EFFECT OF THE TITLE OF AN ENCROACHMENT, ENCUMBRANCE, VIOLATION, VARIATION, ADVERSE CIRCUMSTANCE, BOUNDARY LINE OVERLAP, OR ENCROACHMENT (INCLUDING AN ENCROACHMENT OF AN IMPROVEMENT ACROSS THE BOUNDARY LINES OF THE LAND), BUT ONLY IF THE ENCUMBRANCE, VIOLATION, VARIATION, ADVERSE CIRCUMSTANCE, BOUNDARY LINE OVERLAP, OR ENCROACHMENT WOULD HAVE BEEN DISCLOSED BY AN ACCURATE AND COMPLETE LAND SURVEY OF THE LAND. PARAGRAPH 2 (C) OF THE COVERED RISKS IS HEREBY DELETED. **—[SURVEY SHOWN HEREON]**

THE FOLLOWING APPLIES TO PARCEL 0353430 ONLY:

7. DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR TERRELL PLANTATION SUBDIVISION RECORDED IN BOOK 12360 AT PAGE 518. **—[NOT A SURVEY MATTER]**
8. COMMUNICATION SYSTEMS RIGHT OF WAY AND EASEMENT DEED TO CAROLINA TELEPHONE AND TELEGRAPH COMPANY RECORDED IN BOOK 12018 AT PAGE 1775. **—[BLANKET IN TYPE, NOT PLOTTABLE]**
9. EASEMENT(S) TO CAROLINA POWER & LIGHT COMPANY RECORDED IN BOOK 12364 AT PAGE 2203. **—[BLANKET IN TYPE, NOT PLOTTABLE]**

NO INSURED CLOSING PROTECTION COVERAGE PROVIDED — AS TO THE TRANSACTION FOR WHICH THIS BINDER AND/OR POLICY IS ISSUED, THE COMPANY SPECIFICALLY EXCLUDES THIS TRANSACTION FROM ANY CLOSING PROTECTION SERVICES.

SCHEDULE "C"
LEGAL DESCRIPTION
(FOR TRACT 3 AND TRACT 4)

0089068:
BEGINNING AT A POINT IN THE NORTHWESTERN RIGHT OF WAY OF U.S. HIGHWAY 401, SAID POINT BEING NORTH 39°11'35" EAST 190.40 FEET AND NORTH 23°17'09" WEST 27.97 FEET FROM AN IRON PIPE AT THE INTERSECTION OF THE CENTER LINE OF U.S. HIGHWAY 401 AND WILLIAMS STREET; THENCE NORTH 23°17'04" WEST 451.27 FEET TO AN IRON PIPE; THENCE ALONG THE LINE OF WILLIAM Y. WEATHERS NORTH 48°12'46" EAST 187.75 FEET TO AN IRON PIPE, SOUTH 38°53'06" EAST 200.00 FEET TO AN IRON PIPE AND SOUTH 18°45'45" EAST 248.23 FEET TO A POINT IN THE NORTHWESTERN RIGHT OF WAY OF U.S. HIGHWAY 401; THENCE ALONG THE NORTHWESTERN RIGHT OF WAY LINE OF U.S. HIGHWAY 401 SOUTH 49°15'10" WEST 148.33 FEET TO A POINT AND SOUTH 46°21'55" WEST 75.47 FEET TO THE BEGINNING, AS SHOWN ON SURVEY BY W. KEITH WRENN, R.L.S., DATED MAY 22, 1986 AND REVISED DECEMBER 5, 1986.

AND

0353430:
BEING ALL OF LOT 108 CONTAINING 0.15 ACRES AS SHOWN ON PLAT RECORDED IN BOOK OF MAPS 2006, PAGE 2675. WAKE COUNTY REGISTRY.

LEGEND

- EXISTING IRON PIPE
- EXISTING MONUMENT (TYPE NOTED)
- CROSSWALK SIGNAL
- CALCULATED POINT
- TRAFFIC SIGNAL HAND HOLE
- TELEPHONE PEDESTAL
- MAPLE
- FIRE HYDRANT
- EXISTING CONCRETE MONUMENT
- ELECTRIC BOX
- POWER POLE
- GUY WIRE
- CLEAN OUT
- SANITARY SEWER MANHOLE
- GAS VALVE
- GAS LINE MARKER
- WATER METER
- WATER VALVE
- LIGHT POLE
- SIGN
- BOLLARD
- MAILBOX
- ELECTRIC HAND HOLE
- CABLE TV HAND HOLE
- CABLE TV BOX
- FIBER OPTIC HAND HOLE
- FLOOD LIGHT
- MAIL BOX
- SATELLITE DISH
- BOUNDARY LINE
- ADJOINER LINE
- RIGHT OF WAY LINE
- FENCE
- CANOPY/BUILDING OVERHANG
- OVERHEAD ELECTRIC LINE
- WOOD LINE/LANDSCAPING
- CEDAR
- CRAPE MYRTLE
- DOGWOOD
- MAGNOLIA
- MAPLE
- OAK
- ORNAMENRAL
- PINE
- PERSIMMON

DOUBLE AND TRIPLE TRUNKS
- DOUBLE OAK
- TRIPLE OAK

CALIPER INCH SIZE OF TREE
TYPE OF TREE
D FOR DOUBLE, T FOR TRIPLE, M FOR MULTI

McADAMS
The John R. McAdams Company, Inc.
621 Hillsborough Street
Suite 500
Raleigh, NC 27603
phone 919. 361. 5000
fax 919. 361. 2269
license number: C-0293, C-187
www.mcadamsco.com

CLIENT
FISCHER HOMES
3940 OLYMPIC BOULEVARD, SUITE 400
ERLANGER, KENTUCKY 41018

OPAL AT MAIN
ALTA/NSPS LAND TITLE SURVEY
WEST YOUNG STREET
WAKE FOREST TWP., ROLESVILLE, NORTH CAROLINA

REVISIONS

NO.	DATE	
1	04.23.2026	COMMITMENT AND DRAWING UPDATE

PLAN INFORMATION

PROJECT NO.	SPEC24634
FILENAME	SPEC24634-AT1
CHECKED BY	JBT
DRAWN BY	LER
SCALE	N/A
DATE	04. 02. 2025

SHEET

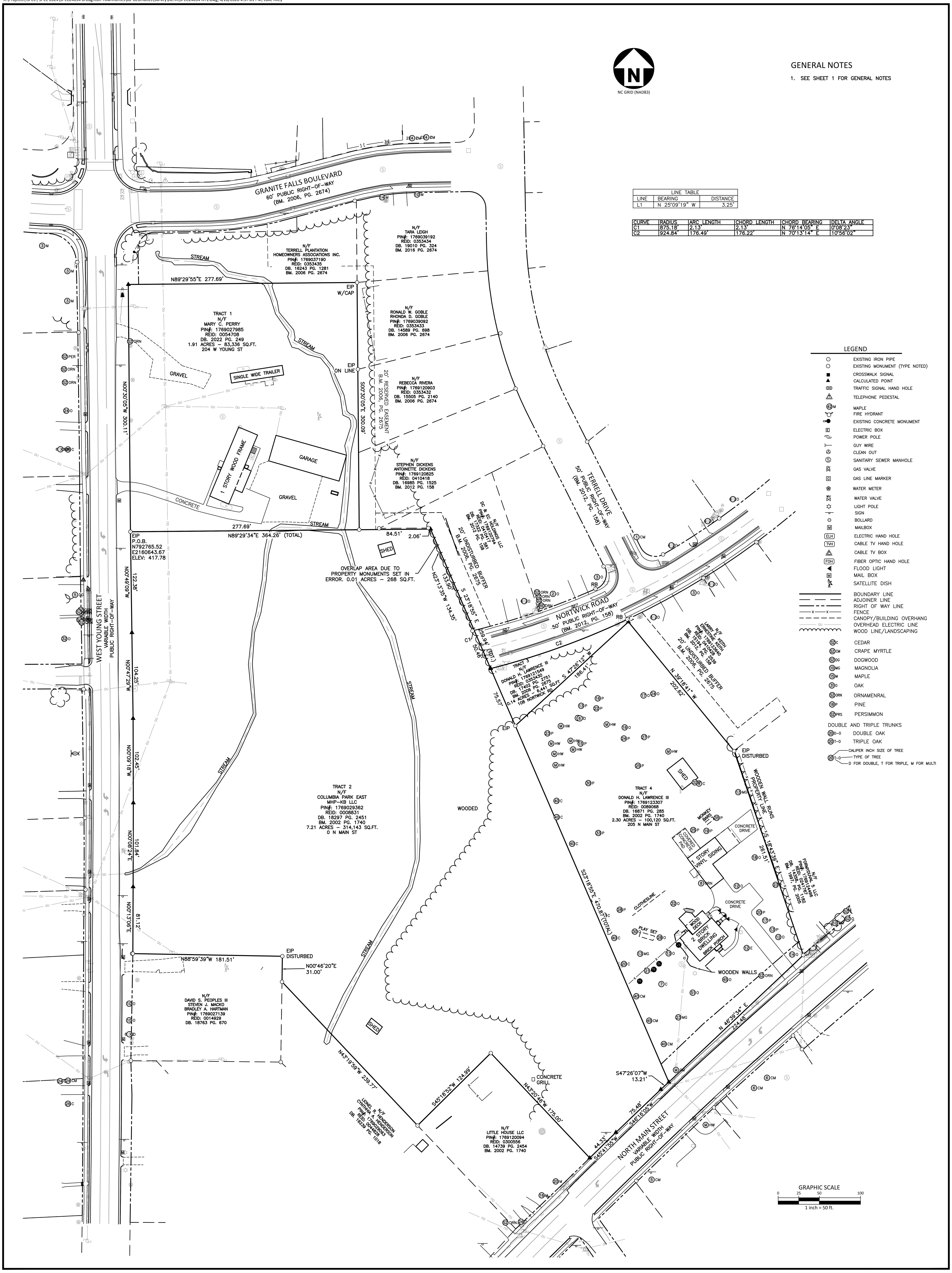
ALTA/NSPS LAND TITLE SURVEY
1-2

X:\Projects\SPEC 24634\SPEC24634 Broughton Townhomes\03 Geomatics\Survey\ALTA\SPEC24634-AT1.dwg, 4/30/2026 4:56:57 PM, Luke Riley

Alta Survey (4) properties combined_2026-04-28.PRELIMINARY.pdf · Page 1

11 **Michele Raby**
Remove "preliminary" affix PLS seal before Legislative Hearing.

X:\Projects\!SPEC\-SPEC 2024\SPEC24634 Broughton Townhomes\02-Geomatics\Survey\ALTA\SPEC24634-AT1.dwg, 4/28/2026 4:37:01 PM, Luke Riley



NC GRID (NAD83)
GRANITE FALLS BOULEVARD
60' PUBLIC RIGHT-OF-WAY
(BM. 2006, PG. 2674)
N/F
TERRELL PLANTATION HOMEOWNERS ASSOCIATIONS INC.
PIN#: 1769037190
REID: 0353435
DB. 16243 PG. 1281
BM. 2006 PG. 2674
N/F
TARA LEIGH
PIN#: 1769039192
REID: 0353434
DB. 19010 PG. 324
BM. 2016 PG. 2674
N/F
RONALD W. GOBLE
RHONDA D. GOBLE
PIN#: 1769039092
REID: 0353433
DB. 14589 PG. 698
BM. 2006 PG. 2674
N/F
REBECCA RIVERA
PIN#: 1769120903
REID: 0353432
DB. 15505 PG. 2140
BM. 2006 PG. 2674
N/F
STEPHEN DICKENS
ANTOINETTE DICKENS
PIN#: 1769120825
REID: 0410418
DB. 16985 PG. 1525
BM. 2012 PG. 158
N/F
DC & EC HOLDINGS LLC
PIN#: 1769120764
REID: 0410417
DB. 17322 PG. 581
BM. 2012 PG. 158
20' UNDISTURBED BUFFER
B.M. 2006, PG. 2675
20' RESERVED EASEMENT
B.M. 2006, PG. 2675
TRACT 1
N/F
MARY C. PERRY
PIN#: 1769027985
REID: 0054708
DB. 2022 PG. 249
1.91 ACRES – 83,336 SQ.FT.
204 W YOUNG ST
N89°29'55"E 277.69'
EIP W/CAP
EIP ON LINE
S00°30'05"E 300.09'
N00°30'05"W 300.11'
STREAM
GRAVEL
SINGLE WIDE TRAILER
1 STORY WOOD FRAME
GARAGE
CONCRETE
277.69'
N89°29'34"E 364.26' (TOTAL)
84.51'
2.06'
EIP
P.O.B.
N792765.52
E2160643.67
ELEV: 417.78
SHED
OVERLAP AREA DUE TO PROPERTY MONUMENTS SET IN ERROR. 0.01 ACRES – 268 SQ.FT.
N23°13'35"W 134.35'
133.90'
S 23°18'55" E
259.94' (TOT.)
50.46'
C1
C2
WEST YOUNG STREET
VARIABLE WIDTH
PUBLIC RIGHT-OF-WAY
N00°49'09"W 122.38'
N00°47'29"W 104.25'
N00°09'18"W 102.45'
N00°08'24"E 101.84'
N00°13'06"E 81.12'
TERRELL DRIVE
50' PUBLIC RIGHT-OF-WAY
(BM. 2012, PG. 158)
NORTWICK ROAD
50' PUBLIC RIGHT-OF-WAY
(BM. 2012, PG. 158)
RB
N/F
LARRY E. KEITH
ERNESTINE KEITH
PIN#: 1769123640
REID: 0410428
DB. 15194 PG. 2539
BM. 2012 PG. 158
20' UNDISTURBED BUFFER
B.M. 2006, PG. 2675
TRACT 3
N/F
DONALD H. LAWRENCE III
PIN#: 1769121549
REID: 0353430
DB. 17402 PG. 2751
BM. 2006 PG. 2675
0.14 ACRES – 6,441 SQ.FT.
108 NORTWICK RD
S 47°26'12" W 186.41'
N 39°18'41" W 202.62'
75.57'
EIP
EIP DISTURBED
WOODEN WALL RUNS PROPERTY LINE
S 18°43'39" E 261.51'
TRACT 4
N/F
DONALD H. LAWRENCE III
PIN#: 1769123307
REID: 0089068
DB. 16871 PG. 285
BM. 2002 PG. 1740
2.30 ACRES – 100,120 SQ.FT.
205 N MAIN ST
MONKEY BARS
CONCRETE DRIVE
COVERED CONCRETE PAD
1 STORY VINYL SIDING
CLOTHESLINE
PLAY SET
WOOD DECK
2 STORY BRICK DWELLING
BRICK PORCH
WOODEN WALLS
S23°18'55"E 470.87'(TOTAL)
N/F
FORMYDUVAL 5 LLC
PIN#: 1769124496
REID: 0241767
DB. 14356 PG. 1182
BM. 1997 PG. 2005
N 46°39'34" E 224.48'
S47°26'07"W 13.21'
75.48'
S46°16'05"W
44.33'
S45°41'55"W
NORTH MAIN STREET
VARIABLE WIDTH
PUBLIC RIGHT-OF-WAY
TRACT 2
N/F
COLUMBIA PARK EAST MHP–KB LLC
PIN#: 1769029362
REID: 0008831
DB. 18297 PG. 2451
BM. 2002 PG. 1740
7.21 ACRES – 314,143 SQ.FT.
0 N MAIN ST
WOODED
N88°59'39"W 181.51'
EIP DISTURBED
N00°46'20"E 31.00'
N/F
DAVID S. PEOPLES III
STEVEN J. MACKO
BRADLEY A. HARTMAN
PIN#: 1769027139
REID: 0014929
DB. 18763 PG. 670
N43°19'59"W 239.77'
N/F
LIONEL R. HENDERSON
CYNTHIA A. HENDERSON
PIN#: 1769029063
REID: 0044828
DB. 19239 PG. 1018
S45°18'52"W 124.99'
CONCRETE GRILL
N43°20'46"W 175.00'
N/F
LITTLE HOUSE LLC
PIN#: 1769120094
REID: 0300556
DB. 14739 PG. 2454
BM. 2002 PG. 1740
LEGEND
EXISTING IRON PIPE
EXISTING MONUMENT (TYPE NOTED)
CROSSWALK SIGNAL
CALCULATED POINT
TRAFFIC SIGNAL HAND HOLE
TELEPHONE PEDESTAL
MAPLE
FIRE HYDRANT
EXISTING CONCRETE MONUMENT
ELECTRIC BOX
POWER POLE
GUY WIRE
CLEAN OUT
SANITARY SEWER MANHOLE
GAS VALVE
GAS LINE MARKER
WATER METER
WATER VALVE
LIGHT POLE
SIGN
BOLLARD
MAILBOX
ELECTRIC HAND HOLE
CABLE TV HAND HOLE
CABLE TV BOX
FIBER OPTIC HAND HOLE
FLOOD LIGHT
MAIL BOX
SATELLITE DISH
BOUNDARY LINE
ADJOINER LINE
RIGHT OF WAY LINE
FENCE
CANOPY/BUILDING OVERHANG
OVERHEAD ELECTRIC LINE
WOOD LINE/LANDSCAPING
CEDAR
CRAPE MYRTLE
DOGWOOD
MAGNOLIA
MAPLE
OAK
ORNAMENRAL
PINE
PERSIMMON
DOUBLE AND TRIPLE TRUNKS
DOUBLE OAK
TRIPLE OAK
CALIPER INCH SIZE OF TREE
TYPE OF TREE
D FOR DOUBLE, T FOR TRIPLE, M FOR MULTI
GRAPHIC SCALE
0 25 50 100
1 inch = 50 ft.

GENERAL NOTES

1. SEE SHEET 1 FOR GENERAL NOTES

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 25°09'19" W	3.25'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	875.18'	2.13'	2.13'	N 76°14'05" E	0°08'23"
C2	924.84'	176.49'	176.22'	N 70°13'14" E	10°56'02"

SHEET

2-2

ALTA/NSPS LAND TITLE SURVEY

PLAN INFORMATION

PROJECT NO. SPEC24634
FILENAME SPEC24634-AT1
CHECKED BY JBT
DRAWN BY LER
SCALE 1"=50'
DATE 04. 02. 2025

REVISIONS

NO.	DATE	
1	04.23.2026	COMMITMENT AND DRAWING UPDATE

NORTH CAROLINA PROFESSIONAL SEAL L-4472 LAND SURVEYOR J. B. TAYLOR
PRELIMINARY

OPAL AT MAIN

ALTA/NSPS LAND TITLE SURVEY
WEST YOUNG STREET
WAKE FOREST TWP., ROLESVILLE, NORTH CAROLINA

CLIENT

FISCHER HOMES
3940 OLYMPIC BOULEVARD, SUITE 400
ERLANGER, KENTUCKY 41018

MCADAMS
The John R. McAdams Company, Inc.
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phone 919. 361. 5000
fax 919. 361. 2269
license number: C-0293, C-187
www.mcadamsco.com

12

Alta Survey (4) properties combined_2026-04-28.PRELIMINARY.pdf · Page 2

12 Michele Raby
Thank you for updating the survey and adding Mr. Lawrence's parcels.

Zoning Map (Rezoning) Application

Town of Rolesville Planning Department | PO Box 250 | Rolesville, NC 27571 | 919-554-6517 | planning@rolesvillenc.gov

Planning Department Home Page: Official Town Webpage

Complete one form for each parcel identification number.

APPLICATION INFORMATION:	
Site Address:	Site Area (in acres): 11.5
Rezoning Type: ☐ General ☐ Conditional	Total area requested to be rezoned (in acres) 11.5
Voluntary Annexation Application Submitted: ☐ Yes ☐ No ANX-	Current Location: ☐ County Limits ☐ ETJ ☐ Town Limits
Existing Zoning District: RL: Residential Low Density	**Proposed Zoning District(s):** RH: Residential High Density
PIN: 1769029362	Associated Rezoning Case(s):
Current Use(s): Vacant	Proposed Use(s): Single-family attached

APPLICATION REQUIREMENTS:	
☐ Complete Application and checklist.	☐ Completed Property Owner's Consent Form – 1 per Owner- See page 5.
☐ If the request is for a C*onditional District* per LDO Section 3.3. The submittal shall include a separate document listing the written Conditions of Approval, which may consist of exhibits, plans, maps, and other relevant materials. Provide a Date and space for revision Dates; this document will always be referenced, including its Date.	☐ A **Concept (nee site) Plan *** may be submitted, considered, and approved as part of a C*onditional District* request; it shall be incorporated into a written condition for "general compliance" upon future Development Application reviews and approvals. Provide a Date and space for revision Dates. See the Next page for details.
☐ Traffic Impact Analysis (TIA), ITE Trip Generation Letter, or a Letter/Email from Planning staff confirming that a TIA is not required. (LDO Section 8.C.5)	☐ * The Activity Center (AC) and Neighborhood Commercial (NC) zoning districts **require the submission of a Concept Plan (also known as a site plan) as** per LDO Sections 3.4.1 and 3.4.2.
☐ Legal Metes & Bounds	☐ Deeds with Book of Map & Page Number
☐ Sketch/Pre-submittal meeting held on:_____	☐ Meeting Notes submitted
☐ ***Application Fee: An invoice for the application fee will be issued during the completeness check or after the application review.***	

Financially Responsible Party (*REQUIRED: Who will pay invoices related to this application?)

Name: _____ **Company Name:** _____

Title: _____ **Signature:** _____

Mailing Address_____ **City/State/Zip**_____

Phone_____ **Email**_____

Property Owner (First name on Deed)

Name:_____ Signature: 

Address:_____ Email:_____

Property Owner (Second name on Deed or Spouse information required if applicable)

Name:_____ Signature:_____

Address:_____ Email:_____

Preferred Point of Contact: ☐ Owner ☐ Agent ☐ Applicant ☐ Architect ☐ Attorney ☐ Engineer

Please add contact information if applicable.

Agent Name: _____ Title/ Firm_____

Phone: _____ Email: _____

Applicant Name same as agent _____ Title/ Firm_____

Phone: _____ Email: _____

Architect Name: _____ Title/ Firm_____

Phone: _____ Email: _____

Attorney Name: _____ Title/ Firm_____

Phone: _____ Email: _____

Engineer Name: _____ Title/ Firm_____

Phone: _____ Email: _____

Owner Name: _____ Title/ Firm_____

Phone: _____ Email: _____

Concept Plan Minimum Requirements (Required for AC or NC Districts, Optional for Conditional Districts):

- ☐ A vicinity map of the site, illustrating the boundaries of the site, the north arrow, and the scale reference
- ☐ Site Data Table: Typical Property Information (Property Legal Description, Acreage/Square Footage, etc.)
- ☐ * If Commercial, include the square footage of the proposed building, use, or development, the approximate proposed Impervious Coverage, approximate parking calculations, and if it is a multi-family development, the number of Dwelling units, etc.
- ☐ * If Residential - Number of proposed development lots (including by type of lot and use), density (proposed and permitted), and approximate parking calculations.
- ☐ * Calculations for open space are required and provided.
- ☐ Existing and Proposed Use and Zoning District of the property and adjacent properties
- ☐ A drawing depicting the details provided above as a general concept of the development, including such details as –
  - Residential - Lot layout and a "typical" lot size/dimension exhibit.
  - Non-res/multifamily - Proposed building layout and/or general footprint locations.
  - Vehicular circulation / street layout including existing/proposed right-of-way widths (public, alley, private);
  - Pedestrian circulation, including general greenways, side paths, and bike lane locations.
  - General Utility access and points of connection/extensions,
  - Buffer Spaces (street and perimeter), open communal spaces, stormwater control measures, etc.
- ☐ Name, address, and contact information for the property owner and/or Applicant
- ☐ Name/information of the professional who created the Concept Plan

- ☐ Any other information requested by the Planning Department staff

Rezoning Justification Statement – Complete the attached form

Provide a separate document titled "Statement of Justification" (including Date) that addresses each/all the following:

1. Is the application consistent with the Comprehensive Plan, Community Transportation Plan, Bicycle and Greenway Plans, and any other adopted Town policy plans?
2. Does the application conflict with any provision of the LDO or the Town Code of Ordinances?
3. Does the application correct any errors in the existing zoning present when it was adopted?
4. Does the rezoning allow uses compatible with existing and permitted uses on surrounding land/properties?
5. Would the application ensure efficient development within the Town, including the capacity and safety of the street network, public facilities, and other similar considerations?
6. Would the application result in a logical and orderly development pattern?
7. Would the application result in adverse impacts on water, air, noise, stormwater management, wildlife, vegetation, wetlands, and the natural functioning of the environment?
8. If a ***Conditional district*** providing proposed Conditions of Approval, do they address and mitigate the impacts reasonably expected to be generated by the development or use of the property, can they reasonably be implemented, and can they be enforced for the subject property, and will they result in no more significant impact on adjacent properties or the community at large than would be expected to occur by the permitted uses and the minimum development standards of the corresponding General zoning district.

Neighborhood Meeting- (Complete the attached form)

Per LDO Section 2.2, Appendix A / 2.3.D., and 2.3.F Rezoning (Zoning Map Amendment); and TA-23-01, all applicants **shall conduct a neighborhood meeting prior to any public hearing or review by the Planning Board and Board of Commissioners**. This meeting will enable the applicant to explain the proposed request and address the neighborhood's concerns. A summary of the meeting in the form of meeting notes or minutes, along with a list and contact information (as shown below) for all attendees and a list of property owners and Homeowners' Associations within 500 feet of the subject property as well as all property owners within 200 feet of any roadway improvements and/or utility improvements associated with an application (per Wake County tax records at the time of filing this application) as they are required to receive a Notification Letter regarding the Legislative Hearing before the Town Board of Commissioners (when scheduled).

Conditions of Approval – Provide a separate list of voluntary conditions proposed by the applicant to be signed upon presentation to the Town Board at the Legislative Hearing (if applicable).

Please visit the Submittal Process webpage for information on submission timing.

Submission Packet Document Review- Please be sure to include the following:

Required documents to be submitted with the Application	
☐ Complete Application	☐ Legal Metes and Bounds
☐ Concept Plan (if applicable)	☐ Property Owner Consent form(s)
☐ Conditional Zoning Proposed List (if applicable)	☐ Rezoning Boundary Survey with Total Area Requested and Zoning Districts labeled
☐ Deeds	☐ Rezoning Justification Statement
☐ Financial Responsible Party information	☐ Sketch Plan meeting notes (if applicable)

Required documents for Planning Board and/or Town Board meeting	
☐ Neighborhood Meeting Information	☐ PowerPoint slides (or other digital media) to include in the Planning Board and Town Board Agenda Packets.
☐ Signed Proposed Conditions (for approval by the Town Board at Legislative Hearing)	

Town of Rolesville Planning Department
Property Owner Consent & Authorization Form
planning@rolesvillenc.gov

Consent is required from the property owner(s) or legal representative. Unless otherwise specified, consent is valid for one year from the date of application.

Please provide a separate form for each parcel number. For properties with multiple owners, each owner must complete an individual form. (A husband and wife may both sign and submit one form.)

Project/ Subdivision Name: _____

Site Address: _____

Parcel ID: _____ Deed Reference: _____

Property Owner *This field is required.

1) Name: _____ Signature: _____
(Type or print clearly.)

Mailing Address: _____ City/State/Zip: _____

Phone: _____ Email: _____

2) Name: _____ Signature: _____
(Type or print clearly.) (spouse if applicable)

Mailing Address: _____ City/State/Zip: _____

Phone: _____ Email: _____

Company Name: _____ Title: _____

☐ **Applicant** ☐ **P.O.A.** ☐ **Agent** ☐ **Legal Representative**
Check all that apply.

1) Name: _____ Signature: _____
(Type or print clearly)

Mailing Address: _____ City/State/Zip: _____

Phone: _____ Email: _____

Company Name: _____ Title: _____

By signing the above, I swear and affirm that I am the owner(s) or authorized representative as shown in the records of Wake County, North Carolina, which is the subject of this application. **I further affirm that I am fully aware of the Town's application, fees, and procedural requirements and consent to this Application. I authorize the person(s) listed below to submit this Application and serve as the representative and point of contact for this Application.**

Neighborhood Meeting Requirement Checklist:

	1. a). Mail the required property notification letter to all property owners and Homeowners' Associations within 500 feet of the subject property, as well as all property owners within 200 feet of any roadway improvements and/or utility improvements associated with an application (per Wake County tax records at the time of filing this application). b) Mail a copy of the letter to the Town of Rolesville Planning Department, PO Box 250, Rolesville, NC 27571, to ensure compliance with LDO Appendix A- Handbook Section 2.3.D.
	2. Conduct the required meeting at a location within the Town of Rolesville.
	3. Mail or email **at least ten (10) days** before the Planning Board meeting a copy of the presentation, property owner with addresses notification list, list of attendees, meeting minutes, and any notes or questions from the meeting.

Property Owner Notification List Example:

WAKE COUNTY PIN	NAME	MAILING ADDRESS	ZIP CODE

Voluntary List of Proposed Conditions: (Please use additional pages as needed)

1._____

2._____

3._____

4._____

5._____

6._____

7._____

8._____

9._____

10._____

Property Owner (First name on Deed)

Printed Name:_____ Signature:_____

***A signature is required before submitting this list to the Town Board for approval at the Legislative Hearing.**

Property Owner (Second name on Deed)

Printed Name:_____ Signature:_____

***A signature is required before submitting this list to the Town Board for approval at the Legislative Hearing.**

Zoning Map (Rezoning) Application

Town of Rolesville Planning Department | PO Box 250 | Rolesville, NC 27571 | 919-554-6517 | planning@rolesvillenc.gov

Planning Department Home Page: Official Town Webpage

Complete one form for each parcel identification number.

APPLICATION INFORMATION:	
Site Address: 205 N Main St, 108 Nortwick Road	Site Area (in acres): 2.36
Rezoning Type: ☐ General ☑ Conditional	Total area requested to be rezoned (in acres):
Voluntary Annexation Application Submitted: ☐ Yes ☑ No ANX-	Current Location: ☐ County Limits ☐ ETJ ☑ Town Limits
Existing Zoning District: RL- Residential Low Dens	**Proposed Zoning District(s):** RH- Residential High Density
PIN: 1769121549, 1769123307	Associated Previous Case(s):
Current Use(s): Residential	Proposed Use(s): Attached SF Residential

APPLICATION REQUIREMENTS:	
☐ Complete Application and checklist.	☐ Completed Property Owner's Consent Form – 1 per Owner- See page 5.
☐ If the request is for a *Conditional District* per LDO Section 3.3. The submittal shall include a separate document listing the written Conditions of Approval, which may consist of exhibits, plans, maps, and other relevant materials. Provide a Date and space for revision Dates; this document will always be referenced, including its Date.	☐ A **Concept (nee site) Plan *** may be submitted, considered, and approved as part of a *Conditional District* request; it shall be incorporated into a written condition for "general compliance" upon future Development Application reviews and approvals. Provide a Date and space for revision Dates. See the Next page for details.
☐ Traffic Impact Analysis (TIA), ITE Trip Generation Letter, or a Letter/Email from Planning staff confirming that a TIA is not required. (LDO Section 8.C.5)	☐ * The Activity Center (AC) and Neighborhood Commercial (NC) zoning districts **require the submission of a Concept Plan (also known as a site plan) as** per LDO Sections 3.4.1 and 3.4.2.
☐ Legal Metes & Bounds	☐ Deeds with Book of Map & Page Number
☐ Sketch/Pre-submittal meeting held on:_____	☐ Meeting Notes submitted
☐ ***Application Fee: An invoice for the application fee will be issued during the completeness check or after the application review.***	

Financially Responsible Party (*REQUIRED: Who will pay invoices related to this application?)

Name: Robert J. Hayes **Company Name:** Grand Communities, LLC

Title: Planning + Entitlements Manager **Signature:** Robert J Hayes

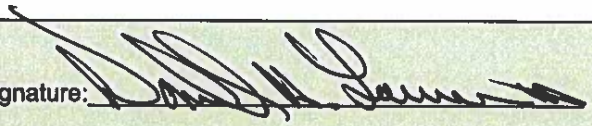
Mailing Address 3940 Olympic Blvd, Suite 400 **City/State/Zip** Erlanger, KY 41018

Phone 859.344.3137 **Email** robert.hayes@thefischergroup.com

Property Owner (First name on Deed)

Name: Lawrence, Donald H III

Address: 205 N Main Street, Rolesville, NC 27

Signature: 

Email:

Property Owner (Second name on Deed or Spouse information required if applicable)

Name:

Address:

Signature:

Email:

Preferred Point of Contact: ☐ Owner ☐ Agent ☑ Applicant ☐ Architect ☐ Attorney ☑ Engineer

Please add contact information if applicable.

Agent Name: Title/ Firm

Phone: Email:

Applicant Name: Laura Holloman, AICP Title/ Firm McAdams

Phone: 919-361-5000 Email: holloman@mcadamsco.com

Architect Name: Title/ Firm

Phone: Email:

Attorney Name: Title/ Firm

Phone: Email:

Engineer Name: Ryan Barker, PE Title/ Firm McAdams

Phone: Email: barker@mcadamsco.com

Owner Name: Columbia Park East MHP-KB LLC Title/ Firm

Phone: Email:

Concept Plan Minimum Requirements (Required for AC or NC Districts, Optional for Conditional Districts):

- ☐ A vicinity map of the site, illustrating the boundaries of the site, the north arrow, and the scale reference
- ☐ Site Data Table: Typical Property Information (Property Legal Description, Acreage/Square Footage, etc.)
- ☐ * If Commercial, include the square footage of the proposed building, use, or development, the approximate proposed Impervious Coverage, approximate parking calculations, and if it is a multi-family development, the number of Dwelling units, etc.
- ☐ * If Residential - Number of proposed development lots (including by type of lot and use), density (proposed and permitted), and approximate parking calculations.
- ☐ * Calculations for open space are required and provided.
- ☐ Existing and Proposed Use and Zoning District of the property and adjacent properties
- ☐ A drawing depicting the details provided above as a general concept of the development, including such details as –
  - Residential - Lot layout and a "typical" lot size/dimension exhibit.
  - Non-res/multifamily - Proposed building layout and/or general footprint locations.
  - Vehicular circulation / street layout including existing/proposed right-of-way widths (public, alley, private);
  - Pedestrian circulation, including general greenways, side paths, and bike lane locations.
  - General Utility access and points of connection/extensions,
  - Buffer Spaces (street and perimeter), open communal spaces, stormwater control measures, etc.
- ☐ Name, address, and contact information for the property owner and/or Applicant
- ☐ Name/information of the professional who created the Concept Plan
- ☐ Any other information requested by the Planning Department staff

Rezoning Justification Statement – Complete the attached form

Provide a separate document titled "Statement of Justification" (including Date) that addresses each/all the following:

1. Is the application consistent with the Comprehensive Plan, Community Transportation Plan, Bicycle and Greenway Plans, and any other adopted Town policy plans?
2. Does the application conflict with any provision of the LDO or the Town Code of Ordinances?
3. Does the application correct any errors in the existing zoning present when it was adopted?
4. Does the rezoning allow uses compatible with existing and permitted uses on surrounding land/properties?
5. Would the application ensure efficient development within the Town, including the capacity and safety of the street network, public facilities, and other similar considerations?
6. Would the application result in a logical and orderly development pattern?
7. Would the application result in adverse impacts on water, air, noise, stormwater management, wildlife, vegetation, wetlands, and the natural functioning of the environment?
8. If a ***Conditional district*** providing proposed Conditions of Approval, do they address and mitigate the impacts reasonably expected to be generated by the development or use of the property, can they reasonably be implemented, and can they be enforced for the subject property, and will they result in no more significant impact on adjacent properties or the community at large than would be expected to occur by the permitted uses and the minimum development standards of the corresponding General zoning district.

Neighborhood Meeting- (Complete the attached form)

Per LDO Section 2.2, Appendix A / 2.3.D., and 2.3.F Rezoning (Zoning Map Amendment); and TA-23-01, all applicants **shall conduct a neighborhood meeting prior to any public hearing or review by the Planning Board and Board of Commissioners**. This meeting will enable the applicant to explain the proposed request and address the neighborhood's concerns. A summary of the meeting in the form of meeting notes or minutes, along with a list and contact information (as shown below) for all attendees and a list of property owners and Homeowners' Associations within 500 feet of the subject property as well as all property owners within 200 feet of any roadway improvements and/or utility improvements associated with an application (per Wake County tax records at the time of filing this application) as they are required to receive a Notification Letter regarding the Legislative Hearing before the Town Board of Commissioners (when scheduled).

Conditions of Approval – Provide a separate list of voluntary conditions proposed by the applicant to be signed upon presentation to the Town Board at the Legislative Hearing (if applicable).

Please visit the Submittal Process webpage for information on submission timing.

Submission Packet Document Review- Please be sure to include the following:

Required documents to be submitted with the Application	
☐ Complete Application	☐ Legal Metes and Bounds
☐ Concept Plan (if applicable)	☐ Property Owner Consent form(s)
☐ Conditional Zoning Proposed List (if applicable)	☐ Rezoning Boundary Survey with Total Area Requested and Zoning Districts labeled
☐ Deeds	☐ Rezoning Justification Statement
☐ Financial Responsible Party information	☐ Sketch Plan meeting notes (if applicable)

Required documents for Planning Board and/or Town Board meeting	
☐ Neighborhood Meeting Information	☐ PowerPoint slides (or other digital media) to include in the Planning Board and Town Board Agenda Packets.
☐ Signed Proposed Conditions (for approval by the Town Board at Legislative Hearing)	

Rolesville
Genuine Community • Capital Connection
Est. 1837

Town of Rolesville Planning Department
Property Owner Consent & Authorization Form
planning@rolesvillenc.gov

Consent is required from the property owner(s) or legal representative. Unless otherwise specified, consent is valid for one year from the date of application.

Please provide a separate form for each parcel number. For properties with multiple owners, each owner must complete an individual form. (A husband and wife may both sign and submit one form.)

Project/ Subdivision Name: Broughton Townhomes

Site Address: 204 W Young St, Rolesville, NC 27571

Parcel ID: 1769029362 Deed Reference: 018297/02451

Property Owner *This field is required.

1) Name: Columbia Park East MHP-KB LLC (Type or print clearly.) Signature: _____

Mailing Address: 8480 Honeycutt Road Suite 200 City/State/Zip: Raleigh, NC 27615

Phone: _____ Email: _____

2) Name: _____ (Type or print clearly.) (spouse if applicable) Signature: _____

Mailing Address: _____ City/State/Zip: _____

Phone: _____ Email: _____

Company Name: _____ Title: _____

☑ **Applicant** ☐ **P.O.A.** ☐ **Agent** ☐ **Legal Representative**
Check all that apply.

1) Name: Laura Holloman (Type or print clearly) Signature: _____

Mailing Address: 621 Hillsborough St, Ste 500 City/State/Zip: Raleigh, NC 27603

Phone: 919-361-5000 Email: holloman@mcadamsco.com

Company Name: McAdams Title: Director, Development Entitlement

By signing the above, I swear and affirm that I am the owner(s) or authorized representative as shown in the records of Wake County, North Carolina, which is the subject of this application. **I further affirm that I am fully aware of the Town's application, fees, and procedural requirements and consent to this Application. I authorize the person(s) listed below to submit this Application and serve as the representative and point of contact for this Application.**

Neighborhood Meeting Requirement Checklist:

	1. a). Mail the required property notification letter to all property owners and Homeowners' Associations within 500 feet of the subject property, as well as all property owners within 200 feet of any roadway improvements and/or utility improvements associated with an application (per Wake County tax records at the time of filing this application). b) Mail a copy of the letter to the Town of Rolesville Planning Department, PO Box 250, Rolesville, NC 27571, to ensure compliance with LDO Appendix A- Handbook Section 2.3.D.
	2. Conduct the required meeting at a location within the Town of Rolesville.
	3. Mail or email **at least ten (10) days** before the Planning Board meeting a copy of the presentation, property owner with addresses notification list, list of attendees, meeting minutes, and any notes or questions from the meeting.

Property Owner Notification List Example:

WAKE COUNTY PIN	NAME	MAILING ADDRESS	ZIP CODE

Voluntary List of Proposed Conditions: (Please use additional pages as needed)

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Property Owner (First name on Deed)

Printed Name: Donald W. Lawrence Jr Signature: _____

***A signature is required before submitting this list to the Town Board for approval at the Legislative Hearing.**

Property Owner (Second name on Deed)

Printed Name: _____ Signature: _____

***A signature is required before submitting this list to the Town Board for approval at the Legislative Hearing.**

Zoning Map (Rezoning) Application

Town of Rolesville Planning Department | PO Box 250 | Rolesville, NC 27571 | 919-554-6517 | planning@rolesvillenc.gov

Planning Department Home Page: Official Town Webpage

Complete one form for each parcel identification number.

APPLICATION INFORMATION:	
Site Address: 204 W Young St	Site Area (in acres): 1.93
Rezoning Type: ☑ General ☐ Conditional	Total area requested to be rezoned (in acres):
Voluntary Annexation Application Submitted: ☐ Yes ☐ No ANX-	Current Location: ☐ County Limits ☐ ETJ ☑ Town Limits
Existing Zoning District: RL- Residential Low Dens	**Proposed Zoning District(s):** RH- Residential High Density
PIN: 1769027985	Associated Previous Case(s):
Current Use(s): Detached SF Residential	Proposed Use(s): Attached SF Residential

APPLICATION REQUIREMENTS:	
☐ Complete Application and checklist.	☐ Completed Property Owner's Consent Form – 1 per Owner- See page 5.
☐ If the request is for a C*onditional District* per LDO Section 3.3. The submittal shall include a separate document listing the written Conditions of Approval, which may consist of exhibits, plans, maps, and other relevant materials. Provide a Date and space for revision Dates; this document will always be referenced, including its Date.	☐ A **Concept (nee site) Plan *** may be submitted, considered, and approved as part of a C*onditional District* request; it shall be incorporated into a written condition for "general compliance" upon future Development Application reviews and approvals. Provide a Date and space for revision Dates. See the Next page for details.
☐ Traffic Impact Analysis (TIA), ITE Trip Generation Letter, or a Letter/Email from Planning staff confirming that a TIA is not required. (LDO Section 8.C.5)	☐ * The Activity Center (AC) and Neighborhood Commercial (NC) zoning districts **require the submission of a Concept Plan (also known as a site plan) as** per LDO Sections 3.4.1 and 3.4.2.
☐ Legal Metes & Bounds	☐ Deeds with Book of Map & Page Number
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☐ ***Application Fee: An invoice for the application fee will be issued during the completeness check or after the application review.***	

Financially Responsible Party (*REQUIRED: Who will pay invoices related to this application?)

Name: Robert J. Hayes **Company Name:** Grand Communities, LLC

Title: Planning + Entitlements Manager **Signature:** [signature]

Mailing Address 3940 Olympic Blvd, Suite 400 **City/State/Zip** Erlanger, Kentucky 41018

Phone 859.344.3137 **Email** rhayes@fischerhomes.com

Property Owner (First name on Deed)

Name: Mary C. Perry

Signature: Mary Perry 04/28/2026 10:07 AM EDT

Address: 204 W Young St Rolesville, NC 27571

Email: jessicachampion2@gmail.com

Property Owner (Second name on Deed or Spouse information required if applicable)

Name: _____

Signature: _____

Address: _____

Email: _____

Preferred Point of Contact: ☑ Owner ☐ Agent ☑ Applicant ☐ Architect ☐ Attorney ☑ Engineer

Please add contact information if applicable.

Agent Name: Laura Holloman Title/ Firm McAdams

Phone: 919-610-7377 Email: holloman@mcadamsco.com

Applicant Name: Same as agent Title/ Firm _____

Phone: _____ Email: _____

Architect Name: N/A Title/ Firm _____

Phone: _____ Email: _____

Attorney Name: N/A Title/ Firm _____

Phone: _____ Email: _____

Engineer Name: Ryan Barker Title/ Firm McAdams

Phone: 919-361-5000 Email: barker@mcadamsco.com

Owner Name: Mary C. Perry Title/ Firm _____

Phone: _____ Email: _____

Concept Plan Minimum Requirements (Required for AC or NC Districts, Optional for Conditional Districts):

- ☐ A vicinity map of the site, illustrating the boundaries of the site, the north arrow, and the scale reference
- ☐ Site Data Table: Typical Property Information (Property Legal Description, Acreage/Square Footage, etc.)
- ☐ * If Commercial, include the square footage of the proposed building, use, or development, the approximate proposed Impervious Coverage, approximate parking calculations, and if it is a multi-family development, the number of Dwelling units, etc.
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  - Pedestrian circulation, including general greenways, side paths, and bike lane locations.
  - General Utility access and points of connection/extensions,
  - Buffer Spaces (street and perimeter), open communal spaces, stormwater control measures, etc.
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- ☐ Name/information of the professional who created the Concept Plan
- ☐ Any other information requested by the Planning Department staff

Rezoning Justification Statement – Complete the attached form

Provide a separate document titled "Statement of Justification" (including Date) that addresses each/all the following:

1. Is the application consistent with the Comprehensive Plan, Community Transportation Plan, Bicycle and Greenway Plans, and any other adopted Town policy plans?
2. Does the application conflict with any provision of the LDO or the Town Code of Ordinances?
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6. Would the application result in a logical and orderly development pattern?
7. Would the application result in adverse impacts on water, air, noise, stormwater management, wildlife, vegetation, wetlands, and the natural functioning of the environment?
8. If a ***Conditional district*** providing proposed Conditions of Approval, do they address and mitigate the impacts reasonably expected to be generated by the development or use of the property, can they reasonably be implemented, and can they be enforced for the subject property, and will they result in no more significant impact on adjacent properties or the community at large than would be expected to occur by the permitted uses and the minimum development standards of the corresponding General zoning district.

Neighborhood Meeting- (Complete the attached form)

Per LDO Section 2.2, Appendix A / 2.3.D., and 2.3.F Rezoning (Zoning Map Amendment); and TA-23-01, all applicants **shall conduct a neighborhood meeting prior to any public hearing or review by the Planning Board and Board of Commissioners**. This meeting will enable the applicant to explain the proposed request and address the neighborhood's concerns. A summary of the meeting in the form of meeting notes or minutes, along with a list and contact information (as shown below) for all attendees and a list of property owners and Homeowners' Associations within 500 feet of the subject property as well as all property owners within 200 feet of any roadway improvements and/or utility improvements associated with an application (per Wake County tax records at the time of filing this application) as they are required to receive a Notification Letter regarding the Legislative Hearing before the Town Board of Commissioners (when scheduled).

Conditions of Approval – Provide a separate list of voluntary conditions proposed by the applicant to be signed upon presentation to the Town Board at the Legislative Hearing (if applicable).

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Required documents to be submitted with the Application	
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☐ Concept Plan (if applicable)	☐ Property Owner Consent form(s)
☐ Conditional Zoning Proposed List (if applicable)	☐ Rezoning Boundary Survey with Total Area Requested and Zoning Districts labeled
☐ Deeds	☐ Rezoning Justification Statement
☐ Financial Responsible Party information	☐ Sketch Plan meeting notes (if applicable)

Required documents for Planning Board and/or Town Board meeting	
☐ Neighborhood Meeting Information	☐ PowerPoint slides (or other digital media) to include in the Planning Board and Town Board Agenda Packets.
☐ Signed Proposed Conditions (for approval by the Town Board at Legislative Hearing)	

Town of Rolesville Planning Department
Property Owner Consent & Authorization Form
planning@rolesvillenc.gov

Consent is required from the property owner(s) or legal representative. Unless otherwise specified, consent is valid for one year from the date of application.

Please provide a separate form for each parcel number. For properties with multiple owners, each owner must complete an individual form. (A husband and wife may both sign and submit one form.)

Project/ Subdivision Name: Broughton Townhomes

Site Address: 204 W Young St, Rolesville, NC 27571

Parcel ID: 1769027985 Deed Reference: 11-E/1986

Property Owner *This field is required.

1) Name: Mary C. Perry (Type or print clearly.) Signature: Mary Perry 05/04/2026 08:21 AM EDT

Mailing Address: 204 W Young St City/State/Zip: Rolesville, NC 27571

Phone: Email:

2) Name: *(Type or print clearly.) (spouse if applicable)* Signature:

Mailing Address: City/State/Zip:

Phone: Email:

Company Name: Title:

☑ **Applicant** ☐ **P.O.A.** ☐ **Agent** ☐ **Legal Representative**
Check all that apply.

1) Name: Laura Holloman *(Type or print clearly)* Signature:

Mailing Address: 621 Hillsborough St, Ste 500 City/State/Zip: Raleigh, NC 27603

Phone: 919-361-5000 Email: holloman@mcadamsco.com

Company Name: McAdams Title: Director, Development Entitlement

By signing the above, I swear and affirm that I am the owner(s) or authorized representative as shown in the records of Wake County, North Carolina, which is the subject of this application. **I further affirm that I am fully aware of the Town's application, fees, and procedural requirements and consent to this Application. I authorize the person(s) listed below to submit this Application and serve as the representative and point of contact for this Application.**

Neighborhood Meeting Requirement Checklist:

	1. a). Mail the required property notification letter to all property owners and Homeowners' Associations within 500 feet of the subject property, as well as all property owners within 200 feet of any roadway improvements and/or utility improvements associated with an application (per Wake County tax records at the time of filing this application). b) Mail a copy of the letter to the Town of Rolesville Planning Department, PO Box 250, Rolesville, NC 27571, to ensure compliance with LDO Appendix A- Handbook Section 2.3.D.
	2. Conduct the required meeting at a location within the Town of Rolesville.
	3. Mail or email **at least ten (10) days** before the Planning Board meeting a copy of the presentation, property owner with addresses notification list, list of attendees, meeting minutes, and any notes or questions from the meeting.

Property Owner Notification List Example:

WAKE COUNTY PIN	NAME	MAILING ADDRESS	ZIP CODE

Voluntary List of Proposed Conditions: (Please use additional pages as needed)

1._____

2._____

3._____

4._____

5._____

6._____

7._____

8._____

9._____

10._____

Property Owner (First name on Deed)

Printed Name: Mary Perry Signature: Mary Perry 05/04/2026 09:41 AM EDT

***A signature is required before submitting this list to the Town Board for approval at the Legislative Hearing.**

Property Owner (Second name on Deed)

Printed Name:_____ Signature:_____

***A signature is required before submitting this list to the Town Board for approval at the Legislative Hearing.**