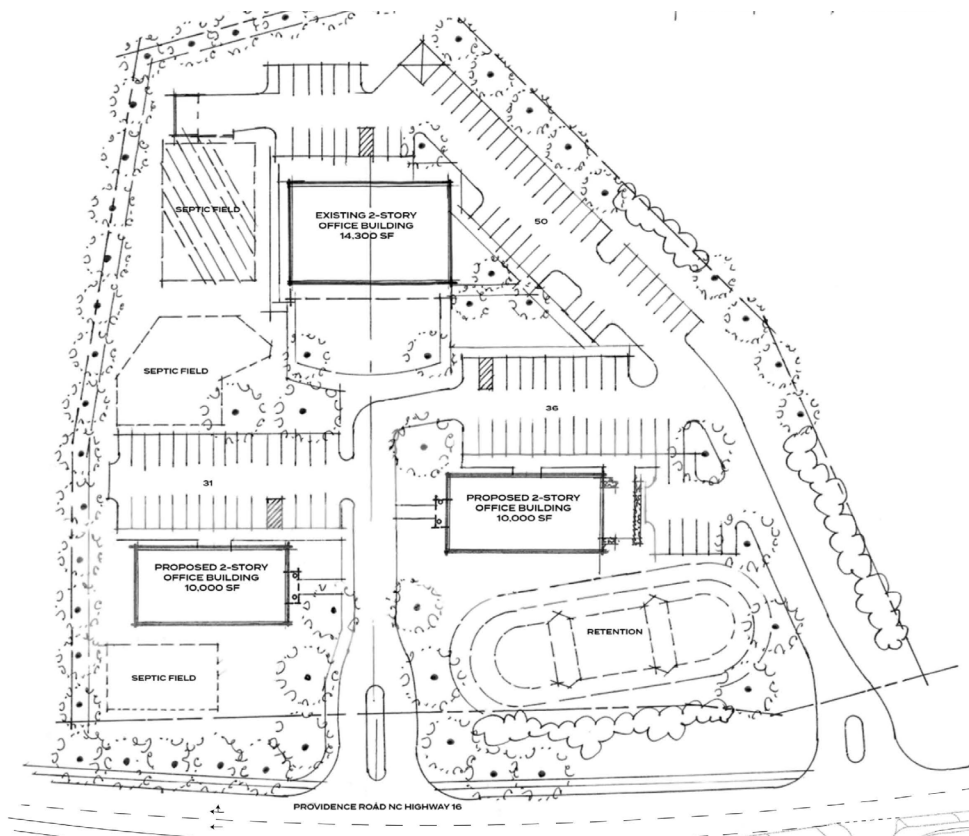


TRAFFIC IMPACT ANALYSIS

WEDDINGTON OFFICE PARK

West side of Providence Road (NC 16) north of Weddington Road (NC 84)

Weddington, North Carolina



for

Polivka International

February 2024

1082-001 (C-2165)





TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
PROPOSED DEVELOPMENT	3
AREA CONDITIONS	6
PROJECTED TRAFFIC	10
TRAFFIC ANALYSIS	14
CONCLUSION	24
APPENDIX	25

LIST OF TABLES

TABLE 1: AVERAGE ANNUAL DAILY TRAFFIC VOLUMES (VEHICLES PER DAY)	6
TABLE 2: CRASH DATA FROM 2018-2012	6
TABLE 3: TRIP GENERATION	10
TABLE 4: PROVIDENCE RD & WEDDINGTON RD ANALYSIS RESULTS	16
TABLE 5: PROVIDENCE RD & WEDDINGTON RD QUEUE LENGTHS	17
TABLE 6: PROVIDENCE RD & ACCESS “A” ANALYSIS RESULTS	18
TABLE 7: PROVIDENCE RD & ACCESS “A” QUEUE LENGTHS	19
TABLE 8: PROVIDENCE RD & ACCESS “B” ANALYSIS RESULTS	20
TABLE 9: PROVIDENCE RD & ACCESS “B” QUEUE LENGTHS	21

LIST OF FIGURES

FIGURE 1: AREA OF INFLUENCE	4
SITE PLAN	5
FIGURE 2: EXISTING PEAK HOUR TRAFFIC VOLUMES	8
FIGURE 3: SITE DIRECTIONAL DISTRIBUTION	9
FIGURE 4: 2025 NO BUILD PEAK HOUR TRAFFIC VOLUMES	11
FIGURE 5: 2025 BUILD AM PEAK HOUR TRAFFIC VOLUMES	12
FIGURE 6: 2025 BUILD PM PEAK HOUR TRAFFIC VOLUMES	13
FIGURE 7: EXISTING LANEAGE	22
FIGURE 8: SUGGESTED LANEAGE	23



EXECUTIVE SUMMARY

Polivka International proposes to develop a 10,000 SF General Office building and a 10,000 SF Medical Office building. The proposed site is located on Providence Road north of Weddington Road in Weddington, NC (see Figure 1). The development is expected to be completed in 2025.

This report provides analysis of the traffic operations within the area of influence, according to the standards set by the North Carolina Department of Transportation's (NCDOT) "Policy on Street and Driveway Access to North Carolina Highways, Chapter 4 Part C" and Union County. It provides intersection improvements needed for mitigating traffic impacts. This study evaluates the following scenarios:

- Existing Conditions
- 2025 No Build Conditions
- 2025 Build-out Conditions

The area of influence of the site as defined Town of Weddington staff includes the following three existing intersections (See Appendix for the approved scoping information):

1. Providence Road & Weddington Road (Signalized)
2. Providence Road & Access "A" (Unsignalized-RI/RO)
3. Providence Road & Access "B" (Unsignalized-RI/RO/LI)

According to the preliminary site plan (CZ-1), access to the site is expected to occur via two accesses located on Providence Road:

- Proposed Access "A" (Right-In/Right-Out): unsignalized access located on Providence Road at the existing Polivka International southern driveway.
- Proposed Access "B" (Right-In/Right-Out/Left-In): unsignalized access located on Providence at the existing Polivka International northern driveway.

The trip generation results indicate that the development is expected to generate 53 new AM peak hour trips and 63 new PM peak hour trips.

With the results of our analyses (the specifics are described in the Traffic Analysis section of this report) we suggest the following improvements/modifications at the study intersections/proposed accesses:

2025 Build Suggested Improvements:

1. Providence Road & Weddington Road (Signalized)

- No suggested improvements

2. Providence Road & Access "A" (Unsignalized)

- No suggested improvements



3. Providence Road & Access “B” (Unsignalized)

- No suggested improvements

In summary, even though the proposed office/medical office development will slightly increase the amount of vehicular traffic on the adjacent roadways/corridors, the existing/future and no build intersection operations are not expected to be materially impacted, assuming the existing access configurations.




PROPOSED DEVELOPMENT

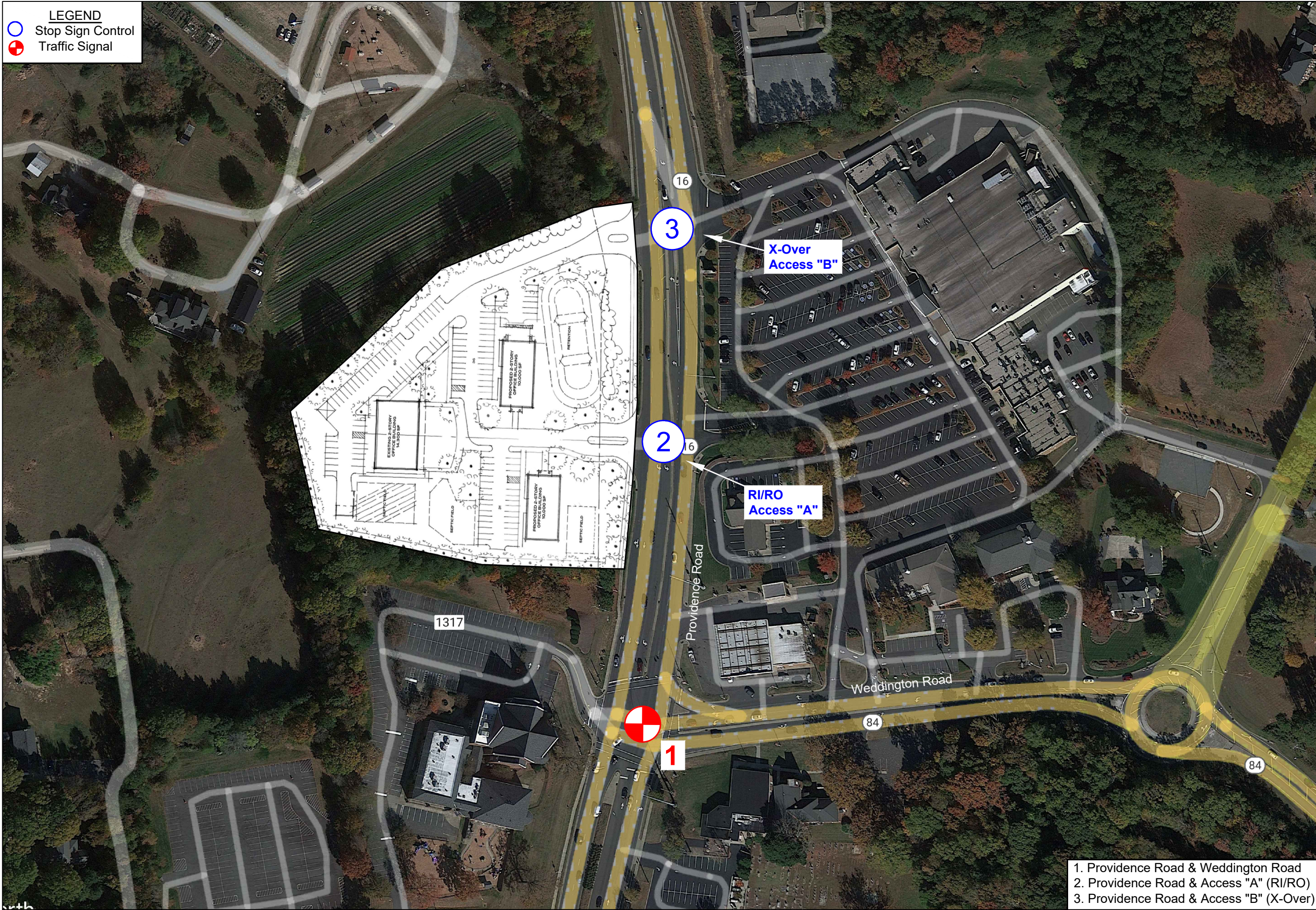
Polivka International proposes to develop a 10,000 SF General Office building and a 10,000 SF Medical Office building. The proposed site is located on Providence Road north of Weddington Road in Weddington, NC (see Figure 1). The development is expected to be completed in 2025.

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LEGEND

-  Stop Sign Control
-  Traffic Signal

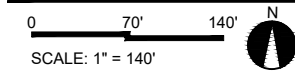


1. Providence Road & Weddington Road
2. Providence Road & Access "A" (RI/RO)
3. Providence Road & Access "B" (X-Over)

WEDDINGTON ROAD OFFICE PARK TIA
 WEDDINGTON, NC

POLIVKA INTERNATION
 13700 PROVIDENCE ROAD SUITE 200
 WEDDINGTON, NC 28104

**AREA OF
 INFLUENCE MAP**



PROJECT #: 1082-001
 DRAWN BY: PAH
 CHECKED BY: REG

FEBRUARY 2024

REVISIONS:

1.	

Figure 1

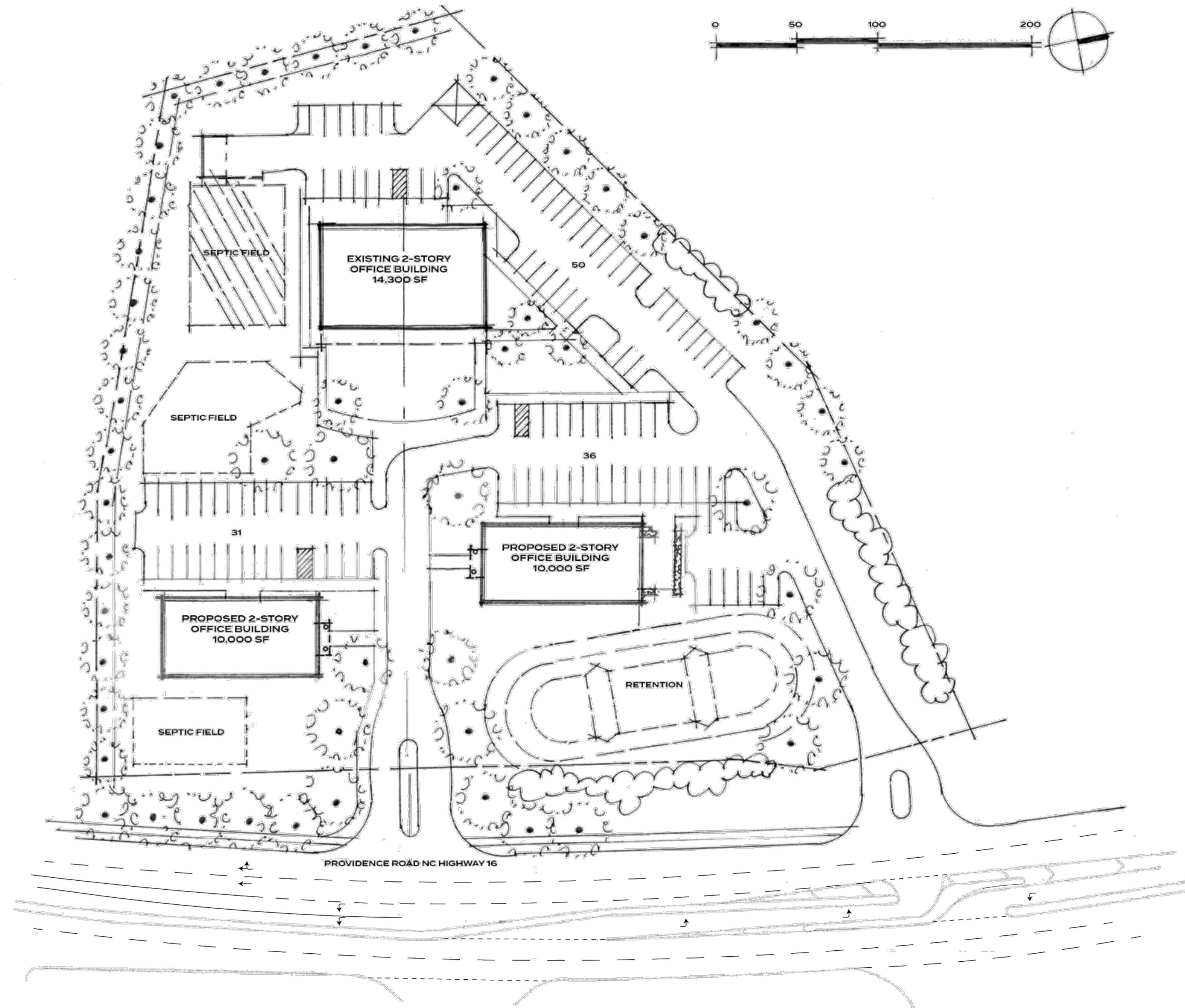
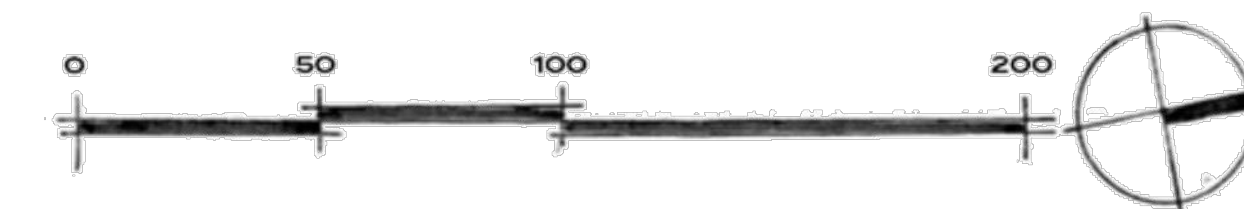
General Notes

1. The owner acknowledges that other standard development requirements imposed by other city ordinances, standards, policies, and appropriate design manuals will exist. Conditions set forth in this petition are supplemental requirements imposed on the development in addition to other standards. Where specified conditions on this plan differ from ordinances, standards, policies, and approaches in existence at the time of formal engineering plan review submission, the conditional notes on this plan shall apply.
2. This Site Plan is schematic in nature and represents a firm concept of development with regard to the arrangement of the building, parking and circulation patterns. Minor changes of detail which do not alter the basic layout and relationships to abutting sites are permitted as a matter of right for the petitioner / developer.
3. **Parking Spaces** : parking spaces shall be a minimum of 9' x 18'. There are 67 spaces illustrated, and allocated to the new buildings.
4. **Signage** : All Signage will be permitted separately
5. **Building Height**: The maximum building height for a MX Zone is 40'. As illustrated in the renderings and elevations, the height of the ridge will be a maximum of 40'.
6. **Landscape Requirements** : The petitioner understands that, as a condition of approval, the proposed development shall be subject to all landscape and buffer requirements of the Town of Weddington UDO
7. **Sewer Allocations** : The proposed development will have a Septic System with the capacity for the proposed office buildings, as designed by Piedmont Design Associates, P.A.



2 VICINITY MAP

scale: NTS



Polivka International

13700 Providence Road, LLC.

Existing Zoning: MX (CZ)

Mixed Use Conditional Zoning

District

DEED BK-4430 PG-860

PID #06150045

Lot 1, Lot 2, Lot 3

Acreage: 4.84 acres

Site Data:

North Adjacent Land Parcel

Nancy Anderson

PID# 06150044E

DEED BK-1991 PG-752

Zone: R-40

Existing Use: Single Family

West Adjacent Land Parcel

James Hunter

PID# 06150044

DEED BK-1991 PG-752

Zone: R-40

Existing Use: Single Family

South Adjacent Parcel

Weddington United Methodist Church

PID# 06150045A

DEED BK-5047 PG-746

Zone: R-40

Existing Use: Church

Proposed Uses: The proposed uses are

General Office and Medical Office.

Proposed Development Description: The Site

Plan illustrates (2) two-story office buildings of 10,000 sf each. The style of the proposed structures is Georgian with similar detailing to the existing 2-story office building. The access to the site exists and will remain. New parking areas will be constructed in the general configuration illustrated on the Site Plan.



ODA ARCHITECTURE

2010 south tryon st., suite 1a
charlotte, nc 28203
704.332.1615
www.oda.us.com

OFFICE DEVELOPMENT

13700 PROVIDENCE ROAD
WEDDINGTON, NORTH CAROLINA

REVISIONS

No.	Description	Date
1	CZ-1 SUBMITTAL	10.04.23

CONDITIONAL ZONING AMENDMENT SUBMITTAL

CZ-1

Copyright 2023 ODA ARCHITECTURE

1 SITE PLAN

scale: 1" = 40'



AREA CONDITIONS

The area of influence of the site as defined Town of Weddington staff includes the following three existing intersections (See Appendix for the approved scoping information):

1. Providence Road & Weddington Road (Signalized)
2. Providence Road & Access "A" (Unsignalized-RI/RO)
3. Providence Road & Access "B" (Unsignalized-RI/RO/LI)

Morning (7:00-9:00 AM) and afternoon (4:00-6:00 PM) peak period turning movement counts (TMCs) were conducted at all study intersections on Wednesday December 13, 2023. See Appendix for raw count data sheets.

According to the latest NCDOT Roadway Functional Classification data, Providence Road is a Minor Arterial with a posted speed limit of 35-mph. The roadway is a four-lane median-divided facility (two lanes in each direction), with appropriate left and right turn lanes within the vicinity of the site. Curb/gutter and sidewalks are present on both sides of the roadway. No bike lanes or planting strip are present on either side of the roadway within the vicinity of the site.

According to the latest NCDOT Roadway Functional Classification data, Weddington Road is a Minor Arterial with a posted speed limit of 35-mph. The roadway is a two-lane facility (one lane in each direction), with appropriate left and right turn lanes within the vicinity of the site. Curb/gutter are present on both sides of the roadway within the vicinity of the site. There is no sidewalk, bike lanes or planting strip present on either side of the roadway in the vicinity of the site.

In addition to the intersection TMCs, geospatial information provided by NCDOT's ArcGIS portal (*Go! NC*), such as Annual average daily traffic (AADT) and crash data were collected.

AADT for two-way volumes on roadways within the area of influence are depicted in Table 1 based on the latest data.

Table 1: Average Annual Daily Traffic Volumes (vehicles per day)

Roadway	AADT (Year)
Providence Road south of Weddington Road	29,000 (2021)
Weddington Road east of Providence Road	20,000 (2021)

Crash frequency per intersection is reported in Table 2 with data ranging from January 1, 2018 to December 31, 2022.

Table 2: Crash Data from 2018-2022

Intersection	Severity Type			Total Crashes
	K Injury	B & C Injury Crashes	PDO Crashes	
Providence Road & Weddington Road	0	8	66	74

Notes:

K: Fatality **B:** B injury type (evident), **C:** injury type (possible), **PDO:** Property Damage Only

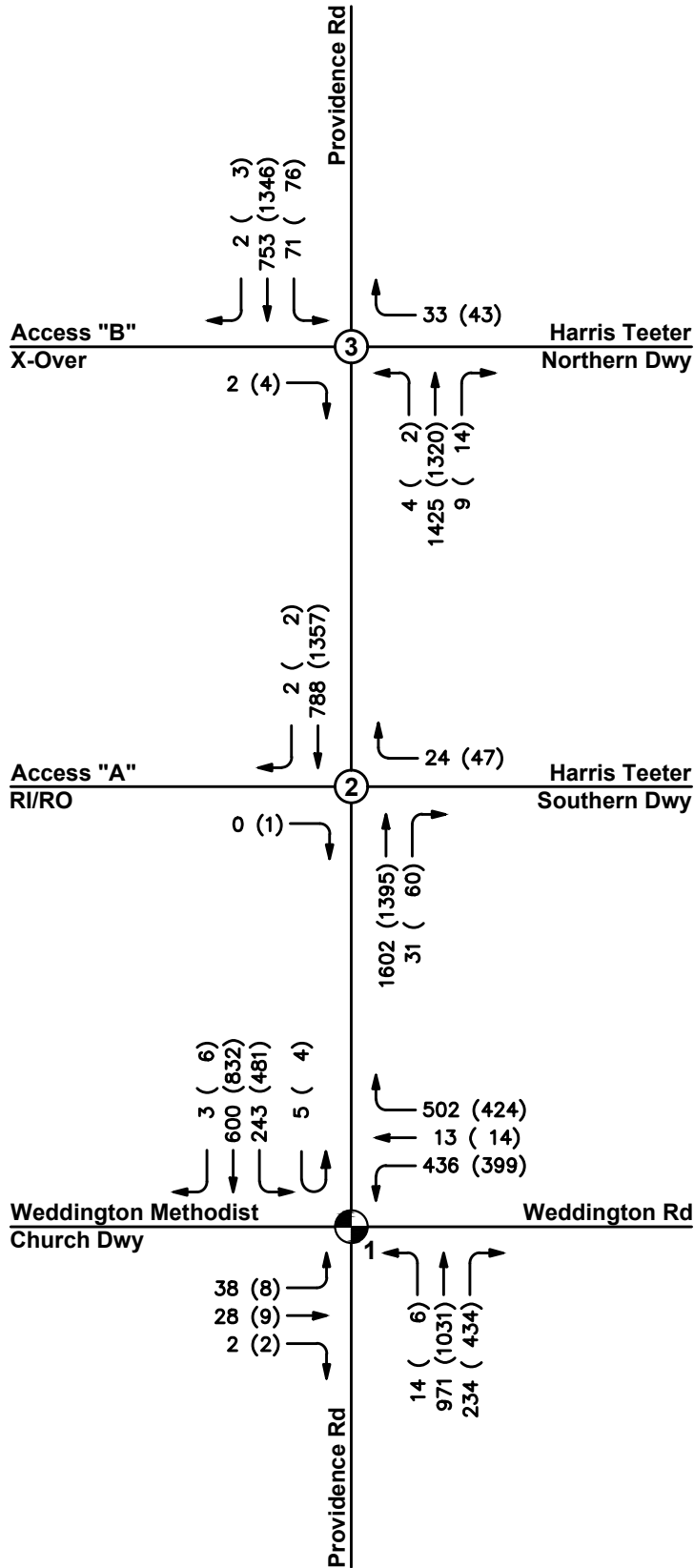


Figure 2 portrays the existing TMCs for the AM and PM peak hours. Figure 3 includes the site directional distribution for the development. These directional distribution percentages were approved by Town of Weddington staff per existing traffic patterns.

LEGEND

-  Traffic Signal
-  Stop Sign Control
-  Directional Movement

VOLUMES: AM (PM)



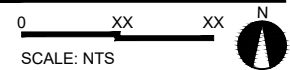
LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
TRANSPORTATION PLANNING

2459 Wilkinson Blvd, Ste 200 Charlotte, NC 28208
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www.drggrp.com

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WEDDINGTON, NC

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13700 PROVIDENCE ROAD SUITE 200
WEDDINGTON, NC 28104

EXISTING PEAK HOUR TRAFFIC VOLUMES



PROJECT #: 1082-001
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CHECKED BY: REG

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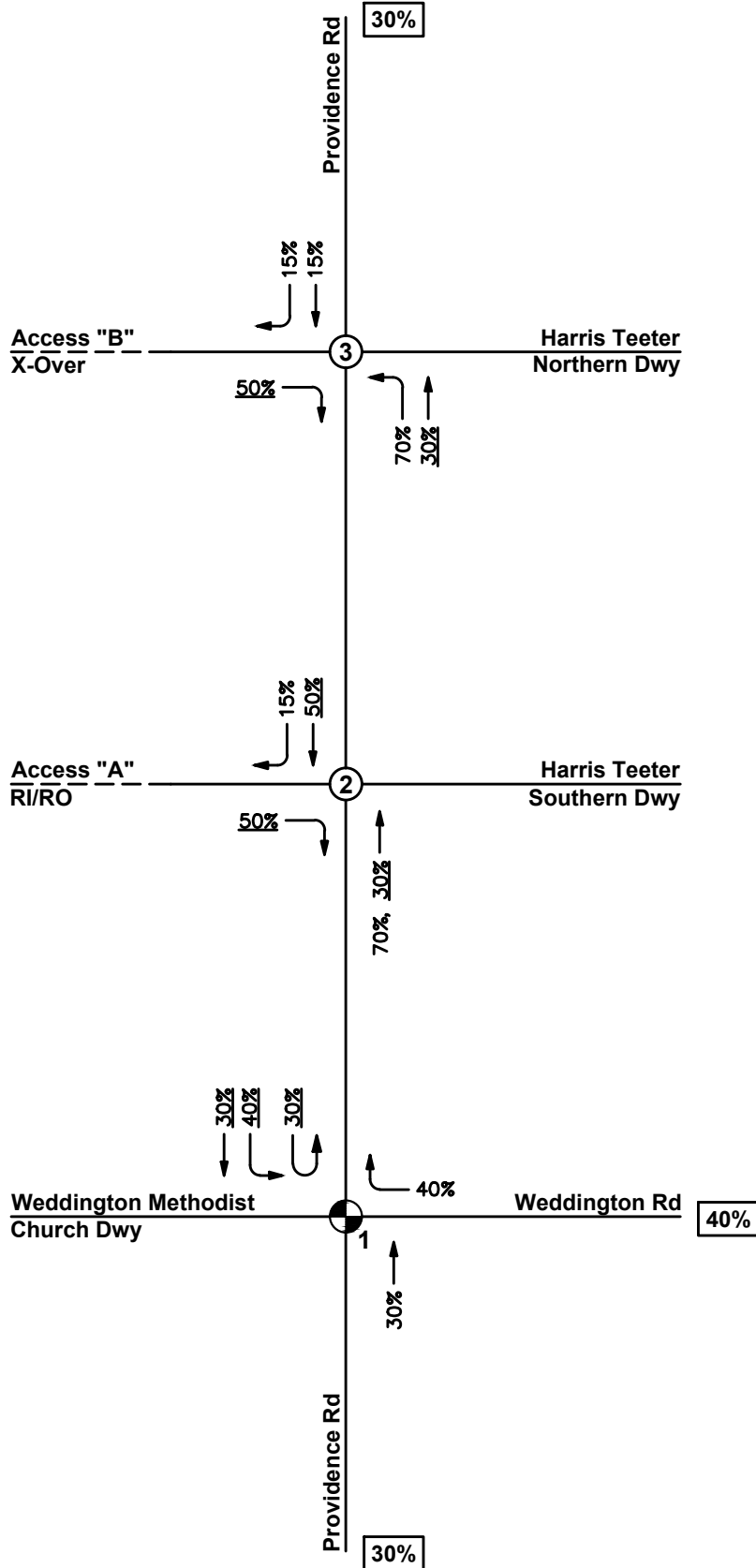
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Figure 2

LEGEND

-  Traffic Signal
-  Stop Sign Control
-  Directional Movement

xx%/xx% Enter/Exit Distribution Percentage



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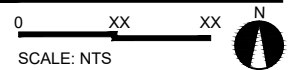
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SITE DIRECTIONAL DISTRIBUTION



PROJECT #: 1082-001
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CHECKED BY: REG

FEBRUARY 2024

REVISIONS:

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Figure 3



PROJECTED TRAFFIC

The daily and peak-hour trip generation data for the site is presented in Table 3. Values derived for the anticipated trips generated by the site are obtained from the Institute of Transportation Engineers, Trip Generation Manual, 11th Edition, 2021.

Table 3: Trip Generation

Land Use [ITE Code]			Daily	AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total
General Office [710]	10,000	SF	157	20	3	23	4	21	25
Medical Office [720]	10,000	SF	322	24	6	30	11	27	38
Total Trips			479	44	9	53	15	48	63

References:

Trip Generation, 11th Edition, Institute of Transportation Engineers, Washington, DC. 2021.

The trip generation results indicate that the development is expected to generate 53 new AM peak hour trips and 63 new PM peak hour trips.

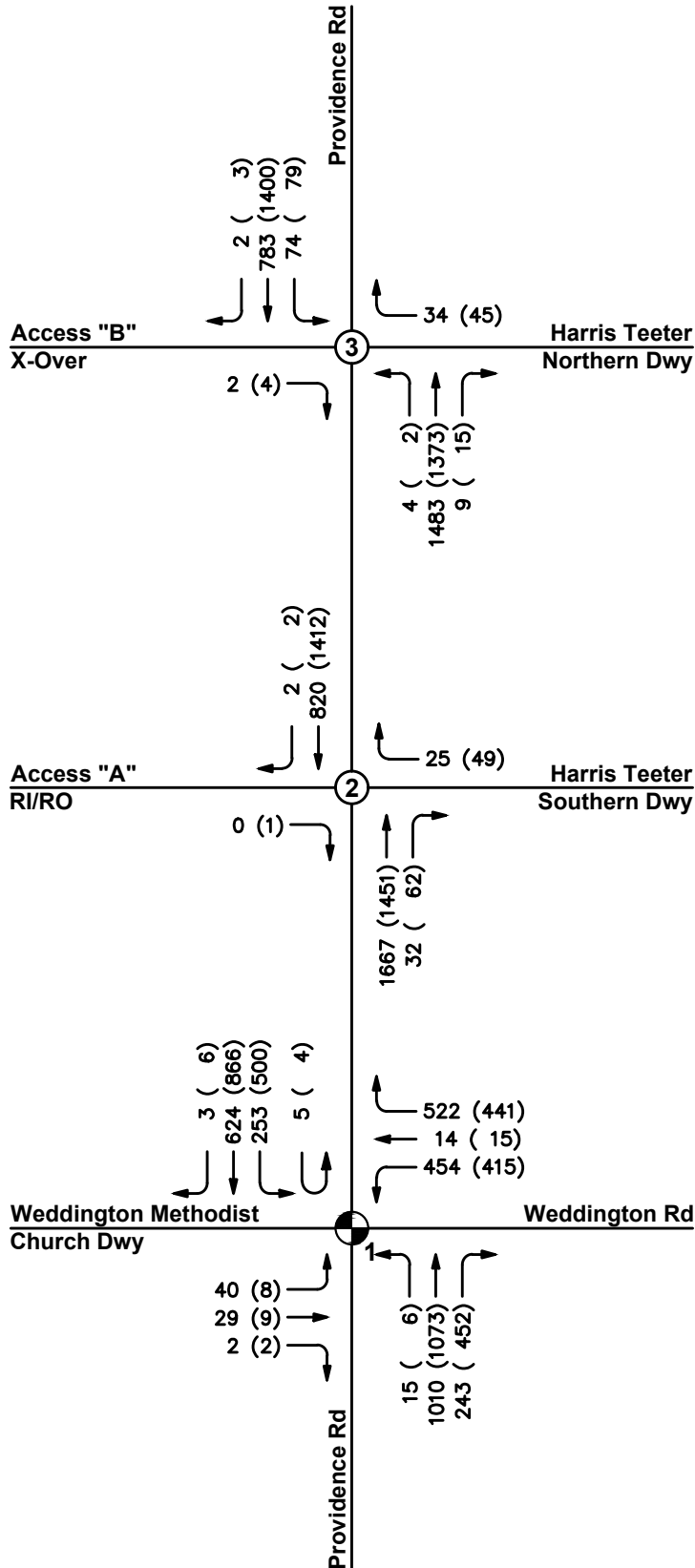
The projected background traffic volumes used in the analyses were developed from the existing peak hour TMCs. Per Town of Weddington staff, a 2% per year growth rate was used for the 2025 background volumes. The No Build volumes for the AM and PM peaks are presented in Figures 4. The 2025 AM and PM Build conditions peak hour traffic volumes are presented in Figures 5 and 6 respectively. The background traffic is indicated to the far left of the movement arrows and the site traffic in parentheses. The two are added to obtain the projected total traffic for that movement:

$$\underline{\text{Background} + (\text{Site}) = \text{Total}}$$

LEGEND

-  Traffic Signal
-  Stop Sign Control
-  Directional Movement

VOLUMES: AM (PM)



LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
TRANSPORTATION PLANNING

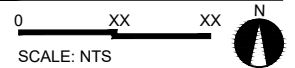
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WEDDINGTON, NC

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WEDDINGTON, NC 28104

**2025 NO BUILD
PEAK HOUR
TRAFFIC
VOLUMES**



PROJECT #: 1082-001
DRAWN BY: PAH
CHECKED BY: REG

FEBRUARY 2024

REVISIONS:

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Figure 4

LEGEND

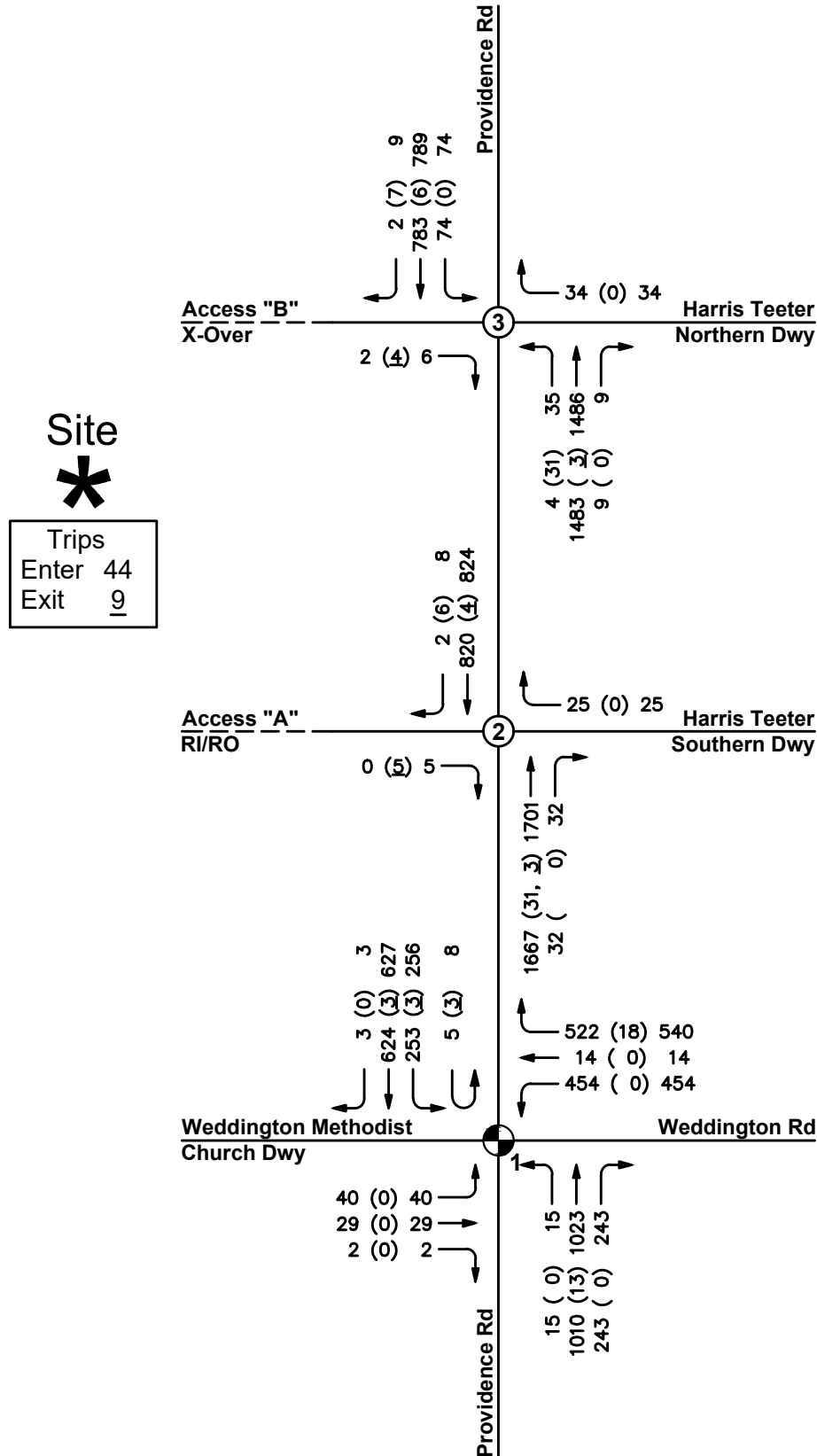
-  Traffic Signal
-  Stop Sign Control
-  Directional Movement

VOLUMES: No Build (Site) Total



LANDSCAPE ARCHITECTURE
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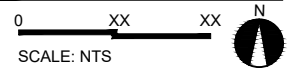


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WEDDINGTON, NC

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13700 PROVIDENCE ROAD SUITE 200
WEDDINGTON, NC 28104

**2025 BUILD AM
PEAK HOUR
TRAFFIC
VOLUMES**



SCALE: NTS

PROJECT #: 1082-001
DRAWN BY: PAH
CHECKED BY: REG

FEBRUARY 2024

REVISIONS:

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Figure 5

LEGEND

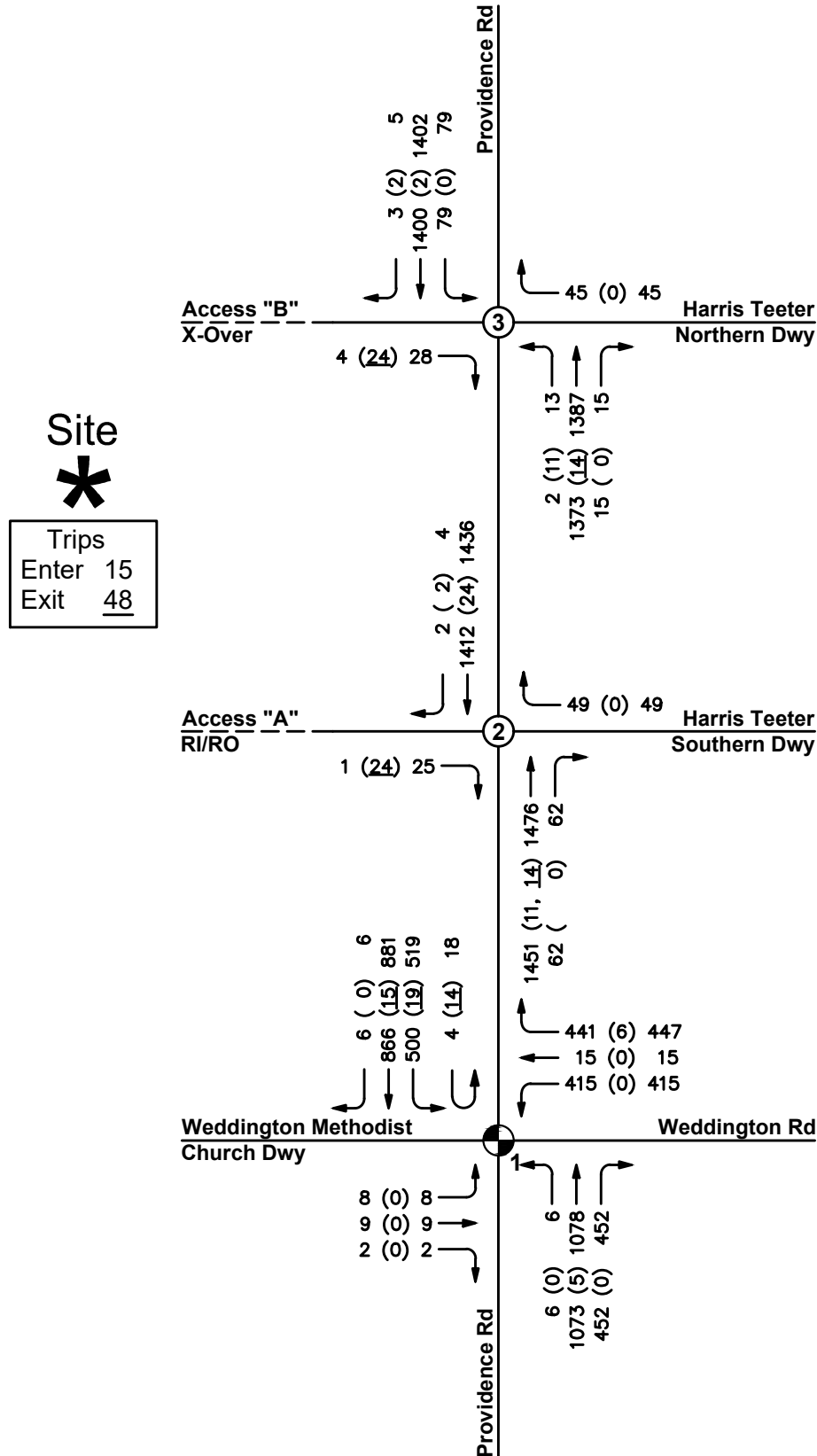
-  Traffic Signal
-  Stop Sign Control
-  Directional Movement

VOLUMES: No Build (Site) Total



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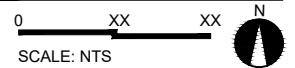


WEDDINGTON ROAD OFFICE PARK TIA

WEDDINGTON, NC

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WEDDINGTON, NC 28104

**2025 BUILD PM
PEAK HOUR
TRAFFIC
VOLUMES**



PROJECT #: 1082-001
DRAWN BY: PAH
CHECKED BY: REG

FEBRUARY 2024

REVISIONS:

1.	

Figure 6



TRAFFIC ANALYSIS

The study intersections identified within the area of influence were analyzed to detect the traffic impact that the development has under the build-out (2025) during the morning (7:00-9:00 AM) and afternoon (4:00-6:00 PM) peak periods. The traffic analysis evaluates the following measures of effectiveness' (MOEs) and their respective criteria at the intersections assuming the future year conditions of 2025.

Level of service (LOS) of an intersection or approach is a qualitative MOE of traffic operations. It is a measure of average control delay in time within a peak period. The Transportation Research Board's Highway Capacity Manual¹ (HCM) defines the LOS thresholds established for signalized and unsignalized intersections per the following exhibits:

Intersection LOS	Exhibit 19-8 Signalized Intersection Control Delay per Vehicle (sec/vehicle)	Exhibit 20-2 Unsignalized Intersection Control Delay per Vehicle (sec/vehicle)
A	≤10.0	≤ 10.0
B	> 10.0 and ≤ 20.0	> 10.0 and ≤ 15.0
C	> 20.0 and ≤ 35.0	> 15.0 and ≤ 25.0
D	> 35.0 and ≤ 55.0	> 25.0 and ≤ 35.0
E	> 55.0 and ≤ 80.0	> 35.0 and ≤ 50.0
F	>80.0	> 50.0

For the analysis of unsignalized intersections, intersection LOS is defined in terms of the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns. It should be noted that stop sign controlled streets/driveways intersecting major streets typically experience long delays during peak hours, while most of the traffic moving through the intersection on the major street experiences little or no delay.

This report provides analysis of the traffic operations within the area of influence, according to the standards set by the North Carolina Department of Transportation's (NCDOT) "Policy on Street and Driveway Access to North Carolina Highways, Chapter 4 Part C" and Union County. It provides intersection improvements needed for mitigating traffic impacts. This study evaluates the following scenarios:

- Existing Conditions
- 2025 No Build Conditions
- 2025 Build-out Conditions

TOWN OF WEDDINGTON ANALYSIS REQUIREMENTS - In order to determine the mitigation responsibility of the developer, this study compares 2025 Build results to the 2025 No Build results.

Per Chapter 5, Section J of the *August 2003 NCDOT Policy on Street and Driveway Access to North Carolina Highways*, the applicant shall be required to identify mitigation improvements to the roadway network if at least one of the following conditions exists when comparing base network conditions to project conditions:

¹ National Research Council. Transportation Research Board. Highway Capacity Manual 6th Ed., Washington, DC. 2016.



- *The total average delay at an intersection or an individual approach increases by 25% or greater, while maintaining the same level of service,*
- *The Level of Service (LOS) degrades by at least one level at an intersection or an individual approach,*
- *Or the Level of Service is “F” for an intersection or an individual approach.*

This section of the NCDOT access policy also states that, *mitigation improvements shall be identified when the analysis indicates that the 95th percentile queue exceeds the storage capacity of the existing lane.*

SYNCHRO 11.1 was the software tool used in determining the delay, capacity and corresponding LOS at the study intersections. SimTraffic 11.1, a traffic simulation software application for unsignalized and signalized intersections, was used to calculate the maximum queue lengths at the study intersections. The Synchro and SimTraffic results of each scenario is displayed per intersection and are presented in Tables 4 – 9. Analysis software result reports per scenario are provided in the Appendix.

Base assumptions for the analysis scenarios include:

- A 2% per year background growth rate between the existing and future 2025 years was used for all study intersection
- All study intersections and movements assume a 0.90 peak hour factor (PHF)
- Observed heavy vehicle percentages (from TMCs) were used in all analysis for all intersections, a minimum of 2% was applied to proposed intersections.
- Existing signal plans were used in the Existing, No Build and Build conditions, coded based on the NCDOT Congestion Management Capacity Analysis Guidelines (2015) See Appendix for existing signal plans
- Right turn on red (RTOR) was disabled
- Yellow and red times were adjusted to 5 seconds and 2 seconds, respectively with -2 seconds of lost time adjustment
- Signal timings as given by the signal plan were utilized and the intersections were optimized through all scenarios
- Permitted-protected and permitted left-turns were adjusted to protected only where applicable
- Westbound right-turn overlap was removed at the intersection of Providence Road & Weddington Road to remove conflict with the southbound U-turn movement produced by the analysis software. Right turn on red was allowed for the westbound movement only in order to account for this and most accurately depict the real world operations.



1. Providence Road & Weddington Road (Signalized)

Table 4: Providence Rd & Weddington Rd Analysis Results

Approach	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec/veh)	Capacity (v/c)	LOS	Delay (sec/veh)	Capacity (v/c)
Existing Conditions						
Intersection	D	48.5	0.96	D	48.7	1.00
Eastbound - Weddington Methodist Church Dwy	E	69.3	-	D	54.6	-
Westbound - Weddington Rd	D	49.5	-	E	59.6	-
Northbound - Providence Rd	D	49.1	-	D	45.4	-
Southbound - Providence Rd	D	44.8	-	D	45.3	-
2025 No Build Conditions						
Intersection	D	40.0	0.93	C	33.3	0.85
Eastbound - Weddington Methodist Church Dwy	E	69.7	-	D	54.5	-
Westbound - Weddington Rd	D	43.4	-	D	42.1	-
Northbound - Providence Rd	C	34.5	-	C	30.4	-
Southbound - Providence Rd	D	41.9	-	C	30.5	-
2025 Build Conditions						
Intersection	D	43.5	1.03	C	34.9	0.89
Eastbound - Weddington Methodist Church Dwy	E	70.4	-	D	53.5	-
Westbound - Weddington Rd	D	46.2	-	D	46.2	-
Northbound - Providence Rd	C	34.5	-	C	30.8	-
Southbound - Providence Rd	D	51.3	-	C	32.1	-

Existing Conditions

Currently, the intersection operates at LOS “D” during the AM peak hour and LOS “C” during the PM peak hour.

2025 No Build Conditions

With the inclusion of growth in the background traffic, the intersection operates at LOS “D” during both the AM and PM peak hours.

2025 Build Conditions

When comparing the impact of the 2025 Build to the 2025 No Build conditions, the intersection operates at LOS “E” during both the AM and PM peak hours. The overall intersection delay increases by 5% in the AM peak hour and 7% in the PM peak hour. **Therefore, no developer required improvements should be deemed necessary at this study intersection.**



Table 5: Providence Rd & Weddington Rd Queue Lengths

Weddington Methodist Church Dwy/Weddington Rd & Providence Rd	Storage (ft)	AM PEAK		PM PEAK	
		95th % Queue	Max Queue	95th % Queue	Max Queue
2025 No Build Conditions					
Eastbound Left-Thru-Right Turn Lane (Weddington Methodist Church Dwy)	-	#125'	136'	44'	56'
Westbound Left-Turn (Weddington Rd)	550'	265'	258'	#288'	248'
Westbound Thru-Left Turn (Weddington Rd)	-	261'	330'	#280'	318'
Westbound Right-Turn (Weddington Rd)	325'	#533'	347'	#316'	320'
Northbound Left-Turn (Providence Rd)	500'	37'	58'	21'	29'
Northbound Thru (Providence Rd)	-	#531'	456'	#590'	407'
Northbound Right-Turn (Providence Rd)	450'	51'	162'	191'	236'
Southbound Left-Turn (Providence Rd)	375'	#203'	207'	#317'	299'
Southbound Thru-Right Turn (Providence Rd)	-	283'	249'	336'	269'
2025 Build Conditions					
Eastbound Left-Thru-Right Turn Lane (Weddington Methodist Church Dwy)	-	#125'	142'	44'	56'
Westbound Left-Turn (Weddington Rd)	550'	265'	374'	#307'	248'
Westbound Thru-Left Turn (Weddington Rd)	-	261'	475'	#300'	318'
Westbound Right-Turn (Weddington Rd)	325'	#580'	405'	#351'	320'
Northbound Left-Turn (Providence Rd)	500'	37'	56'	21'	29'
Northbound Thru (Providence Rd)	-	524'	439'	#595'	407'
Northbound Right-Turn (Providence Rd)	450'	48'	128'	191'	236'
Southbound Left-Turn (Providence Rd)	375'	#219'	300'	#348'	299'
Southbound Thru-Right Turn (Providence Rd)	-	284'	322'	345'	269'

When comparing the Build with Improvements conditions to the No Build conditions from the queueing and blocking reports, no storage lane extension should be deemed necessary.



2. Providence Road & Access “A” (Unsignalized)

Table 6: Providence Rd & Access “A” Analysis Results

Approach	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec/veh)	Capacity (v/c)	LOS	Delay (sec/veh)	Capacity (v/c)
Existing Conditions						
Intersection	NA	NA	-	NA	NA	-
Eastbound - Access "A"	B	11.4	-	C	15.4	-
Westbound - Harris Teeter Southern Dwy	C	19.3	-	C	18.3	-
Northbound - Providence Rd	A	0.0	-	A	0.0	-
Southbound - Providence Rd	A	0.0	-	A	0.0	-
2025 No Build Conditions						
Intersection	NA	NA	-	NA	NA	-
Eastbound - Access "A"	B	11.6	-	C	15.9	-
Westbound - Harris Teeter Southern Dwy	C	20.3	-	C	19.2	-
Northbound - Providence Rd	A	0.0	-	A	0.0	-
Southbound - Providence Rd	A	0.0	-	A	0.0	-
2025 Build Conditions						
Intersection	NA	NA	-	NA	NA	-
Eastbound - Access "A"	B	11.7	-	C	17.0	-
Westbound - Harris Teeter Southern Dwy	C	20.8	-	C	19.5	-
Northbound - Providence Rd	A	0.0	-	A	0.0	-
Southbound - Providence Rd	A	0.0	-	A	0.0	-

Existing Conditions

Currently, the worst leg of the intersection (westbound) operates at LOS “C” during both the AM and PM peak hours.

2025 No Build Conditions

With the inclusion of growth in the background traffic, the worst leg of the intersection (westbound) operates at LOS “C” during both the AM and PM peak hours.

2025 Build Conditions

The existing right-in/right-out driveway is intended to be used as access to the proposed development.

When comparing the impact of the 2025 Build to the 2025 No Build conditions, the worst leg of the intersection (westbound) continues to operate at LOS “C” during both the AM and PM peak hours. The delay on the worst leg of the intersection increases by 2% in the AM peak hour and 2% in the PM peak hour.

Therefore, no developer required improvements should be deemed necessary at this study intersection.



Table 7: Providence Rd & Access "A" Queue Lengths

Access "A"/Harris Teeter Southern Dwy @ Providence Rd	Storage (ft)	AM PEAK		PM PEAK	
		95th % Queue	Max Queue	95th % Queue	Max Queue
2025 No Build Conditions					
Eastbound Right-Turn Lane (Access "A")	TERM.	0'	32'	0'	30'
Westbound Right-Turn (Harris Teeter Southern Dwy)	TERM.	8'	72'	15'	81'
Northbound Thru-Right Turn (Providence Rd)	-	0'	73'	0'	20'
Southbound Thru-Right Turn (Providence Rd)	-	0'	0'	0'	23'
2025 Build Conditions					
Eastbound Right-Turn Lane (Access "A")	TERM.	0'	32'	8'	30'
Westbound Right-Turn (Harris Teeter Southern Dwy)	TERM.	10'	78'	15'	81'
Northbound Thru-Right Turn (Providence Rd)	-	0'	20'	0'	20'
Southbound Thru-Right Turn (Providence Rd)	-	0'	77'	0'	0'

When comparing the Build with Improvements conditions to the No Build conditions from the queueing and blocking reports, no storage lane extension should be deemed necessary.



3. Providence Road & Access “B” (Unsignalized)

Table 8: Providence Rd & Access “B” Analysis Results

Approach	AM Peak Hour			PM Peak Hour		
	LOS	Delay (sec/veh)	Capacity (v/c)	LOS	Delay (sec/veh)	Capacity (v/c)
Existing Conditions						
Intersection	NA	NA	-	NA	NA	-
Eastbound - Access "B"	B	11.2	-	C	15.3	-
Westbound - Harris Teeter Northern Dwy	C	17.4	-	C	16.6	-
Northbound - Providence Rd	A	0.0	-	A	0.0	-
Southbound - Providence Rd	A	1.4	-	A	0.8	-
2025 No Build Conditions						
Intersection	NA	NA	-	NA	NA	-
Eastbound - Access "B"	B	11.4	-	C	15.8	-
Westbound - Harris Teeter Northern Dwy	C	18.1	-	C	17.3	-
Northbound - Providence Rd	A	0.0	-	A	0.0	-
Southbound - Providence Rd	A	1.5	-	A	0.8	-
2025 Build Conditions						
Intersection	NA	NA	-	NA	NA	-
Eastbound - Access "B"	B	11.5	-	C	16.8	-
Westbound - Harris Teeter Northern Dwy	C	18.2	-	C	17.4	-
Northbound - Providence Rd	A	0.2	-	A	0.1	-
Southbound - Providence Rd	A	1.5	-	A	0.8	-

Existing Conditions

Currently, the worst leg of the intersection (westbound) operates at LOS “C” during both the AM and PM peak hours.

2025 No Build Conditions

With the inclusion of growth in the background traffic, the worst leg of the intersection (westbound) operates at LOS “C” during both the AM and PM peak hours.

2025 Build Conditions

The existing right-in/right-out/left-in driveway is intended to be used as access to the proposed development.

When comparing the impact of the 2025 Build to the 2025 No Build conditions, the worst leg of the intersection (westbound) operates at LOS “C” during both the AM and PM peak hours. The delay on the worst leg of the intersection increases by less than 1% in both the AM and PM peak hours.

Therefore, no developer required improvements should be deemed necessary at this study intersection.



Table 9: Providence Rd & Access “B” Queue Lengths

Access "B"/ Harris Teeter Northern Dwy @ Providence Rd	Storage (ft)	AM PEAK		PM PEAK	
		95th % Queue	Max Queue	95th % Queue	Max Queue
2025 No Build Conditions					
Eastbound Right-Turn (Access "B")	TERM.	0'	30'	0'	32'
Westbound Right-Turn (Harris Teeter Northern Dwy)	TERM.	10'	84'	13'	70'
Northbound Left-Turn (Providence Rd)	225'	0'	27'	0'	29'
Northbound Thru-Right Turn (Providence Rd)	-	0'	4'	0'	8'
Southbound Left-Turn (Providence Rd)	325'	20'	104'	20'	83'
Southbound Thru-Right Turn (Providence Rd)	-	0'	0'	0'	32'
2025 Build Conditions					
Eastbound Right-Turn (Access "B")	TERM.	0'	27'	8'	32'
Westbound Right-Turn (Harris Teeter Northern Dwy)	TERM.	10'	68'	13'	70'
Northbound Left-Turn (Providence Rd)	225'	5'	47'	3'	29'
Northbound Thru-Right Turn (Providence Rd)	-	0'	6'	0'	5'
Southbound Left-Turn (Providence Rd)	325'	20'	97'	20'	8'
Southbound Thru-Right Turn (Providence Rd)	-	0'	46'	0'	24'

When comparing the Build with Improvements conditions to the No Build conditions from the queueing and blocking reports, no storage lane extension should be deemed necessary.

The existing/suggested laneage is shown on Figures 7 and 8, respectively.

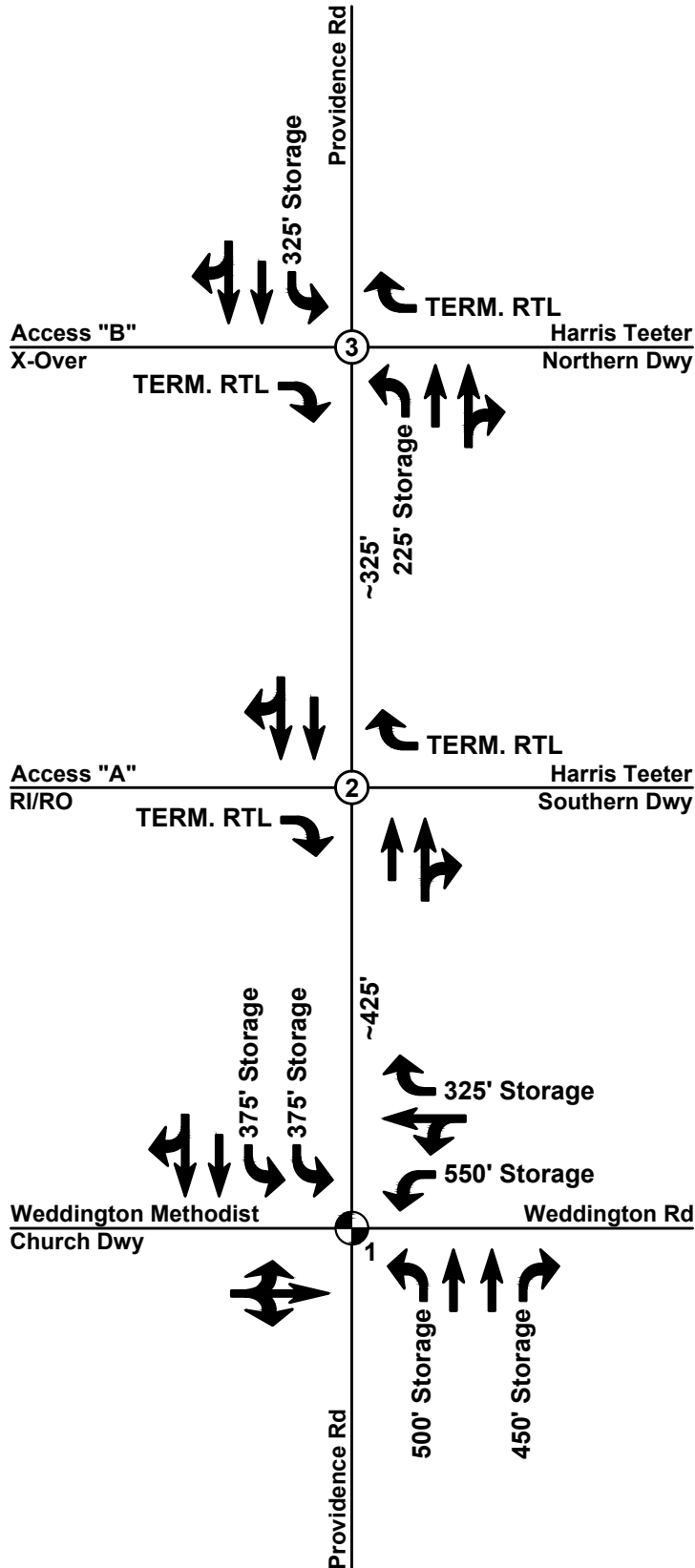
LEGEND

-  Traffic Signal
-  Stop Sign Control
-  Existing Laneage



LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
TRANSPORTATION PLANNING

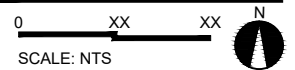
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WEDDINGTON ROAD OFFICE PARK TIA
WEDDINGTON, NC

POLIVKA INTERNATIONAL
13700 PROVIDENCE ROAD SUITE 200
WEDDINGTON, NC 28104

EXISTING LANEAGE



PROJECT #: 1082-001
DRAWN BY: PAH
CHECKED BY: REG

FEBRUARY 2024

REVISIONS:

1.	

Figure 7

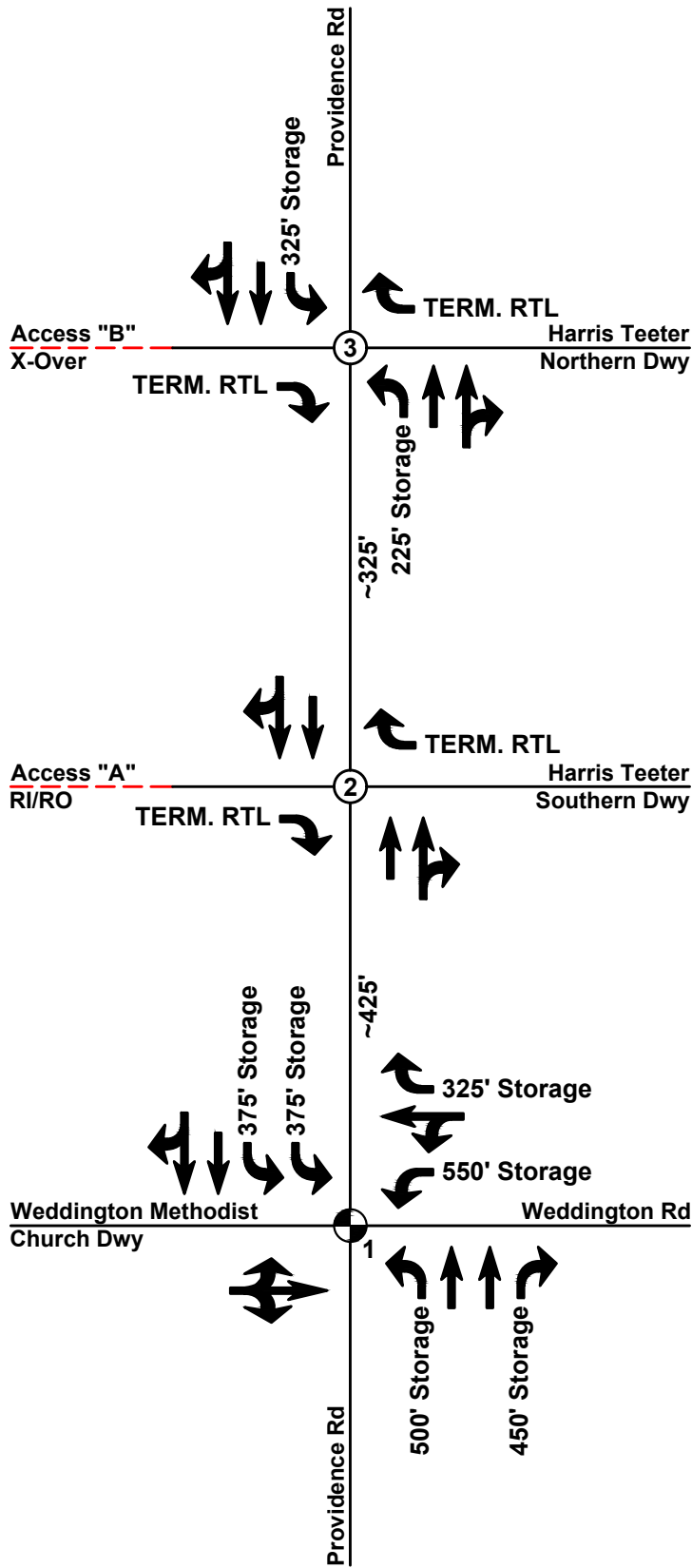
LEGEND

-  Traffic Signal
-  Stop Sign Control
-  Existing Laneage
-  Suggested Laneage



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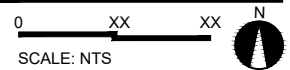


WEDDINGTON ROAD OFFICE PARK TIA

WEDDINGTON, NC

POLIVKA INTERNATION
13700 PROVIDENCE ROAD SUITE 200
WEDDINGTON, NC 28104

SUGGESTED LANEAGE



PROJECT #: 1082-001
DRAWN BY: PAH
CHECKED BY: REG

FEBRUARY 2024

REVISIONS:

1.	

Figure 8



CONCLUSION

In conclusion, even though the proposed office/medical office development will slightly increase the amount of vehicular traffic on the adjacent roadways/corridors, the existing/future and no build intersection operations are not expected to be materially impacted, assuming the existing access configurations.



APPENDIX