

ZEBULON MIXED-USE

Planned Development Rezoning Narrative

Parcels 1796748489, 1796854029, 1796845839

Town of Zebulon, North Carolina
January 2025, Rev. March 2025

OWNERS:

Name: Lonnie P. Stancil, Jr.
Address: 1938 Zebulon Rd. Zebulon, Nc 27597-8146

Name: Martha B. Stancil
Address: 1938 Zebulon Rd. Zebulon, Nc 27597-8146

DEVELOPER:

Name: Spectrum Investment Solutions, LLC
Address: 2500 Stonington Drive Apex, NC 27523
Contact: Scott Huffman
Phone #: (919) 422-5837
Email: scott@greystonehomesnc.co

CONSULTANTS:

Engineering/Planning:

McKim & Creed
8020 Tower Point Drive
Charlotte, NC 28227
(704) 841-2588
Contact: Beth Bailey Johnston, PLA, Senior Landscape Architect
bbailey@mckimcreed.com

Architecture:

Planworx Architecture
5711 Six Forks Road, Suite 100
Raleigh, NC 27609
(919) 846-8100
Contact: Bob Naegele
bnaegele@planworx.com

Traffic Engineering:

DRMP
5808 Faringdon Place
Raleigh, NC 27609
(919) 872-5115
Contact: Caroline Cheeves, PE, Traffic Analysis Project Manager, Transportation
ccheeves@drmp.com

TABLE OF CONTENTS

I.	Vicinity Map.....	3
II.	Project Data	3
III.	Purpose Statement	4
IV.	Permitted Uses	4
V.	Design Controls & Dimensional Standards	5
VI.	Architectural Standards	6
VII.	Off-Street Parking, Loading and Sidewalks	7
VIII.	Signs.....	7
IX.	Public Facilities	7
X.	Natural Resources and Environmental Protection.....	8
XI.	Stormwater Management	9
XII.	Open Space and Amenities	9
XIII.	Consistency with 2030 Land Use Map.....	10
XIV.	Compliance with the UDO	11
XV.	Transportation Impact Analysis.....	11
XVI.	Zoning Conditions Offered.....	11
APPENDIX A - Representative Elevation Illustrations.....		15
APPENDIX B - Traffic Impact Analysis Excerpts.....		18

I. VICINITY MAP



The proposed project consists of three parcels located at 2008, 1928 and 1938 Zebulon Road, directly across from the intersection of Bobbfield Way and Zebulon Road/NC Hwy 96. Two of the three parcels are adjacent to Zebulon Road/NC Hwy 96, totaling approximately 508 linear feet of frontage.

II. PROJECT DATA

Project Name	Zebulon Mixed Use
PINs	1796748489, 1796854029, 1796845839
Applicant	Spectrum Investment Solutions, LLC
Project Area	14.546 AC
Existing Zoning	HC & R-2
Proposed Zoning	PD
Existing Land Use	Single-Family Residential, Undeveloped
Proposed Land Use	Mixed Use (Commercial, Retail, Multi-Family Residential)
Developer	Spectrum Investment Solutions, LLC
Authorized Agent	McKim & Creed

III. PURPOSE STATEMENT

The intent of this Planned Development is to provide a mix of commercial and local retail uses along Zebulon Road/NC Highway 96 that are beneficial, compatible, and convenient to the nearby residential uses. The proposed development aligns with the General Commercial (GC) Land Use/Character shown on the Future Land Use and Character Map adopted 6/07/2021 ('FLUM').

The Planned Development also proposes to incorporate higher-density residential in the form of apartments and apartments over retail behind the commercial uses. Although the project site is indicated as (SR) on the FLUM, the site characteristics support higher density residential due to the size of the project site and the direct access to and from a major thoroughfare. As requested by neighbors at the community meeting held in advance of the submittal, potential adverse impacts of variations in scale and proximity of larger buildings to adjacent single-family residences are mitigated by orienting the larger buildings so that the smaller ends face the existing residential, as well as by maximizing the separation of buildings from property lines common to single-family homes. There is no opportunity for vehicular connectivity to adjacent single-family residential uses, so traffic impact to existing neighborhoods is minimal.

Connectivity will occur via an 8' multi-modal trail linking the existing greenway east of the site to Zebulon Road, with sidewalks provided throughout the site for pedestrian circulation from and between all uses and amenities.

Currently, the parcels that make up the project are zoned R2 & HC. To accommodate the intended project, this request seeks to amend the current zoning designations and future land use map to PD, which provides the flexibility required for a mix of uses that will fulfill a need for diverse housing types and convenient access to local shops, services and restaurants.

Overall development is intended to occur in a single phase, along with individual site construction on the commercial parcels.

Ultimately, this project, through a combination of rental income, commercial activity, job creation, local business spending and infrastructure improvements will act as a catalyst for sustainable growth, supporting both residents and businesses.

IV. PERMITTED USES

- Multifamily Dwelling and associated Detached Accessory Uses (Cluster Box Unit, Maintenance Building, Play Equipment/Structure, etc.)
- Upper Story Residential
- Live/Work Dwelling
- Day Care Facility
- Indoor Entertainment
- Fitness/Recreation Center
- Artisan / Creative Studio
- Financial Institution (with or without a Drive Through)
- Laundry Services (with or without a Drive Through)

- Publisher / Packaging & Printing
- Office: General / Professional
- Office: Medical
- Office: Sales or Service
- Pharmacy (with or without a Drive Through)
- Coffee Shop
- Microbrewery / Microdistillery / Microwinery
- Bottle Shop with on-premise consumption
- Restaurant (with or without a Drive Through)
- Restaurant with Indoor/Outdoor Seating & Dining
- Restaurant, drive through and/or walk up only
- Retail Sales
- Service / Personal Service (Hair, Nails, Skin)
- Veterinary Clinic
- Clubhouse/pool
- Utility, Minor
- Food Truck
- Electric Vehicle Charging Station
- Art Installation
- Automated Teller Machine
- Urgent Care Facility
- ABC / Wine Store
- Auditorium
- Conference or Convention Center
- Post Office
- Automotive Sales and Rentals
- Business Incubator
- Catering Establishment
- Clothing Rental
- Computer-Related Services
- Convenience Store
- Co-Working Space
- Equipment and Tool Rental
- Event Venue
- Grocery Store
- Outdoor Commercial Recreation
- Package and Printing Service

V. DESIGN CONTROLS & DIMENSIONAL STANDARDS

The proposed development is multi-family residential and commercial/retail.

- Maximum number of dwelling units: 250 Units
- Maximum Commercial / Non-Residential: 25,000 SF

- Minimum Building Separation: 10'

A. Dimensional Standards: Minimum Setbacks

- From Zebulon Road/NC Hwy 96 ROW 15 Feet
- All other Property Boundaries: 20 Feet

B. Dimensional Standards: Structures

- Maximum Building Height: 60 Feet
- Maximum Building Stories: 4 Stories
- Maximum Building Length: 250 Feet

C. Buffers:

- Streetscape Buffer: Modified Type C Buffer along Zebulon Road/NC Hwy 96
 - 15' Min. width from ROW
 - 3 Canopy Trees / 100 LF
 - 6 Understory Trees / 100 LF
 - 20 shrubs / 100 LF with 5' Max. Spacing, 75% Evergreen
- Perimeter Buffers*: 10' Type A Separation Buffer against adjacent HC Zoning
20' Type B Intermittent Buffer against adjacent R-2 & R-13 SUD Zoning

*Existing trees and shrubs will be utilized to meet buffer landscape requirements where existing material meets buffer objectives.

D. Other Landscaping:

The proposed development will meet all other landscaping requirements per the Town of Zebulon UDO Article 5.6., with the following exception:

- No Foundation Plantings (5.6.11.D.) along the front of retail spaces in the two mixed-use buildings to facilitate pedestrian flow between the retail spaces and accommodate potential outdoor dining and seating.

VI. ARCHITECTURAL STANDARDS

Quality architectural standards will be used throughout the development with aesthetic and modern façade designs incorporated in the apartment and retail buildings. Appendix A depicts representative Apartment Elevations (A1) and Retail Elevations (A2). These elevations are for illustrative purposes only. Actual design may vary but will meet standards as listed below.

A. Commercial Outparcel Buildings:

Will follow UDO Article 5.3.1.F.9 Outparcel Development as site conditions allow, UDO Article 4.3.5.NN if a restaurant use, and UDO Article 4.4.7.I for all other uses when a drive through is proposed.

B. Mixed Residential / Retail Buildings:

Will follow UDO Article 5.3.2 Mixed Use Design Standards to the extent possible based on parcel size and shape and proposed location within the site. Specifically,

- Two (2) or more exterior material types will be used.
- An aesthetic and modern color scheme will be used.
- Stone/masonry accents will be used on a minimum of 25% of all front building façades. Stone/masonry accents will be a minimum of a 2-foot skirt under the front elevation.

C. Multi-Family Buildings:

Will follow UDO Article 5.3.3 Multi-Family Residential Design Standards to the extent possible based on parcel size and shape and proposed location within the site. Specifically,

- All front building façades will be fiber cement siding.
- Side and Rear elevations may be vinyl siding or fiber cement siding with colors to match front elevations.
- Architectural-style shingles will be used.

VII. OFF-STREET PARKING, LOADING & SIDEWALKS

Parking, loading, and sidewalks will meet UDO dimensional standards, except that parking lot stem lengths set forth in Article 5.1.6.F do not apply to the proposed outparcel access points as they are from an internal private circulation drive rather than a public street.

Parking spaces for outparcels will be provided per UDO Article 5.8.4. and may be configured to accommodate parking for adjacent outparcel uses in a combined lot per Article 5.8.4.E.

Parking space quantity for outparcels in the PD Plan is based on three restaurant uses, two with indoor seating and one as drive-through/walk-up only. Since the required number of spaces for restaurant uses are higher than parking requirements for any other proposed listed use, the number of spaces shown on the PD plan would accommodate any other proposed use.

Bicycle parking will be provided per UDO Article 5.8.10.

The Development seeks a 20% reduction in the number of required parking spaces for the mixed retail/apartment use and the multi-family use via a shared parking study per UDO Article 5.8.11.A.

At least two Electric vehicle (EV) charging stations will be provided.

VIII. SIGNS

All signage will comply with applicable standards and requirements of the Town of Zebulon UDO Section 5.11.

IX. PUBLIC FACILITIES

Based on TRC review, adequate public facilities and infrastructure are available for the project.

A. Water & Sanitary Sewer

The development will be served by public water and sanitary sewer utility systems. The utilities will be designed to conform with the Town of Zebulon and City of Raleigh (Raleigh Water) standards and specifications. Potable water from Raleigh Water's water system is available from an existing 12" main along Zebulon Road/NC Hwy 96 and will be extended through the development. The proposed development will be responsible for the installation of a sanitary sewer system that will serve up to 250 multi-family units and a maximum of 25,000 SF of commercial and retail. The proposed sewer system will connect to an existing 12" sewer main located along the Beaverdam Creek Greenway to the northeast of the site.

The required Utility Allocation Criteria and Request, along with a Preliminary Utility Plan, have been submitted to the Town.

B. UTILITY ALLOCATION

UTILITY ALLOCATION	POINTS	PAGE #
Mixed Use Development (Greenfield)	40	7
Section 2B: Parking: at least 2 port EV Charging Stations	5	10
Section 2D: Pedestrian-oriented and walkable site design which promotes alternatives to vehicular travel within the development. (Subject to TRC Approval)	5	11
Section 4B: Pool (Combinations may be approved by TRC) Resort Size Plans	2	12
Section 4C: Outdoor Deck / Patio More than 3,000 square feet	3	12
Section 4E: Clubhouse No Meeting Space – Bathrooms & Changing Rooms Only	3	13
Section 4E: Clubhouse Outdoor Kitchens or Grills	2	13
TOTAL POINTS	60	

C. Streets

- * No public streets are proposed internal to the development.
- * Zebulon Road (NC Hwy 96):
Developer shall build one half of the ultimate 100' ROW section less median. (No ROW dedication required.) Developer may seek a fee-in-lieu for one half of the 12' wide median. Roadway section shall include 5' planting strip and 5' sidewalk for the full length of the frontage.

D. Sidewalks

Developer will provide a 5' sidewalk for the full length of the Zebulon Road/NC Hwy 96 frontage.

E. Greenway Trail

Developer will construct a greenway trail connection from the eastern project boundary to the existing Beaverdam Creek Greenway. The greenway trail will connect to Zebulon Road/NC Hwy 96 via the proposed internal 8' multi-modal trail amenity.

X. NATURAL RESOURCES AND ENVIRONMENTAL DATA

A. Existing Vegetation & Hydrology

The front third to half of the development site adjacent to Zebulon Road/NC Hwy 96 consists of cleared land with scrub re-growth and a few individual trees outside of the maintained lawn. The remainder is a patchy mixed stand of pine and hardwoods typical of the area where one small, constructed pond (+/- .43 ac), an intermittent/perennial stream (+/- 212 lf), and 4 isolated wetland areas (+/- .314 ac total) are present. Any and all impacts requiring permits will be obtained and permitted through the Town of Zebulon, NCDEQ, and the US

Army Corps of Engineers as applicable.

This development site is in the Neuse River Basin, but not within a critical or water supply watershed.

No portion of the site is located within Special Flood Hazard areas defined by FEMA FIRM Map 3720179600K, effective 7/19/2022.

B. Historic Structures & Significance:

No historic structures or historical significance are associated with this development site.

XI. STORMWATER MANAGEMENT

The proposed development lies within the Neuse River Basin. The site is subject to and will comply with Neuse River Basin nutrient requirements and local requirements in the Town of Zebulon stormwater ordinance in place at the time of preliminary plat submittal.

XII. OPEN SPACE AND AMENITIES

The following minimum open space set-aside areas in square feet will be included in the development as shown on the Concept Plan, with specific design included at Site Plan stage.

OPEN SPACE	MIN. AREA (SF)
Commercial	
Total Set-Aside	3,301
Mixed Use with Residential	
Total Set-Aside Provided	6,439
Active Provided (25% Min.)	1,610
Voluntary Min. 50% as Urban Open Space	805
Multi-Family	
Total Set-Aside Provided	39,480
Active Provided	19,740
Voluntary Min. 20% as Urban Open Space	3,948

Open Space minimums above are calculated based on the Open Space Set-Aside Requirements in UDO Table 5.7.4.A, as follows:

Commercial:

3% of Development Area, of which 0% Active Open Space Required
(.03) x 110,038 SF = 3,301 SF Minimum

Mixed Use with Residential:

5% of Development Area, of which 25% Active Open Space Required
(.05) x 128,782 SF = 6,439 SF Minimum / 1,610 SF Active

Multi-Family

10% of Development Area, of which 50% Active Open Space Required
(.10) x 394,804 SF = 39,480 SF Minimum / 19,740 SF Active

Type and Configuration of Open Space provided are based on UDO Article 5.7.4.B and 5.7.5, respectively, with proposed amenities as follows:

Passive Open Space:

- Private, 8' Wide Multi-Modal Trail through the site connecting the existing public Beaverdam Creek greenway to public sidewalks along Zebulon Road/NC Hwy 96
- Interconnecting Sidewalks throughout the project
- Landscaped Areas & Outdoor Seating Areas
- Mailbox kiosk and CBU's, as approved by the USPS and the Town of Zebulon

Active Open Space:

- Pool with Bathhouse
- Playground

Urban Open Space:

- Outdoor Event Venue
- Gathering/Eating Space with Outdoor Kitchen and Grills

XIII. CONSISTENCY WITH THE COMPREHENSIVE PLAN & 2030 LAND USE and CHARACTER MAP

Zebulon Road Mixed Use is consistent with the Town of Zebulon Comprehensive Plan and Land Use Map goals and priorities such as housing variety, pedestrian and bike-friendly design, and a mix of uses to foster economic resiliency.

1. This Planned Development directly supports the following CLUP Guiding Principles:
 - Guiding Principal 1 (Zebulon will be Connected) by creating physical connectivity via the multi-modal trail linking the Beaverdam Creek Greenway to proposed sidewalk and bike lanes in Zebulon Road/NC Hwy 96.
 - Guiding Principal 3 (Zebulon will be Balanced) by providing mixed-use buildings and apartments for housing and price-point variety, along with outdoor amenities nearby. This also achieves a higher residential density in less land area. More options and density here mean decreased development pressure for land across Zebulon Road that is designated as Rural Conservation on the Future Land Use Map.
 - Guiding Principal 4 (Zebulon will be Prudent) by utilizing a site already served by water and sewer utilities and accessed directly from an existing road system, creating no new public roads. Additionally, this development will assist in the improvement of Zebulon Road/NC Hwy 96 per the goals of the Comprehensive Transportation Plan.
 - Guiding Principal 6 (Zebulon will be Resilient) by providing potential restaurant parcels and small shop sites in the mixed-use buildings to accommodate and foster local businesses and create a framework for obtaining goods and services within walking and biking distance, therefore reducing car trips and future congestion.
2. The Land Use and Character Map designates this site as GC (General Commercial) along Zebulon Road/NC Hwy 96 and SR (Suburban Residential) for the remainder. This Planned Development directly aligns with the HC designation by providing commercial outparcels immediately adjacent to Zebulon Road/NC Hwy 96. Multi-family and mixed-use are more appropriate uses for the remainder of the site due to the limited size and lack of opportunity for vehicular connectivity to the adjacent existing single-family neighborhoods.

XIV. COMPLIANCE WITH THE TOWN OF ZEBULON UDO

This development project will comply with all other relevant sections of the Town of Zebulon Unified Development Ordinance.

XV. TRANSPORTATION IMPACT ANALYSIS

Based on the Final TIA prepared by DRMP, dated December 2024, the following improvements will be required of the development:.

A. NC 96 & Bobbfield Way / Access 1

- Construct the westbound approach with at least one ingress lane and two egress lanes striped as a left-turn lane and a shared through-right turn lane.
- Provide stop control for the westbound approach.
- Construct a northbound right-turn lane with at least 50 feet of storage and appropriate taper. It should be noted that right-of-way might be limited. If so, a taper is recommended.
- Construct a southbound left-turn lane with at least 75 feet of storage and appropriate taper.

B. NC 96 & Access 2

- Construct the westbound approach with at least one ingress lane and one egress lane striped as a right-out.
- Provide stop control for the westbound approach.
- Construct a northbound right-turn taper.

XVI. ZONING CONDITIONS OFFERED

1. Following Board of Commissioners' approval, an electronic copy of the PD Plan and Narrative, including the Conditions of Approval, shall be provided to the Planning Department.
2. The Development will meet all adopted Town of Zebulon Unified Development Ordinance (UDO) requirements, Town of Zebulon Engineering and Stormwater design standards, and the North Carolina Fire Code and NFPA Fire standards, except where specifically modified by the approved master plan.
3. The Development will be constructed in substantial conformance with the PD Plan and PD Narrative as approved by the Zebulon Board of Commissioners.
4. Permitted uses will be limited to the following:
 - Multifamily Dwelling and associated Detached Accessory Uses (Cluster Box Unit, Maintenance Building, Play Equipment/Structure, etc.)
 - Upper Story Residential
 - Live/Work Dwelling
 - Day Care Facility
 - Indoor Entertainment
 - Fitness/Recreation Center
 - Artisan / Creative Studio

- Financial Institution (with or without a Drive Through)
 - Laundry Services (with or without a Drive Through)
 - Publisher / Packaging & Printing
 - Office: General / Professional
 - Office: Medical
 - Office: Sales or Service
 - Pharmacy (with or without a Drive Through)
 - Coffee Shop
 - Microbrewery / Microdistillery / Microwinery
 - Bottle Shop with on-premise consumption
 - Restaurant (with or without a Drive Through)
 - Restaurant with Indoor/Outdoor Seating & Dining
 - Restaurant, drive through and/or walk up only
 - Retail Sales
 - Service / Personal Service (Hair, Nails, Skin)
 - Veterinary Clinic
 - Clubhouse/pool
 - Utility, Minor
 - Food Truck
 - Electric Vehicle Charging Station
 - Art Installation
 - Automated Teller Machine
 - Urgent Care Facility
 - ABC / Wine Store
5. The following standards shall apply to the development:
- Maximum number of Units: 250 dwelling units
 - Maximum Commercial/Non-Residential: 25,000 SF
 - Minimum Setbacks:

From Zebulon Road/NC Hwy 96 ROW:	15 Feet
All other Property Boundaries:	20 Feet
 - Minimum Building Separation: 10 Feet
 - Maximum Building Height: 60 Feet (4 Stories)
6. The following amenities shall be provided:
- Pool with Bathhouse
 - Gathering Space with Outdoor Kitchen and Grills (Urban Open Space)
 - Outdoor Event Venue (Urban Open Space)
 - Private, 8' Wide Multi-Modal Trail through the site connecting the existing public Beaverdam Creek greenway to public sidewalks along Zebulon Road/NC Hwy 96
 - Interconnecting Sidewalks throughout the project
7. The following transportation improvements shall be constructed and accepted by NCDOT prior to issuance of the first Certificate of Occupancy:

- Construct one half of the ultimate 100' ROW section. (No ROW dedication required.) Developer may seek a fee-in-lieu for one half of the 12' wide median. Roadway section shall include 5' planting strip and 5' sidewalk for the full length of the frontage.

NC 96 & Bobbfield Way / Access 1

- Construct the westbound approach with at least one ingress lane and two egress lanes striped as a left-turn lane and a shared through-right turn lane.
- Provide stop control for the westbound approach.
- Construct a northbound right-turn lane with at least 50 feet of storage and appropriate taper. It should be noted that right-of-way might be limited. If so, a taper is recommended.
- Construct a southbound left-turn lane with at least 75 feet of storage and appropriate taper.

NC 96 & Access 2

- Construct the westbound approach with at least one ingress lane and one egress lane striped as a right-out.
- Provide stop control for the westbound approach.
- Construct a northbound right-turn taper (if warranted after construction of the additional lane per the Comprehensive Transportation Plan).

Any additional transportation improvements required as part of the NCDOT Driveway Permit shall be constructed prior to issuance of the first Certificate of Occupancy.

8. The following architectural standards shall be met:

Commercial Outparcel Buildings:

Will follow UDO Article 5.3.1.F.9 Outparcel Development as site conditions allow, UDO Article 4.3.5.NN if a restaurant use, and UDO Article 4.4.7.1 for all other uses when a drive through is proposed

Mixed Residential/Retail Buildings:

Will follow UDO Article 5.3.2 Mixed Use Design Standards to the extent possible based on parcel size and shape and proposed location within the site. Specifically,

- Two (2) or more material types will be used.
- An aesthetic and modern color scheme will be used.
- Stone/masonry accents to be provided on a minimum of 25% of all front building façades. Stone/masonry accents will be a minimum of a 2-foot skirt under the front elevation.

Multi-Family Buildings:

Will follow UDO Article 5.3.3 Multi-Family Residential Design Standards to the extent possible based on parcel size and shape and proposed location within the site. Specifically,

- All front building façades will be fiber cement siding.
- Side and Rear elevations may be vinyl siding or fiber cement siding with colors to match front elevations.
- Architectural-style shingles will be used.

9. The proposed development will meet all landscaping requirements per the Town of Zebulon UDO Article 5.6., with the following exceptions:
 - The Streetscape Buffer along NC Highway 96 shall be modified as follows:
 - 15' Min. width from ROW

- 20 shrubs / 100 LF with 5' Max. Spacing, 75% Evergreen
 - Tree requirements remain as listed in the UDO.
 - No Foundation Plantings (5.6.11.D.) along the front of retail spaces in the two mixed-use buildings to facilitate pedestrian flow between the retail spaces and accommodate potential outdoor dining and seating.
10. The Development shall meet the UDO parking standards, subject to a 20% reduction in total number of required parking spaces for the mixed retail /apartment use and multi-family use as supported by a shared parking study per Article 5.8.11.A.
- At least two Electric vehicle (EV) charging stations will be provided.
11. The Transportation Impact Analysis will be required to be updated to match the final proposed development and submitted for review and approval by the Town and NCDOT prior to Construction Plan approval. Any additional improvements required by NCDOT based on the updated TIA will be required to be constructed prior to the first Certificate of Occupancy.
12. To the extent of any conflict between the PD Plan, PD Narrative and these conditions, these conditions shall control.

APPENDIX A

Representative Elevations

(For Illustrative Purposes Only)

A1. Representative Apartment Elevations



A2. Representative Mixed Use / Retail Elevations







APPENDIX B

Traffic Impact Analysis Excerpts

8. CONCLUSIONS

This Traffic Impact Analysis was conducted to determine the potential traffic impacts of the Zebulon Mixed-Use development to be located east of Zebulon Road and south of Pippin Road in Zebulon, North Carolina. The proposed development, anticipated to be completed in 2028, is assumed to consist of 200 apartments, 19,500 square feet (s.f.) retail, 9,500 s.f. high-turnover restaurant, 2,000 s.f. coffee shop with drive-through. In accordance with the Town UDO the study will utilize a build+1 for future year traffic conditions. Site access is proposed via one full-movement driveway along Zebulon Road across from Bobbfield Way and one right-in/right-out (RIRO) access along Zebulon Road.

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

- 2024 Existing Traffic Conditions
- 2029 No-Build Traffic Conditions
- 2029 Build Traffic Conditions

Trip Generation

Primary site trips are expected to generate approximately 214 trips (97 entering and 117 exiting) during the weekday AM peak hour and 184 trips (109 entering and 75 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.

Intersection Capacity Analysis Summary

All the study area intersections (including the proposed site driveways) are expected to operate at acceptable levels-of-service under existing and future year conditions with the exception of the intersections listed below. A summary of the study area intersections that are expected to need improvements are as follows:

NC 96 & Riley Hill Road

The minor-street approaches are expected to operate at LOS F during both the weekday AM and PM peak hours. It is important to note that the proposed development is only expected to account for less than 8% of the traffic at the intersection, primarily the mainline through traffic. The proposed development is expected to only account for less than 6% of the traffic along the westbound approach during both the weekday AM and PM peak hours.

The intersection to the south, NC 96 and Green Pace Road, is signalized, which is expected to provide gaps in the mainline traffic which will allow traffic from the minor-street approaches to be able to flow into mainline traffic or cross the intersection. Traffic from the westbound approach can also utilize the intersection of NC 96 and Green Pace Road via the intersection of Proctor Street and Green Pace Road, providing an alternative route to Riley Hill Road or NC 96.

NC 96 & Bobbfield Way/Access 1

The minor-street approaches are expected to operate at LOS F during both the weekday AM and PM peak hours. It is important to note that the intersection to the north, NC 96 and Pippin Road, is signalized, which is expected to provide gaps in the mainline traffic which will allow traffic from the minor-street approaches to be able to flow into mainline.

A northbound right-turn lane and a southbound left-turn lane were considered based on the NCDOT *Policy on Street and Driveway Access to North Carolina Highways* and are recommended. It should be noted that a right-turn lane may impact the driveway for the business to the south of the development. If significant impacts to the business would occur, a right-turn lane taper in lieu of a full turn lane is recommended.

NC 96 & Access 2

The minor-street approach is expected to operate at LOS C or better during both the weekday AM and PM peak hours. Queueing at the minor-street approach is not expected to exceed 71 feet (approximately 3 vehicles).

A northbound right-turn lane was considered based on the NCDOT *Policy on Street and Driveway Access to North Carolina Highways* and was found to not be recommended; however, a northbound right-turn taper is warranted and is recommended.

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 12 for an illustration of the recommended lane configuration for the proposed development.

Future Traffic Improvements

NC 96 & Pearces Road

- Construct an additional southbound through lane.
- Restripe the existing westbound right-turn lane to a shared left-right turn lane.
- Signal timing modifications.

Recommended Improvements by Developer

NC 96 & Bobbfield Way/Access 1

- Construct the westbound approach with at least one ingress lane and two egress lanes striped as a left-turn lane and a shared through-right turn lane.
- Provide stop control for the westbound approach.
- Construct a northbound right-turn lane with at least 50 feet of storage and appropriate taper, it should be noted that right-of-way might be limited. If so a taper is recommended.
- Construct a southbound left-turn lane with at least 75 feet of storage and appropriate taper.

NC 96 & Access 2

- Construct the westbound approach with at least one ingress lane and one egress lane striped as a right-out.
- Provide stop control for the westbound approach.
- Construct a northbound right-turn taper.

