

## 1 Executive Summary

The proposed Southport Mixed-Use Development is located in Southport, NC west of the Southport city limits within a currently vacant parcel bounded by Robert Ruark Drive (to the north), W 11<sup>th</sup> Street/W 9<sup>th</sup> Street (to the east), Indigo Plantation Drive (to the south), and the Dutchman Creek floodplain (to the west). Based on the current site plan, the proposed development is anticipated to consist of the following land uses:

- Residential Land Uses
  - 330 single-family detached homes
  - 340 single-family attached townhomes
  - 480 recreational homes
  - 120 senior adult detached housing units
  - 200 senior adult attached housing units
- Office Land Uses
  - 80,000 square feet of medical-dental office space
- Retail Land Uses
  - 8,000 square feet of retail shopping center space

The full build of the proposed development is anticipated to be complete in 2032 with access to be provided as follows:

- Connection to existing Robert Ruark Drive approximately 800 feet west of Forest Oak Drive/Cades Trail
- Connection to existing W 9<sup>th</sup> Street in front of Southport Elementary School

The North Carolina Department of Transportation (NCDOT) has a project identified (STIP Project R-5021) which will widen NC 211 (N. Howe Street) from NC 87 (River Drive) to NC 906. In coordination with NCDOT, it was determined that the future year analysis from this TIP project (2040) would be analyzed as part of the Southport Mixed-Use Development analysis. This traffic impact analysis (TIA) evaluates traffic operations under 2021 Existing, 2032 No-Build, 2032 Build, 2040 No-Build, and 2040 Build traffic conditions during the AM and PM peak hours at the following intersections:

1. NC 211 (N. Howe Street) at NC 87 (River Road)/Robert Ruark Drive
2. NC 211 (N. Howe Street) at 11<sup>th</sup> Street
3. NC 211 (N. Howe Street) at Fodale Avenue
4. NC 211 (N. Howe Street) at 9<sup>th</sup> Street
5. NC 211 (N. Howe Street) at West Street
6. NC 211 (N. Howe Street) at Moore Street

7. NC 211 (N. Howe Street) at 12<sup>th</sup> Street/Stuart Avenue
8. NC 211 (S. Howe Street) at Bay Street
9. Robert Ruark Drive at Proposed Site Access #1

The NCDOT TIA scoping document associated with this project was originally approved by NCDOT on July 21, 2021. This NCDOT TIA scoping document is included in **Appendix A** for reference. The Town of Southport requested the addition of the Bay Street intersection in January of 2022. This report has been amended to include this intersection at this request.

Kimley-Horn was retained to determine the potential traffic impacts of this development and identify transportation improvements that may be required to accommodate these impacts in accordance with the guidelines set forth in the North Carolina Department of Transportation (NCDOT) *Congestion Management Capacity Analysis Guidelines* and NCDOT *Policy on Street and Driveway Access to North Carolina Highways*. This report presents trip generation, trip distribution, capacity analyses, and recommendations for transportation improvements required to mitigate anticipated traffic demands produced by the subject development.

Based on the results of the analyses described within this report, the following improvements are recommended to accommodate site traffic associated with the proposed development:

#### **NC 211 (N. Howe Street) at NC 87 (River Road)/Robert Ruark Drive**

- Construct one (1) additional eastbound left-turn lane to form dual left-turn lanes with approximately 350 feet of full-width storage and an appropriate taper length.
- Construct one (1) eastbound right turn lane with approximately 350 feet of full-width storage and an appropriate taper length.
- Modify signal timing and phasing to accommodate the proposed improvements and changes in traffic volumes on each approach.

#### **NC 211 (N. Howe Street) at 9<sup>th</sup> Street**

- Construct a southbound right-turn lane with a minimum of 300 feet of full-width storage and an appropriate taper length, as utility and right-of-way constraints allow.
- Optimize signal timing in the context of the proposed improvements and increases in traffic volumes on each approach.

The following additional improvements have been identified based on No-Build traffic volumes (i.e., without the proposed Southport Mixed-Use Development) and are not the responsibility of the developer:

#### **NC 211 (N. Howe Street) at 12<sup>th</sup> Street**

- Install a fully actuated traffic signal to operate with existing geometry and permitted phasing on all approaches.
- Install a westbound right turn lane with 175 feet of storage and appropriate taper

**Robert Ruark Drive at Site Access #1**

- Construct a westbound left-turn lane with a minimum of 150 feet of full-width storage and an appropriate taper length.
- Construct the site access point to include one ingress lane and two egress lanes:
  - One northbound left-turn lane
  - One northbound right-turn lane with a minimum of 175 feet of full-width storage and an appropriate taper length

Based on forecasted traffic volumes developed through coordination with NCDOT, additional improvements may be warranted at the intersections of NC 211 (N. Howe Street) with 11<sup>th</sup> Street and Fodale Avenue. The need for these improvements was identified through the analyses described herein, but the design and construction of these improvements are not the responsibility of the developer.

**Figure ES-1** shows the recommended roadway geometry and traffic control at the study area intersections as described above.

