

FEASIBILITY STUDY

Hope Mills

**Widening of SR 1363 (Elk Mill Road)
from SR 1132 (Legion Road) to I-95 Business**

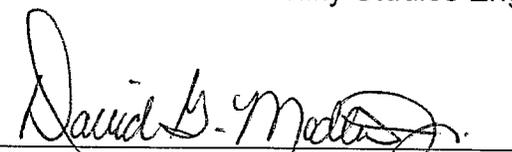
Cumberland County

Division 6

U-3849

Prepared by the
Program Development Branch
Division of Highways
N. C. Department of Transportation


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**Hope Mills
Widening of SR 1363 (Elk Mill Road)
from SR 1132 (Legion Road) to I-95 Business
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I. General Description

This preliminary study describes the proposed widening of SR 1363 (Elk Mill Road), and the proposed extension of SR 1363 (Elk Mill Road) to I-95 in Hope Mills. The project location is shown on Figure 1. The proposed cross-section is a 5-lane curb-and-gutter section, 68 feet (20.7 m) wide from face-to-face of curbs, with 10-foot (3.0-m) wide berms. The required right-of-way width is 100 feet (30.5 m). This cross-section will allow wide outside lanes to accommodate anticipated bicycle traffic. Accommodation for bicycles on SR 1363 is included in the Incidental Bicycle and Pedestrian Needs Section of the 1998-2004 TIP. The widening on SR 1363 will begin at SR 1132 (Legion Road), as shown on Figure 1, and end at SR 1131 (Cameron Road), a distance of approximately 1.5 miles (2.4 km). The proposed SR 1363 improvements include relocating SR 1131 approximately 380 feet (116 m) west of its existing location. This will require approximately 1,500 feet (460 m) of construction on new location, and the recommended cross-section is a 2-lane shoulder section.

Also, it is proposed to extend SR 1363 approximately 170 feet (52 m) east to I-95 Business. The recommended cross-section for this extension is a 5-lane curb-and-gutter section, 68 feet (20.7 m) wide from face-to-face of curbs, with 10-foot (3.0-m) wide berms. Construction of turn lanes on I-95 Business, and installation of traffic signals at I-95 Business and SR 1131 are recommended. Due to the approximately 550-foot (168-m) spacing between the proposed traffic signals, it is recommended that these signals be interconnected. Further, the existing traffic signal at SR 1132 will require minor revisions. It is recommended that the existing cross-over on I-95 Business immediately south of the east project terminus be removed.

SR 1132 will be widened to a 5-lane curb-and-gutter section under project U-2809, and the Hope Mills Bypass will be built west of SR 1132 under project U-620. The cross-section for the Hope Mills Bypass immediately west of SR 1132 is a 4-lane, median-divided roadway.

One residential and no business relocations are anticipated due to this project. The total project cost including construction and right of way is estimated to be \$9,900,000 as follows:

| | |
|--------------------|------------------|
| Right-of-Way | \$ 1,200,000 |
| Construction | <u>8,700,000</u> |
| Total Cost | \$ 9,900,000 |

This study is the initial step in the planning and design process and is not the product of exhaustive environmental or design investigations. The purpose of this study is to describe the needs, recommend a treatment including costs, and identify potential problem areas that may require consideration in the planning and design phases.

II. Need for the Project

The purpose of this project is to extend the proposed Hope Mills Bypass (TIP project # U-620) east, along the alignment of SR 1363, to I-95 Business. Elk Mill Road (SR 1363) between Legion Road (SR 1132) and Alexwood Drive is a 3-lane, shoulder section, and between Alexwood Drive and Cameron Road (SR 1131), it is a 2-lane shoulder section. The existing right-of-way width appears to vary between 60 feet (18.3 m) and 100 feet (30.5 m). Elk Mill Road is a major thoroughfare on the Fayetteville Urban Area Thoroughfare Plan and an urban Minor Arterial in the North Carolina Statewide Functional Classification System.

Land use in the project corridor includes single family homes, schools, churches, apartment and condominium developments, and an elder care center. The churches, schools, and single family homes are mostly in the western half of the corridor, while the higher density residential developments are in the eastern half of the corridor.

Traffic volume estimates for SR 1363 for the years 1997 and 2020 are 5,800 vehicles per day (vpd) and 15,200 vpd respectively. The Level of Service (LOS) without the proposed improvements is estimated to be LOS C in 1997 and LOS E in 2020. With the proposed improvements the estimated LOS is LOS A in 1997 and LOS B in 2020.

During the three year period beginning February 1, 1994, and ending January 31, 1997, there were 30 accidents reported on SR 1363 within the project limits. This resulted in a total accident rate of 332 accidents per 100 million vehicle miles (ACC/100MVM). This compares with the statewide average of 248 ACC/100MVM for all urban secondary routes in North Carolina for 1996.

There was no fatal accident reported, and 9 accidents resulted in 10 non-fatal injuries. The most prevalent type accidents were Left Turn(40%) and Rear End (37%). The proposed wider cross-section with a center turn lane would reduce the potential for these type accidents.

III. Recommendations

It is proposed to widen Elk Mill Road (SR 1363) and extend it from Cameron Road to I-95 in Hope Mills. The project location is shown on Figure 1. The proposed cross-section is a 5-lane curb-and-gutter section, 68 feet (20.7 m) wide from face-to-face of curbs, with 10-foot (3.0-m) wide berms. The required right-of-way width is 100 feet (30.5 m). This cross-section will allow wide outside lanes to accommodate anticipated bicycle traffic. Elk Mill Road is included in the Incidental Bicycle and Pedestrian Needs Section of the 1998-2004 TIP. The widening on SR 1363 will begin at SR 1132, as shown on Figure 1, and end at SR 1131, a distance of approximately 1.5 miles (2.4 km). The proposed Elk Mill Road improvements include relocating SR 1131 approximately 380 feet (116 m) west. This will require approximately 1,500 feet (460 m) of construction on new location, and the recommended cross-section is a 2-lane shoulder section.

Also, it is proposed to extend SR 1363 approximately 170 feet (52 m) east to I-95 Business. The recommended cross-section for this extension is a 5-lane curb-and-gutter section, 68 feet (20.7 m) wide from face-to-face of curbs, with 10-foot (3.0-m) wide berms. Construction of turn lanes on I-95 Business, and installation of traffic signals at I-95 Business and SR 1131 are recommended. Due to the approximately 550-foot (168-m) spacing between the proposed traffic signals, it is recommended that these signals be interconnected. Further, the existing traffic signal at SR 1132 will require minor revisions. It is recommended that the existing cross-over on I-95 Business immediately south of the east project terminus be removed.

Legion Road (SR 1132) will be widened to a 5-lane curb-and-gutter section under project U-2809, and the Hope Mills Bypass will be built west of SR 1132 under project U-620. The cross-section for the Hope Mills Bypass immediately west of SR 1132 is a 4-lane, median-divided roadway.

One residential and no business relocations are anticipated due to this project. The total project cost including construction and right of way is estimated to be \$9,900,000 as follows:

| | |
|--------------------|------------------|
| Right-of-Way | \$ 1,200,000 |
| Construction | <u>8,700,000</u> |
| Total Cost | \$ 9,900,000 |

IV. Other Comments

An environmental screening was not conducted for this study. No historic properties, recreation areas, or wetlands have been identified in the project corridor. A rare plant (*Astragalus Michauxii*) has been identified in the corridor.

Sidewalks on SR 1363 are included in the Incidental Bicycle and Pedestrian Needs Section of the 1998-2004 TIP. The cost for construction of sidewalks on one side of SR 1363 is estimated to \$170,000. Cost participation between the Town of Hope Mills and NCDOT for sidewalks will be in accordance with current NCDOT policy.