

FEASIBILITY STUDY

NC 44  
from I-95 to a US 301 Connector  
south of Whitakers  
Nash County

R-2902

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

Maria N. Wall  
Maria N. Wall  
Highway Planning Engineer

M. B. Mustafa  
Mohammed B. Mustafa  
Highway Planning Engineer

1/29/93  
Date

Whitmel H. Webb, III  
Whitmel H. Webb, III, P.E.  
Head of Feasibility Studies

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### I. GENERAL DESCRIPTION

This is a feasibility study for the widening of NC 44, from the I-95 Interchange to SR 1517; the upgrading and realignment of SR 1517 (Gaskill Farm Road), from NC 44 to SR 1516; and the upgrading of SR 1516 (Johnson Farm Rd.), from SR 1517 to US 301 in Nash County, a total distance of 4.6 miles (See Figures 1 and 2). The recommended typical section is a 2-lane, 28-foot pavement with 8-foot shoulders, on 100 feet of right of way, for the entire project length. Estimated cost of the project is \$3,000,000 (\$500,000 for right-of-way and \$2,500,000 for construction).

This study is not a detailed planning/environmental investigation. A feasibility study presents recommended cross sections for improvements, general alignments of improvements, and estimated cost of construction and right-of-way. This study attempts to identify any potential environmental, permitting, or other observed issues which deserve consideration in the planning and construction stages.

### II. NEED FOR PROJECT

NC 44 is classified as a Rural Major Collector in the Statewide Functional Classification System. SR 1517 and SR 1516 are classified as local roads. NC 44 serves as a connector between I-95 and US 301. Several large industries are located on US 301, south of the project, between Rocky Mount and Whitakers. Although the existing NC 44 provides adequate capacity for the projected traffic, improvements are needed. The recommended improvements will provide better truck access from I-95 to industries on US 301 and reduce truck noise near residential areas in Whitakers.

The studied section of NC 44 consists of a two-lane, 20-foot pavement with 4 to 6-foot shoulders on 60-foot wide right-of-way with no control of access. Land use is predominantly agricultural and rural residential.

The existing SR 1517 (Gaskill Farm Road) is a 28-foot unpaved roadway connecting NC 44 to SR 1516. Land use along SR 1517 is mainly agricultural and rural residential.

The existing cross section of SR 1516 (Johnson Farm Road) consists of a two-lane, 20-foot pavement with 4 to 6-foot shoulders on 60 feet of right-of-way with no control of access, from SR 1517 to US 301. Land use along SR 1516 is rural residential and agricultural.

The west terminal of the project is located at the east ramps of the I-95 Interchange (See Figure 2). At the west terminal the existing cross section on NC 44, is a two-lane, 24-foot pavement with 8-foot shoulders. Land use is agricultural and recreational. Hickory Meadows Golf Course is located southeast of the I-95 Interchange.

The east terminal of the project is located at the signalized intersection of SR 1516 (Johnson Farm Road) and US 301 (See Figure 2). At this intersection, US 301 consists of a five-lane, 64-foot curb and gutter section (two northbound lanes, two southbound lanes, and one left turn lane). SR 1516 forms the west leg of the intersection, with one lane in each direction. The east leg of the intersection is the plant entrance to Consolidated Diesel. The plant entrance consists of one eastbound lane, one westbound lane, and a left turn lane. Land use is industrial and undeveloped around the intersection.

Bridge number 87, which crosses Beaverdam Swamp, is located approximately 1.0 mile east of the I-95 interchange on NC 44 (See Figure 2). The sufficiency rating of this bridge is 75.6. The prestressed concrete bridge is 90 feet long and has a clear deck width of approximately 28 feet.

Estimated 1993 Average Daily Traffic (ADT) on NC 44 is 1,200 vehicles per day (vpd). In the year 2013 anticipated traffic is estimated at 2,200 vpd. With the existing facility, traffic currently experiences a level of service (LOS) A, and is expected to experience a LOS B in 2013. With the recommended improvement, current traffic on NC 44 will experience LOS A, and is projected to experience a LOS A in the year 2013. Trucks account for 12% of the traffic on NC 44.

During the period from June 1, 1989 through May 31, 1992, a total of 25 accidents were reported along the studied section of NC 44. This resulted in an accident rate of 415.10 accidents per 100 million vehicle miles, compared to a statewide average of 196.4. Most prevalent accident types were angle collisions (24%) and objects struck (24%). Trucks accounted for 28% of the vehicles involved in accidents during the study period. The recommended improvements are expected to reduce the accident rate; and provide a safer, and a more efficient route for trucks.

### III. RECOMMENDATIONS

It is recommended that NC 44 be widened, from the I-95 Interchange to SR 1517 (Gaskill Farm Road), a distance of 3.1 miles, to a two-lane, 28-foot pavement with 8-foot shoulders, on 100-foot wide right-of-way. Also SR 1517 and SR 1516 should be realigned and upgraded, from NC 44 to US 301, a distance of approximately 1.5 miles. The intersection of NC 44 and SR 1517 should be shifted approximately 100 feet to the east of its existing location, to avoid homes on the west side of SR 1517. From the new intersection of SR 1517 and NC 44 to approximately 0.4 miles west of the US 301 and SR 1516 intersection, SR 1517 would be realigned, for a distance of 1.1 miles (See Figure 2). A two-lane, 28-foot pavement with 8-foot shoulders on 100 feet of right-of-way cross section should be utilized for this section. From approximately 0.4 miles west of the intersection of US 301 and SR 1516 to US 301, SR 1516 should be upgraded to a two-lane, 28-foot pavement with 8-foot shoulders on 100 feet of right-of-way. The junction of the realigned SR 1517 and SR 1516, from the west, will be a stop sign controlled T-intersection.

The recommended alignment will eliminate much of the truck traffic through Whitakers and provide better access between US 301 and I-95.

Total project cost is estimated at:

Right-of-way	\$ 500,000
Construction	\$2,500,000
Project Cost	\$3,000,000

Low utility conflicts are expected.

### IV. OTHER COMMENTS AND CONCERNS

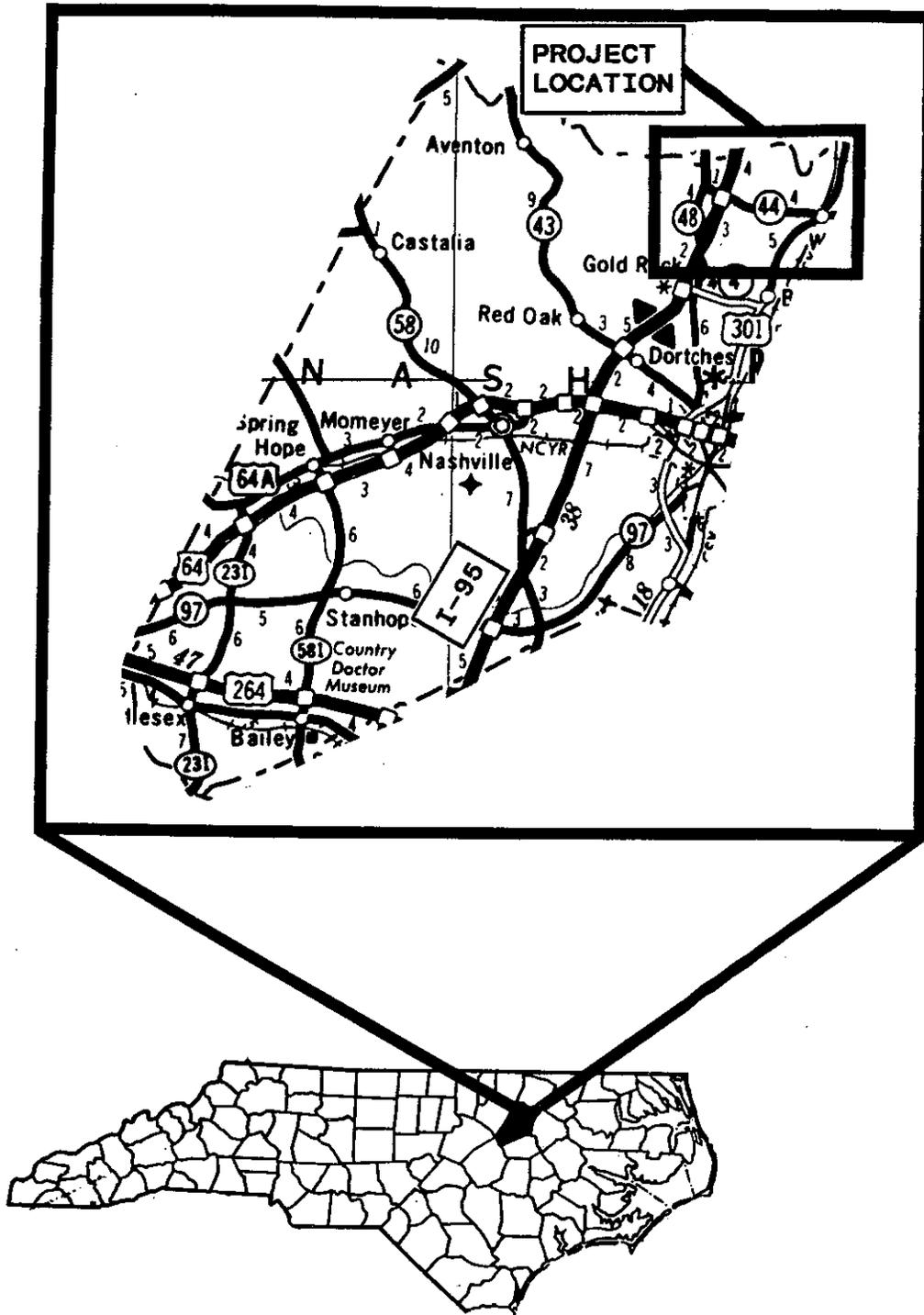
It is estimated that this project will require the relocation of two residences.

This project may require a Section 404, Corps of Engineers Nationwide Permit. No historical or architecturally significant sites are known to be in the vicinity of the proposed project. No public parks are located in the project corridor.

## V. ALTERNATIVES STUDIED BUT NOT RECOMMENDED

Two additional alternatives were studied but rejected. The first alternative proposed widening the existing NC 44 from the I-95 interchange to US 301, a distance of 5.0 miles. The proposed cross section was a two-lane, 28-foot pavement with 8-foot shoulders on 100 feet of right of way, from the I-95 interchange to the Whitakers town limits. From the Whitakers town limits to US 301 a two-lane, 28-foot, face-to-face curb and gutter section with 8-foot berms on 60 feet of right-of-way would be utilized. The estimated cost for this alternative was \$3,000,000 (\$900,000 for right-of-way and \$2,100,000 for construction). There would be an estimated five residential relocations. Although this alternative would cost the same as the recommended alternative, it was rejected because there would be more relocations than the other alternates and it does not help route truck traffic away from the residences in the Whitakers town limits. Also, within the Whitakers town limits, the proximity of the houses to the road would cause additional drainage requirements to prevent pavement runoff on private property.

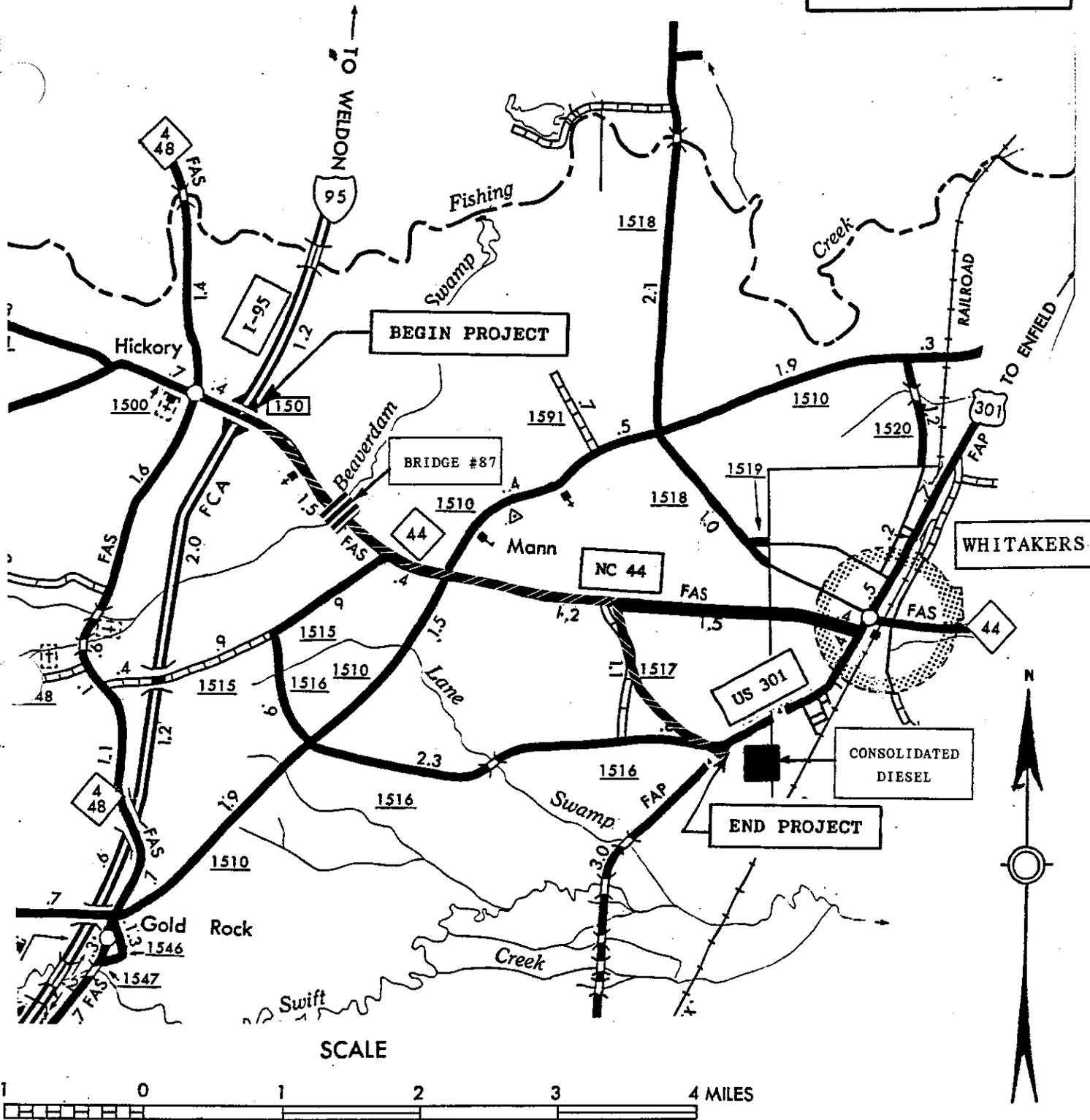
The second alternative entailed widening the existing NC 44 from the I-95 interchange to SR 1517; upgrading and realigning SR 1517, from NC 44 to SR 1516; and upgrading SR 1516, from SR 1517 to US 301. The total project length would have been 5.0 miles. The proposed cross section was a two-lane, 28-foot pavement with 8-foot shoulders on 100 feet of right-of-way. The estimated cost of this alternate was \$3,100,000 (\$600,000 for right-of-way and \$2,500,000 for construction). It was estimated that two residences would have to be relocated for this alternate. The intersection of SR 1517 and SR 1516 would have to be shifted to the west to avoid impacting the Village Heights Subdivision which is located on the north side of SR 1516, approximately 200 feet from the existing intersection. This alternate was rejected because it was slightly more expensive than the other alternates, and the alignment of SR 1517 and SR 1516 was unsatisfactory.



**FIGURE 1**

<b>FEASIBILITY STUDIES UNIT</b>	
<b>NC 44</b>	
<b>FROM I-95 TO A US 301 CONNECTOR SOUTH OF WHITAKERS</b>	
<b>NASH COUNTY</b>	
<b>R-2902</b>	<b>DIVISION 4</b>

**FIGURE 2**



<b>FEASIBILITY STUDIES UNIT</b>	
<b>NC 44</b>	
<b>FROM I-95 TO A US 301 CONNECTOR SOUTH OF WHITAKERS</b>	
<b>NASH COUNTY</b>	
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