



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 P.O. BOX 25201  
 RALEIGH 27611-5201

JAMES G. MARTIN  
 GOVERNOR

July 1, 1992

DIVISION OF HIGHWAYS

THOMAS J. HARRELSON  
 SECRETARY

WILLIAM G. MARLEY, JR., P.E.  
 STATE HIGHWAY ADMINISTRATOR

MEMORANDUM TO: Mr. Joseph Teachey, Jr., Member, Board of Transportation  
 Mr. D. J. Bowers, P. E., Division Engineer, Division 3  
 Dr. L. R. Goode, P. E.  
 Mr. C. W. Leggett, P. E.  
 Mr. J. M. Lynch, P. E.  
 Mr. A. D. Allison, II  
 Mr. L. J. Ward, P. E. (2)  
 Mr. D. R. Morton, P. E.  
 Mr. G. T. Shearin, P. E.  
 Mr. M. R. Poole, P. E.  
 Mr. A. L. Avant  
 Mr. J. D. Lane  
 Mr. M. D. Rogers, P. E.

FROM:

Whitmel H. Webb, P. E. *Whitmel H. Webb*  
 Head, Feasibility Studies Unit

SUBJECT:

Feasibility Study, NC 403 from US 117 Projected  
 (R-606) to Faison Limits. Duplin, Sampson Counties,  
 R-2815

Our staff has completed a feasibility study for the subject proposed project. This brief analysis suggests improvements that would be logical if the project were to be funded. A copy of our report is attached for your information.

WHW/td

Attachment

cc: Mr. W. G. Marley, Jr., P.E.  
 Mr. J. T. Peacock, Jr., P.E.





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FEASIBILITY STUDY

NC 403  
from US 117 Projected (R-606)  
to Faison Limits.  
Duplin, Sampson Counties  
R-2815

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



Thomas E. Devens, P.E.  
Highway Planning Engineer



Mohammed B. Mustafa  
Highway Planning Engineer

July 1, 1992

Date



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



## Feasibility Study

NC 403  
from US 117 Projected (R-606)  
to Faison Limits.  
Duplin, Sampson Counties  
R-2815

### I. GENERAL DESCRIPTION

This is a feasibility study for the widening of NC 403 for 2.2 miles from the proposed alignment of US 117 (Project R-606) to the Faison limits (See Figure 1). This study recommends symmetrically widening the existing two-lane, 24-foot pavement, to a two-lane 28-foot pavement with 8-foot usable shoulders on 100 feet of right-of-way. Estimated cost is \$1,800,000 (\$500,000 for right-of-way and \$1,300,000 for construction).

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.

This study is not an exhaustive environmental investigation.

### II. NEED FOR PROJECT

The existing studied section of NC 403 is a two-lane shoulder section with 24 feet of pavement and 6-foot unpaved shoulders on 60 feet of right-of-way. NC 403 is the principal route between Clinton, Faison, and Mount Olive. Regionally, NC 403 is a connector between the Fayetteville/Sampson County area, and the Kinston/Greenville areas. The Eastern North Carolina Chamber of Commerce has requested that NC 403 be widened to improve commercial and general use of the facility.

NC 403 is classified as a Rural Major Collector in the statewide functional classification system, and is a Federal Aid Secondary route. Land use surrounding the existing facility is agricultural. Inside the Faison western corporate limit, NC 403 is a 48-foot curb and gutter section, although parking spaces on both sides reduce the section's capacity to a two-lane facility.

Adjacent to NC 403, project R-606 is currently under construction (See Figure 2). R-606 provides a four-lane, median-divided, fully access-controlled facility from I-40 directly to Mount Olive, and is designated as US 117. US 117 will utilize the existing NC 403 interchange with I-40, and NC 403 is to intersect US 117 on the west side of the interchange. US 117



will replace NC 403 as the safest and most efficient route between Clinton, Faison, and Mount Olive. This will reduce the traffic demand on NC 403.

The North Carolina Bicycle Program has determined that no bicycle accommodations are necessary for this project.

Traffic on NC 403 is expected to decrease with the opening of US 117. However, because US 117 has full control of access, any development near the I-40 interchange must occur on NC 403. Traffic is therefore expected to decrease initially, then rise as development occurs.

The 1991 Average Daily Traffic (ADT) is 3,700 vehicles per day (vpd), which results in a current Level Of Service (LOS) B. By the design year of 2012, anticipated traffic is estimated at 7,500 vpd, which will result in a LOS D. Trucks comprise as much as 25% of total traffic. Although the recommended improvements will not increase capacity, the wider pavement will enhance safety and offer better protection to the pavement edge from truck traffic. Acquiring adequate right-of-way will allow future multilaning if development occurs at a rate which is greater than anticipated.

During the period from January 1, 1989 through December 31, 1991, a total of 26 accidents were reported along the studied portion of NC 403. This resulted in an accident rate of 258 accidents per 100 million vehicle miles, compared to a statewide average of 202. One fatality was reported. Most prevalent accident types were running off of the road (30%) and angle collisions at (19%). The recommended wider cross-section should reduce accident rates.

### III. RECOMMENDATIONS

It is recommended that NC 403 be widened to a two-lane, 28-foot pavement with 12-foot travel lanes in each direction and 8-foot usable shoulders (including 2-foot paved shoulders), from US 117 to the existing curb and gutter section at the Faison western corporate limits. The total project length is 2.2 miles. Recommended right-of-way is 100 feet with no control of access. The 100-foot right-of-way width will accommodate future widening to a 5-lane curb and gutter facility as future development occurs on NC 403.

Widening should be carried out symmetrically and asymmetrically to minimize adverse impacts. The existing alignment of NC 403 should be retained and utilized to the extent possible.



A traffic signal at the intersection of US 117 and NC 403 does not appear warranted at this time.

Total project cost is estimated at:

Right-of-Way	\$ 500,000
Construction	\$ 1,300,000
Total Project Cost	\$ 1,800,000

Low utility conflicts are expected.

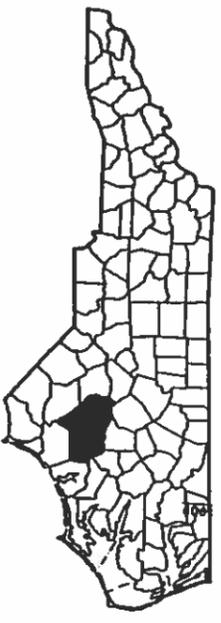
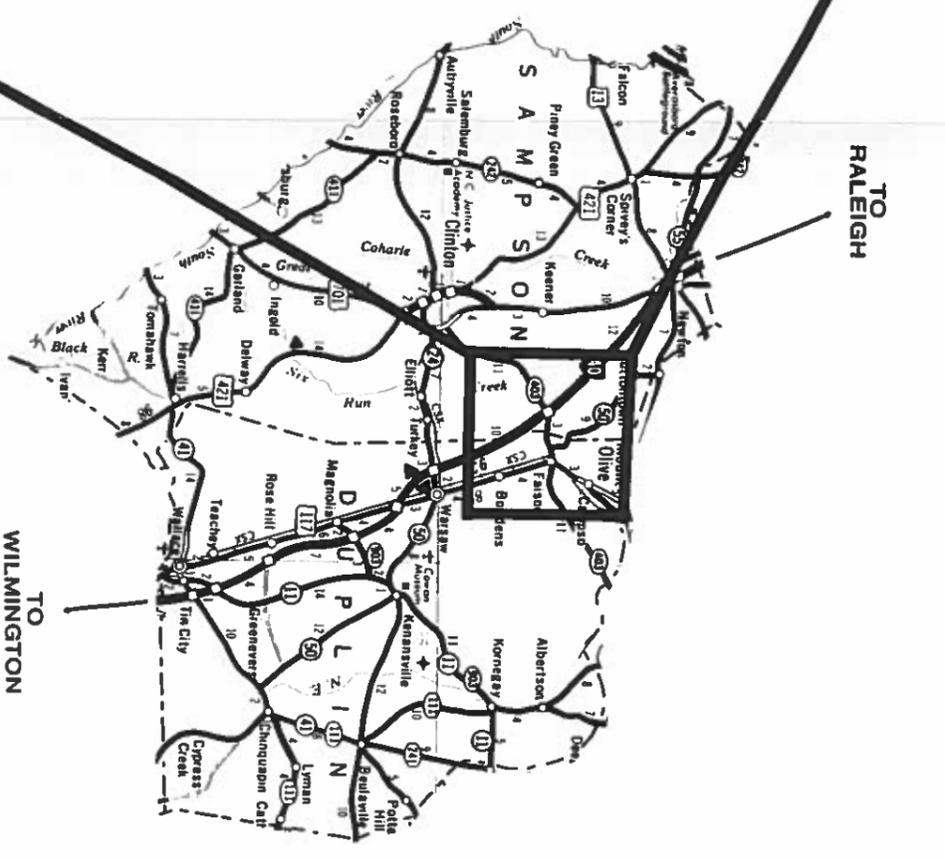
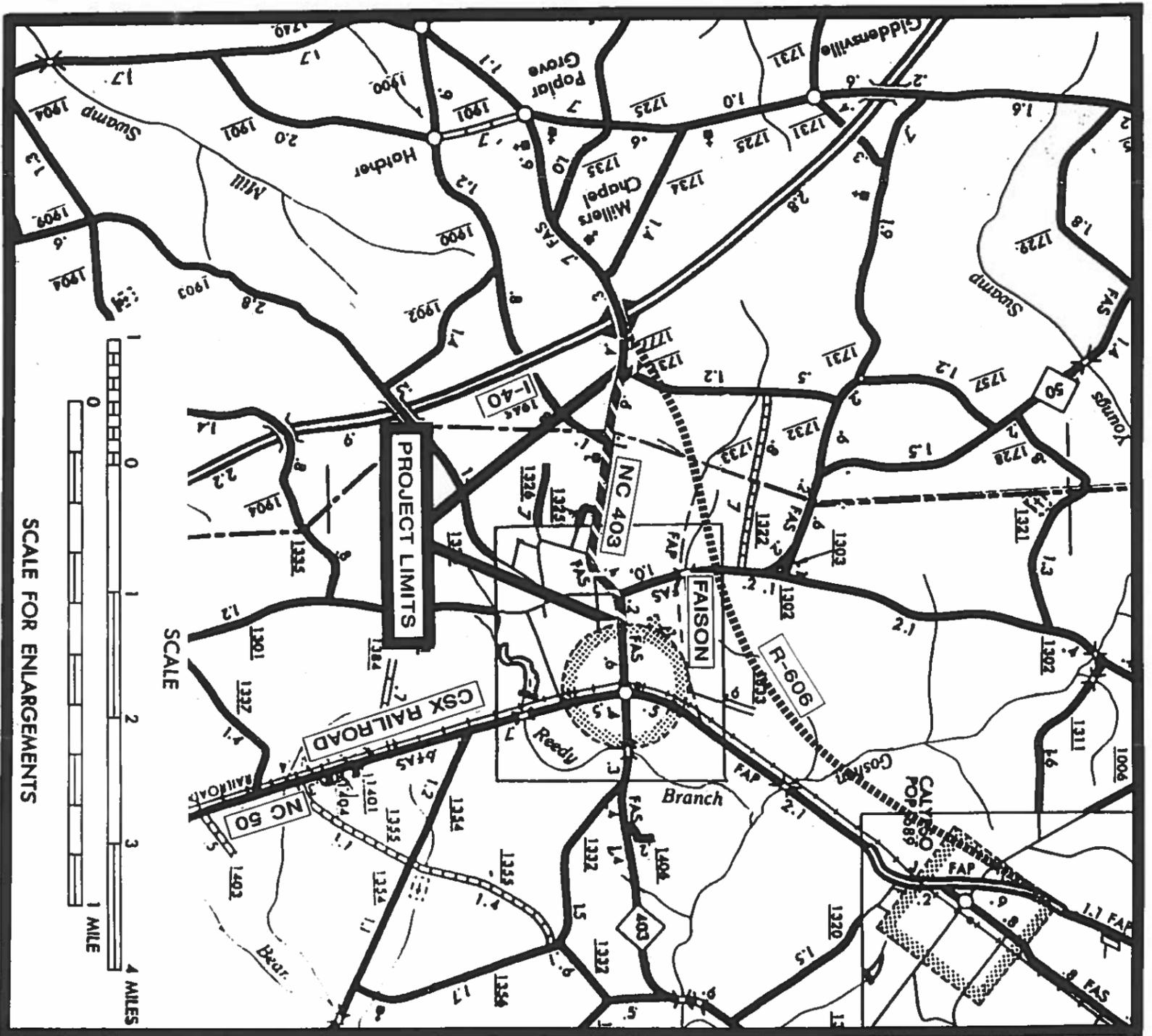
#### IV. OTHER COMMENTS AND CONCERNS

An environmental screening was not conducted for this study.

Several potentially historic properties are located just inside the Faison western corporate limits on the south side of NC 403. To avoid adverse impacts to these properties, any widening or realigning should avoid the south side of NC 403 in this area. No public parks are known to be affected.

No business or residential relocations are expected.



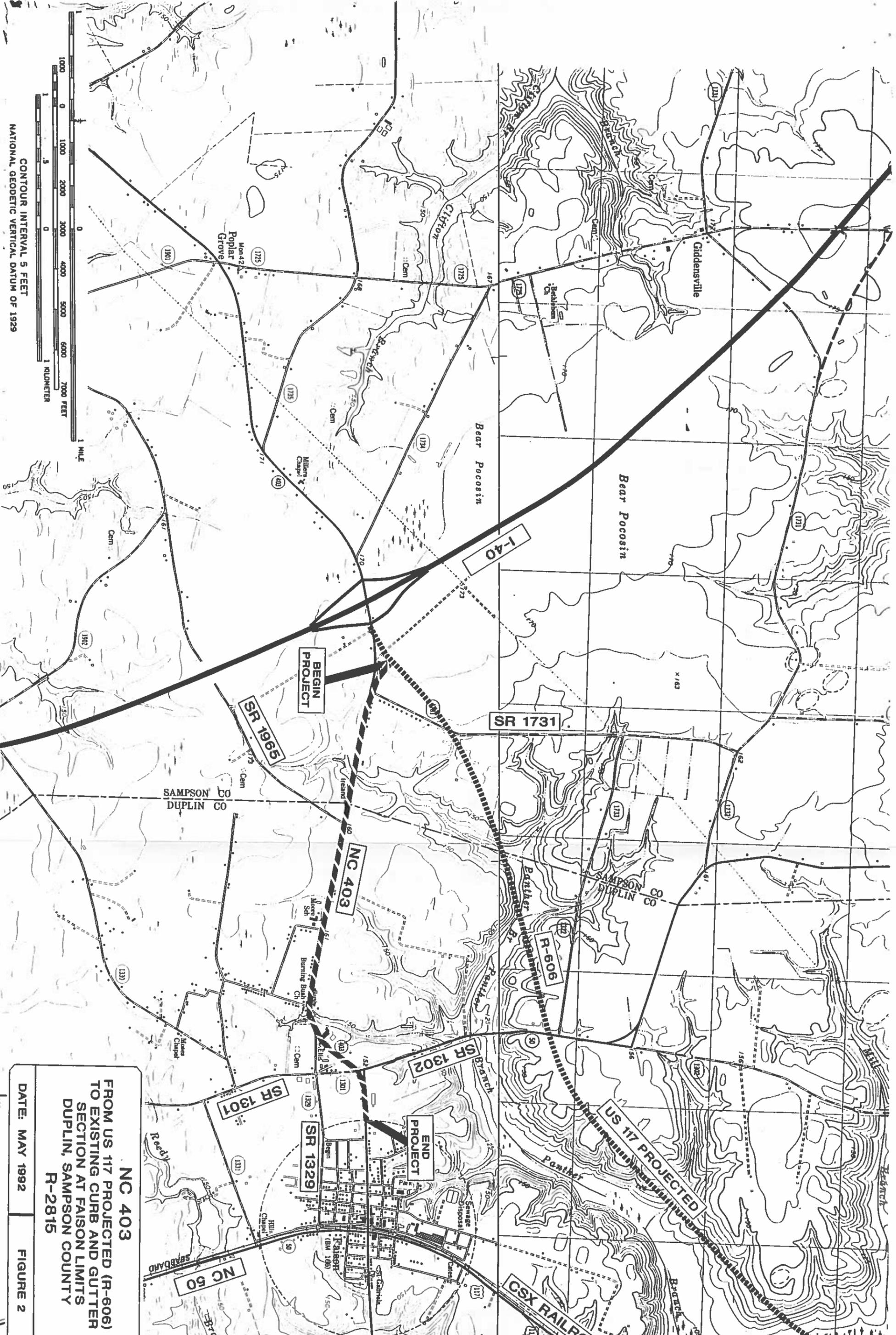


**NC 403**  
 FROM US 117 PROJECTED (R-606)  
 TO EXISTING CURB AND GUTTER  
 SECTION AT FAISON LIMITS  
 DUPLIN, SAMPSON COUNTY  
 R-2815

DATE: MAY 1992

FIGURE 1





1000 0 1000 2000 3000 4000 5000 6000 7000 FEET  
 0 1 2 3 4 5  
 1 KILOMETER  
 1 MILE  
 CONTOUR INTERVAL 5 FEET  
 NATIONAL GEODETIC VERTICAL DATUM OF 1929

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 FROM US 117 PROJECTED (R-606)  
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FIGURE 2

