

FEASIBILITY STUDY

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Henderson, Western Outer Loop
From SR 1101 to SR 1128
Vance County
U-2527

Prepared by
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9/28/90

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I. DESCRIPTION

This report covers a preliminary study of a proposed 2.5-mile Western Outer Loop connecting Belmont Drive (SR 1101) and SR 1128 around southwest Henderson (see Figure 1). This project is included in the 1990-1996 Transportation Improvement Program for feasibility study and/or right-of-way protection and is not currently funded.

The original thoroughfare plan shows the loop tying into Fairway Drive (SR 1234), but the thoroughfare plan is expected to be revised in the near future to reflect recommended changes discussed in this study.

II. PURPOSE OF PROJECT

The proposed Western Outer Loop is classified as a major thoroughfare on the adopted Henderson Thoroughfare Plan. Upon close study of traffic patterns and expected future traffic volumes, the loop would better serve traffic by tying directly into the I-85/SR 1128 interchange. The existing thoroughfare plan location shows the loop tying into SR 1234, which cuts through a golf course and existing and planned exclusive development.

As shown in Figure 2, the studied Western Outer Loop is entirely on new location. The eastern end of the proposed loop ties into existing Belmont Drive, and the western end ties into existing SR 1128. Both adjoining roads are 22-foot, 2-lane paved facilities. The existing pavement along Belmont Drive is in fair condition.

The proposed loop will pass across an old railroad bed (abandoned in 1983) and two creeks: Red Bud Creek which is a source of water supply for Henderson and Vance County, and Ruin Creek. One cemetery is located in the vicinity where the loop will cross US 158 Business. The project area is generally undeveloped woodlands.

Need for Project

A western outer loop facility is greatly needed to alleviate congestion on radial roads and to provide a more direct route on the western side of Henderson and important connection between I-85 and US 1 Business.

The construction of a high school (scheduled for the late 1990's) located on the east side of town (see Figure 3) will increase the need for a western loop.

III. RECOMMENDATIONS AND COSTS

Design

The recommended basic cross section for the proposed western outer loop is a 2-lane, 24-foot pavement with minimum 8-foot shoulders on a sufficient right-of-way to accommodate a future 5-lane urban section. This cross section is consistent with the anticipated traffic volumes. It is also recommended Belmont Drive be resurfaced. A traffic signal is anticipated at the intersection of US 1 Business and Belmont Drive, and one may be required at the intersection of US 158 Business and the proposed outer loop. Left turn lanes should be provided at this and other critical locations. Culverts are anticipated at Red Bud Creek and at Ruin Creek.

The northern end of the loop would tie into SR 1128 near the diamond-type interchange with I-85. The existing 2-lane road is carried across a 34-foot wide bridge over I-85. Left turn lanes are provided at the ramp terminals which are stop-sign controlled. The interchange geometrics are adequate, and no improvements to the interchange are anticipated.

The volume of traffic that would utilize this route in the year 2010 is estimated at 9500 vehicles per day (vpd).

Estimated right-of-way width used for cost estimate purposes is 150 feet throughout the studied project length.

Costs

The estimated costs of the recommended improvements are as follows:

<u>Construction Cost</u>	<u>Right-of-Way Cost</u>	<u>Total Cost</u>
\$ 3,500,000	\$ 650,000	\$ 4,150,000

Cost estimates were prepared by the Preliminary Estimate Engineer and the Right-of-Way Branch.

IV. OTHER COMMENTS

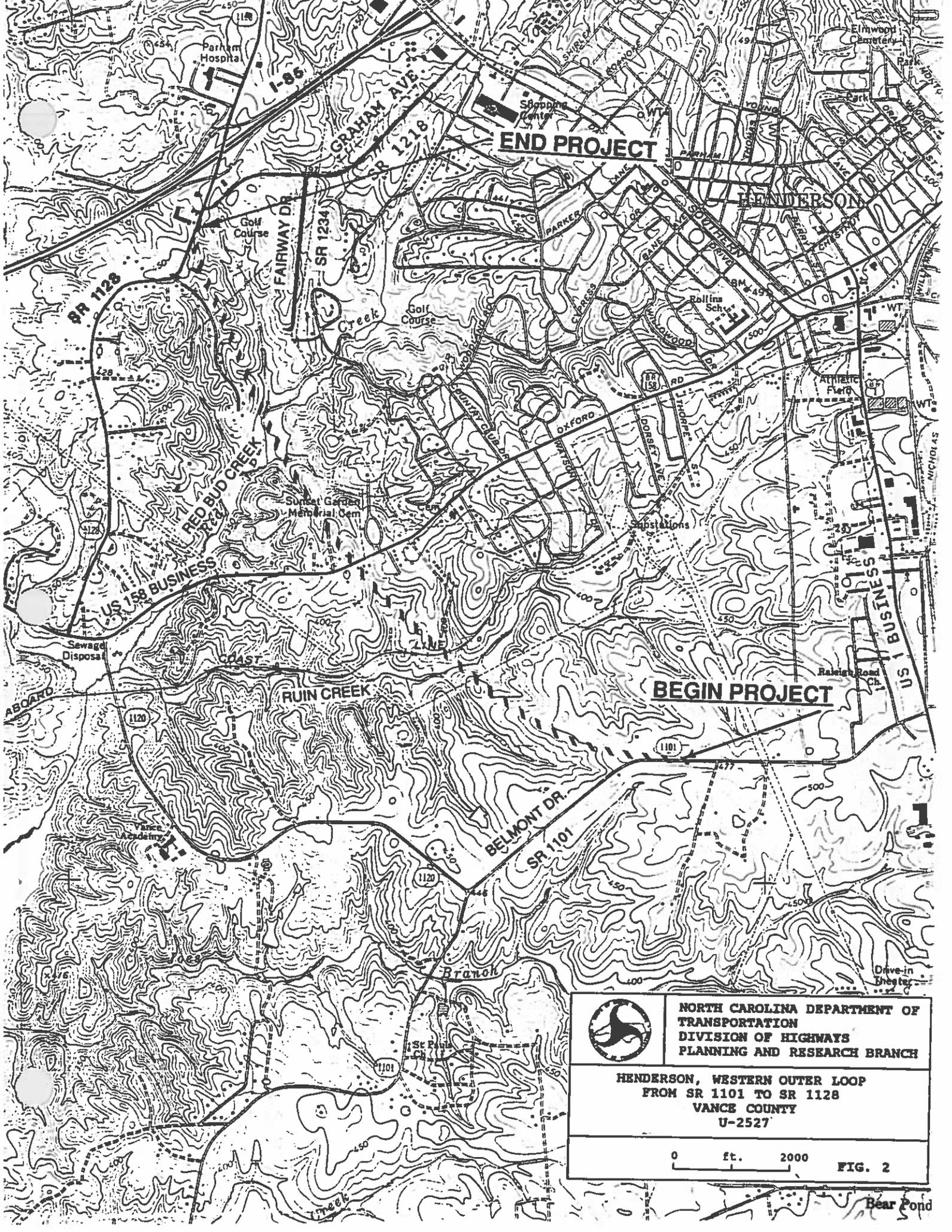
From considerations of existing terrain and development, and traffic service, no other alternative locations were found to be more feasible and desirable.

The original thoroughfare plan location connecting the proposed loop with SR 1234 is not desirable because it would require indirectional and inconvenient movement to the Interstate route, which would likely be a major feeder of the loop system. In addition, this location would unload a significant volume of traffic onto SR 1234 which is surrounded by high quality residential and recreational development.

Possible negative environmental impacts of the proposed loop are as follows: (1) loss of wildlife habitat; (2) loss of forested land; (3) loss of wetlands at Red Bud Creek and Ruin creek; and (4) relocation of 3 residences.

If the project is to be implemented in the future, all feasible alternatives and their associated impacts will need to be evaluated in a planning and environmental document prior to that time, and a final decision made as to the most appropriate improvement.

AS/plr



END PROJECT

HENDERSON

BEGIN PROJECT



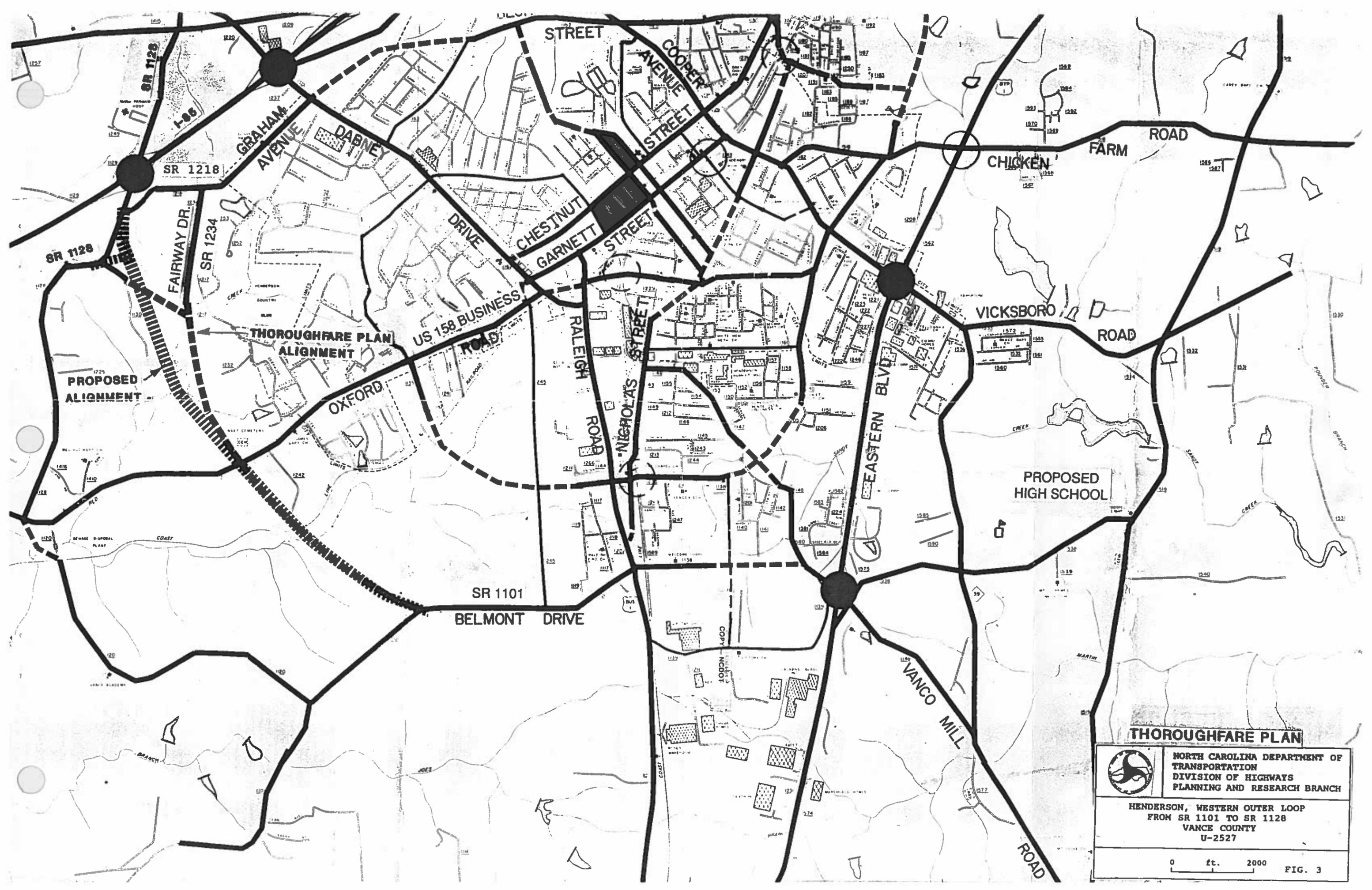
**NORTH CAROLINA DEPARTMENT OF
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PLANNING AND RESEARCH BRANCH**

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FIG. 2

Bear Pond



PROPOSED ALIGNMENT

THOROUGHFARE PLAN ALIGNMENT

PROPOSED HIGH SCHOOL

THOROUGHFARE PLAN



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0 ft. 2000

FIG. 3