FEASIBILITY STUDY

Leland

SR 1472 (Village Road)
from SR 1435 (S. Navassa Road)
to SR 1438 (Lanvale Road)

Brunswick County

Division 3

FS-9903B

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

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Date

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SR 1472 (Village Road)
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I. GENERAL DESCRIPTION

This feasibility study evaluates the potential for the widening of SR 1472 (Village Road), from SR 1435 (S. Navassa Road) to SR 1438 (Lanvale Road) in Leland, Brunswick County (see Figure 1). The project is approximately 3.4 miles (5.5 km) in length.

The studied typical section is a five-lane, curb and gutter section with 10-foot (3.0-m) wide berms on both sides. A 100-foot (30.5-m) wide right-of-way with no control of access is recommended. The estimated cost of the project is $11,850,000 ($3,850,000 for right-of-way and $8,000,000 for construction).

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

II. NEED FOR PROJECT

This project was requested by Brunswick County and the Town of Leland. The studied improvements are needed to increase the traffic carrying capacity and reduce accident potential on Village Road.

Village Road is classified as a major collector on the Statewide Functional Classification System and a major thoroughfare on the Wilmington Thoroughfare Plan.

Existing Village Road within the project limits is generally a 2-lane, 24-foot (7.3-m) shoulder section with 8-foot (2.4-m) wide soil shoulders. Land use along the studied corridor consists of mostly residential developments with some light commercial establishments.

Estimated 1999 average daily traffic (ADT) on Village Road varies from 4,600 vehicles per day (vpd) near SR 1438 (Lanvale Road) to 10,200 vpd near SR 1435 (S. Navassa Road). In the design year 2025, the traffic volume is estimated to range from 8,800 to 17,200 vpd. The existing Village Road is operating at a level of service (LOS) D, and is anticipated to operate at a LOS E in the design year 2025. With the recommended improvements, existing traffic on Village Road would operate at LOS A and in the design year, LOS B.

During the period from April, 1995, through March, 1998, there were 108 accidents reported along Village Road. This resulted in an accident rate of 347 accidents per 100 million vehicle miles (acc/100mvm) compared to a statewide average of 247.7 acc/100mvm for this type of facility. One fatality and 46 injuries were report during this period. Rear-end slow or stop type of accidents accounted for 37% of all the accidents. The recommended improvements are expected to reduce the accident rate.

The CSX Railroad has one track crossing the project corridor. The track carries two trains per day at an average speed of 25 miles per hour (40 kmh). The exposure index, a product of the design year traffic and the number of trains per day, at this location is 17,600, which is slightly above the threshold of 15,000 that warrants a grade separation in a rural area. However, SR 1472 crosses the railroad track at a very skewed angle, and the railroad crossing is adjacent to three intersections (see Figure 2). A railroad grade separation would greatly change the geometry of the streets in the immediate vicinity; It would also entail the relocation of the post office and the loss of access to the park from Village Road. It is recommended that this crossing remain at grade and that it be protected with signals and gates.

III. RECOMMENDED IMPROVEMENTS

It is proposed to widen 1472 (Village Road) in Leland to multi-lanes from SR 1435 (S. Navassa Road) to SR 1455 (Lincoln Road), a length of approximately 2.7 miles (4.3 km). No widening on the section of Village Road from SR 1455 to SR 1438 is recommended (see Figure 1). This section of the roadway is parallel and close to the railroad. The bridge on US 74/76 over Village Road does not have adequate lateral under-clearance to accommodate the widening. The design year LOS for this section is estimated to be LOS D.

The studied typical section is a five-lane, curb and gutter section with 10-foot (3.0-m) wide berms on both sides. A 100-foot (30.5-m) wide right-of-way with no control of access is recommended. There would be two 12-foot (3.7-m) wide lanes in each direction and a 12-foot (3.7-m) wide center turn lane. Bridge Number 208 over Sturgeon Creek will need to be widened to have a clear roadway width of 64 feet (19.5 m) with a 5-foot (1.5-m) sidewalk on both sides. Widening would be symmetrical to the existing roadway.

The approach of SR 1455 should be realigned to improve its intersection with Village Road (see Figure 2).

The intersection of Village Road and Lanvale Road should also be improved to accommodate the demand of traffic traveling between Village Road and the US 74/76 interchange at Lanvale Road. A right-turn lane should be added to Village Road, and Lanvale Road should be widened to include a left-turn lane on the southbound approach.

Moderate utility conflicts are expected.

It is estimated that this project would require the relocation of 8 residences and 7 businesses.

Total project cost is estimated as follows:

Right-of-Way	$ 3,850,000
Construction	$ 8,000,000
Total Cost	$11,850,000

A transportation benefit analysis was also completed for this project. For the period between 1999 and design year 2025, it is estimated that the total transportation benefits for the project are $26,230,000 with an average of $1,010,000 per year. The total benefits include accident cost savings, time cost savings, and operating cost savings.

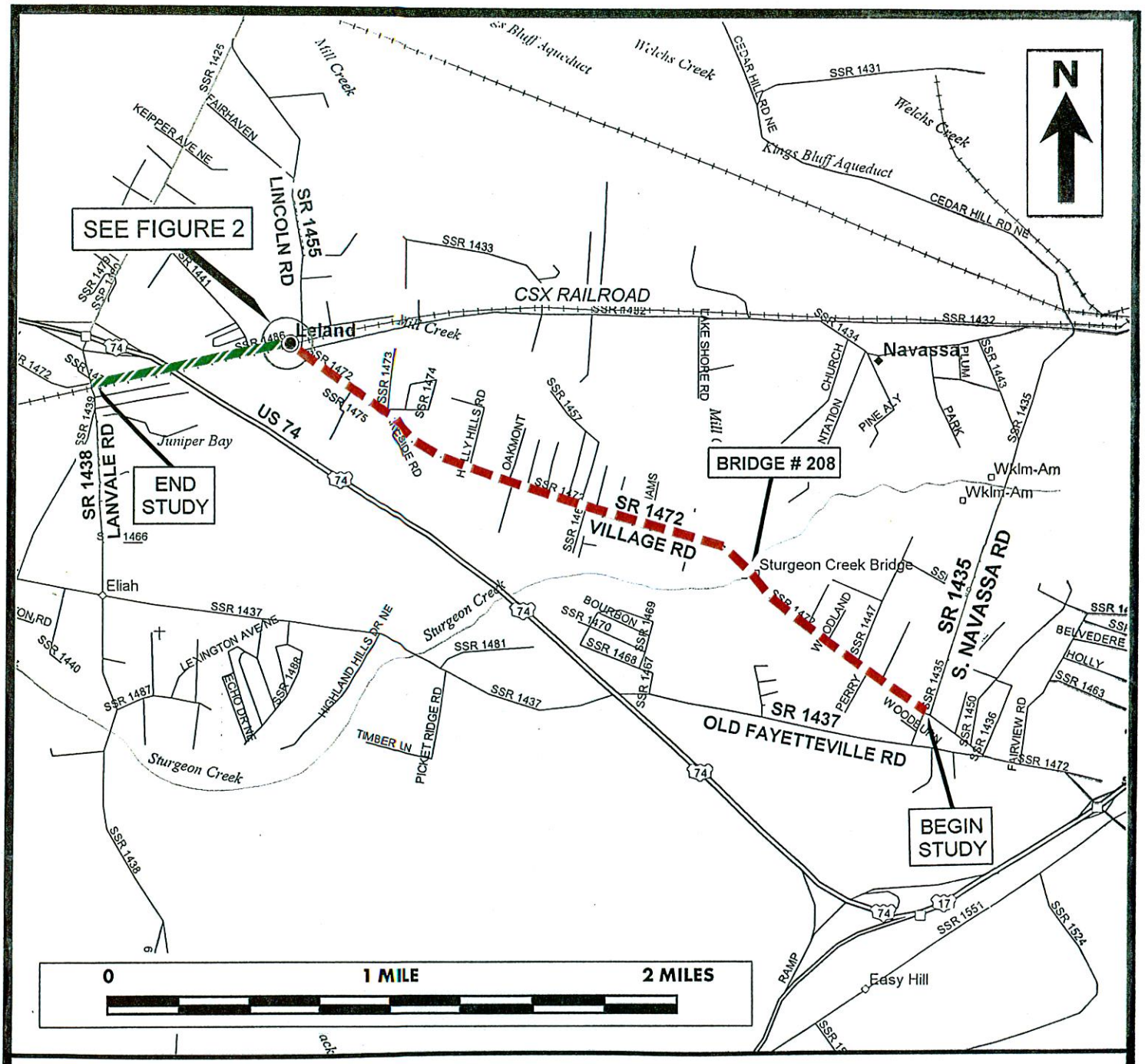
IV. OTHER COMMENTS AND CONCERNS

No historical or architecturally significant sites have been identified in the project corridor.

Based on maps available at the Department of Environment, Health, and Natural Resources - Natural Heritage Section, no threatened or endangered species were identified in the project corridor.

A small quantity of wetland is impacted by this project. The cost of wetland mitigation is not included in the total cost of the project.

The NCDOT Office of Bicycle and Pedestrian Transportation has not identified Village Road as a roadway that has need for special accommodations for bicycles.



LEGEND
RECOMMENDED WIDENING
NO RECOMMENDED WIDENING

North Carolina Department of Transportation
Program Development Branch

FS-9903B

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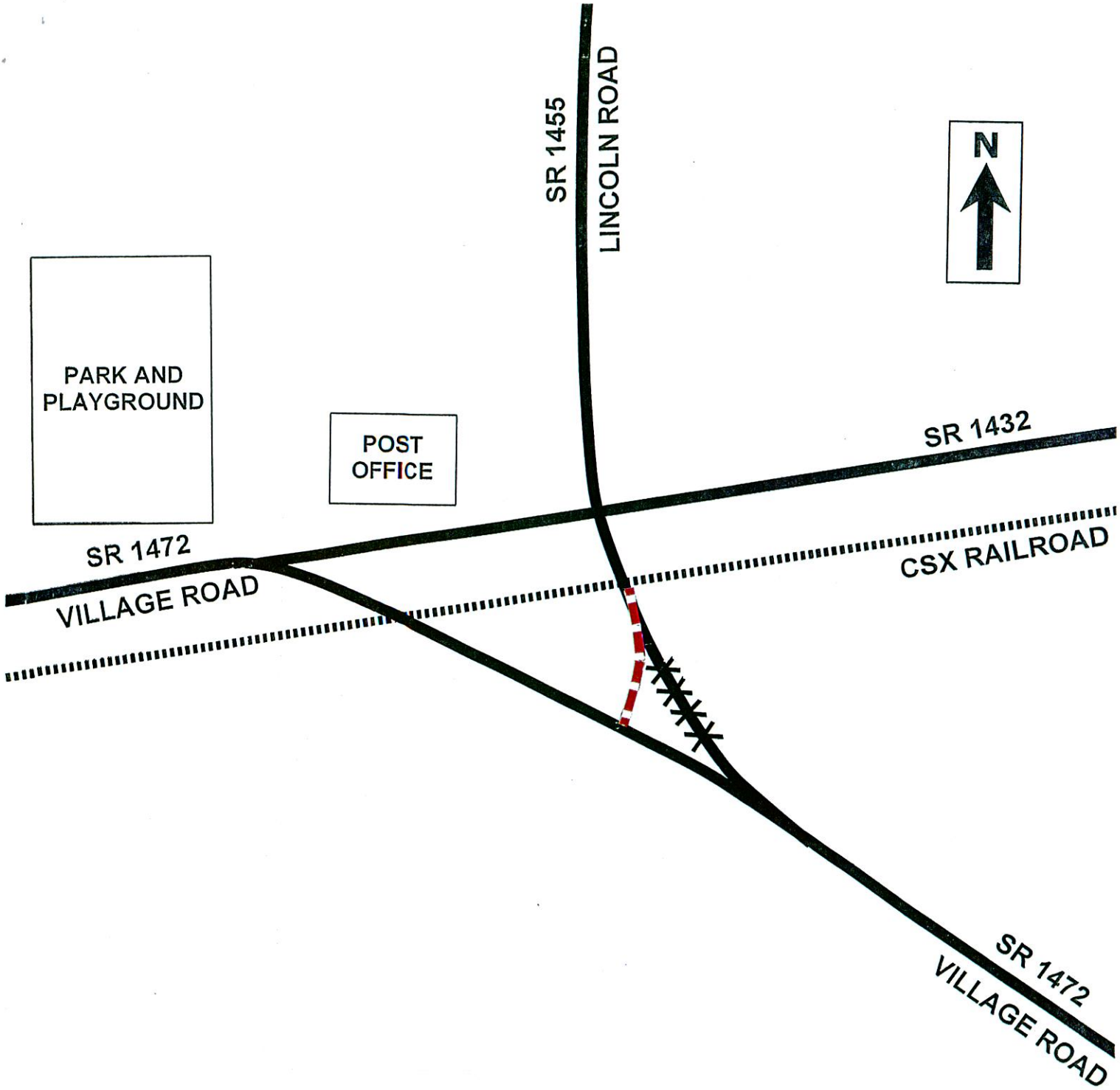
Leland, Brunswick County

DIVISION 3 FIGURE 1



NOT TO SCALE

LEGEND	
	NEW ALIGNMENT
XXXX	PAVEMENT REMOVAL

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Leland, Brunswick County

DIVISION 3 FIGURE 2