

FEASIBILITY STUDY

NC 11

From NC 903 to US 13 Bypass of Ahoskie  
Martin, Bertie, and Hertford Counties

R-2900

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



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Date

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### I. GENERAL DESCRIPTION

This is a Feasibility Study for the widening of NC 11 from NC 903 in Martin County, to NC 13 Bypass of Ahoskie in Hertford County (see Figures 1 and 2). The recommended typical cross-section is a four-lane highway divided by a 46-foot (14-meter) median. The widening would retain, and utilize the existing alignment to the extent possible.

A minimum right-of-way width of 250 feet (76.2 meters) is recommended. It is also recommended that partial control of access (one, or more access points per parcel) be acquired where additional right-of-way is needed.

Total project length is approximately 29 miles (46.8 kilometers). Estimated total project cost is \$71,400,000 (\$4,800,000 for right-of-way, and \$66,600,000 for construction).

This study is not a detailed planning/environmental investigation. A feasibility study presents recommended typical cross sections, general alignments, and estimated cost of the improvement. The study also attempts to provide an early identification of potential environmental, permitting, or other issues which deserve consideration in the planning and construction stages.

### II. EXISTING CONDITIONS & NEED FOR PROJECT

This project was requested by the Hertford County Industrial Development Commission, the Town of Ahoskie, and the Ahoskie Chamber of Commerce. This project does not merit a high priority at the present, based on estimates of current and future traffic volumes. However, NC 11 is an important highway in eastern North Carolina, linking numerous rural communities to major highways and population centers. The north-south corridor served by NC 11 is generally midway between US 17 to the east, and I-95 and I-40 to the west.

NC 11 is classified as a rural Major Collector in the statewide functional classification system. The studied portion of NC 11 is a two-lane, 24-foot (7.2-meter) pavement with 8 to 10-foot (2.4 to 3.0-meter) shoulders. Claimed right-of-way width is estimated at 100 feet (30.5 meters) from the southern terminal of the study to Lewiston Woodville. From Lewiston Woodville to the north terminal of the project, the existing pavement is offset within the existing right-of-way. Along this portion, claimed right-of-way width is estimated to vary from 150 to 400 feet (45.7 to 122 meters). Access is not controlled south of Lewiston Woodville. Access to the roadway north of Lewiston Woodville is partially controlled. The speed limit along this section of NC 11 is 55 mph (89 kmph).

It is estimated that the average daily traffic (ADT) for 1994 along this portion of NC 11 varies between 3,600 vehicles per day (vpd) near the south terminal, and 6,400 vpd near the north terminal. Traffic volumes are estimated to grow to 5,400 vpd, and 11,400 vpd respectively by 2014.

Under existing conditions, it is estimated that the subject roadway is offering a level-of-service (LOS) of C or better during the peak hour. It is expected to offer LOS D or better by the year 2014. With the recommended widening, the roadway would offer LOS A throughout the 20-year design period.

During the period from September 1989 to September 1992, a total of 205 accidents, including 10 that resulted in fatalities were reported on the studied portion of NC 11. The resulting total accident rate was 108 accidents per 100 million vehicle-miles, compared to a statewide average of 196.4 accidents per 100 million vehicle-miles on similar routes. These accidents included 58 involving angle collisions, 28 involving vehicles that ran off the road, and 22 involving rear-end collisions. Of the 58 accidents involving angle collisions, 19 occurred in the vicinity of the NC 561 intersection. The recommended improvements would reduce the number of accidents through reducing conflicting turns.

The southern terminal of this study is at the north terminal for project R-2700, which is programmed for right-of-way acquisition to begin in fiscal year 2000. Feasibility study R-2700 recommendations include the widening of NC 11 to four lanes with a 46-foot median, from north of Bethel to NC 903.

The north terminal of this study intersects project R-2205 which includes a multi-lane US 13 with a bypass of Ahoskie on a new location (see Figure 2). Project R-2205 is programmed for right-of-way acquisition to begin in fiscal year 1996, and construction to begin in fiscal year 1998.

The portion of NC 11 included in this study was divided into four sections (see Figure 2) to simplify programming, and prioritizing.

Priority, based on traffic demand is highest for Section 4, and in descending order, Sections 3, 2, and 1.

Section 1: From NC 903 in Martin County to NC 308 at Lewiston Woodville, Bertie County. Total length of this section is 10.4 miles. Claimed right-of-way south of Lewiston Woodville is estimated to be 100 feet (30.5 meters) wide, without access control. Through Lewiston Woodville, claimed right-of-way width varies from 175 to 210 feet (53.4 to 64.0 meters) with partial access control.

Section 2: From NC 308 at Lewiston Woodville to NC 305 at Aulander, Bertie County. Total length of this section is 7.9 miles. Claimed right-of-way width varies from 210 to 260 feet (64.0 to 79.3 meters) with partial access control.

Section 3: From NC 305 at Aulander, Bertie County to NC 42 west of Ahoskie, Hertford County. Total length of this section is 5.1 miles. Claimed right-of-way width varies from 210 to 400 feet (64.0 to 122.0 meters) with partial access control.

Section 4: From NC 42 west of Ahoskie, to US 13 Bypass north of Ahoskie, Hertford County. Total length of this section 5.6 miles. Claimed right-of-way width varies from 300 to 400 feet (91.5 to 122.0 meters) with full access control. There are no driveways to adjoining properties. This section also contains sufficient right-of-way for future interchanges at the intersections with NC 561, and NC 11.

### III. RECOMMENDATIONS

It is recommended that NC 11 from NC 903 north of Oak City to US 13 Bypass of Ahoskie be widened to a four-lane, median-divided highway. The recommended typical cross-section consists of two 24-foot (7.2-meter) pavements with 12-foot (3.6-meter) usable outside shoulders, including 4-foot (1.2-meter) paved shoulders; separated by a 46-foot (14.0-meter) median. The 46-foot (14.0-meter) median width includes 2-foot (0.6-meter) paved inside shoulders per direction of travel. The existing pavement and alignment are to be retained and utilized to the extent possible. The widening is to be accomplished by constructing the median, and the new pavement adjacent to the existing roadway, which would be resurfaced. The side of roadway on which the new lanes are to be constructed, will be identified at the planning/preliminary design phase.

Right-of-way width needed to accommodate the widened roadway, and drainage ditches is 250 feet. Therefore, along the existing alignment, additional right-of-way would be acquired asymmetrically about the centerline of the existing roadway.

Partial control of access (one, or more access points per parcel) is recommended along the project. Therefore, partial control of access would be acquired where none is present. This is necessary to preserve the utility of the improvement to through traffic.

It is recommended that interchanges be constructed at the intersections of the studied roadway with NC 561, and with NC 11. The necessary right-of-way for these two interchanges is in place. As stated earlier, access throughout Section 4 is fully controlled. Therefore, it is recommended that grade-separations (bridges) be constructed to carry SR 1108, and SR 1130 over the widened NC 11. It is also recommended that a grade-separation be constructed to carry the widened roadway over the CSX railroad tracks at Aulander. The tracks currently carry two trains daily. The resulting exposure index is 16,000, based on an estimated year 2014 ADT of 8,000 vpd. All other at-grade intersections are to remain stop-sign controlled, except for the NC 42 intersection which would be signalized.

#### IV. COST ESTIMATES

Estimated cost of the recommended improvements:

Section	Length (miles)	Right-of-way & Utilities	Construction	Section Total
1	10.4	\$2,800,000	\$25,000,000	\$27,800,000
2	7.9	\$1,000,000	\$13,000,000	\$14,000,000
3	5.1	\$1,000,000	\$ 9,300,000	\$10,300,000
4	5.6	0	\$19,300,000	\$19,300,000
Total project cost		\$4,800,000	\$66,600,000	\$71,400,000

## V. OTHER COMMENTS & CONCERNS

It is anticipated that the project would impact a substantial acreage of wetlands, and require the relocation of approximately 21 residences and 1 business.

The intersections of NC 11 with NC 561, and of NC 11 with SR 1212 and SR 1213 (near the north terminal of the project) have a relatively high number of accidents. During the period beginning in September 1990 through August 1993, 23 accidents, including three fatal accidents were reported at the NC 561 intersection. During the same time period, 23 accidents, including two fatal accidents were reported at the SR 1212/SR 1213 intersection. The Traffic Engineering Branch is currently studying safety improvements to these intersections that should reduce the number, and severity of future accidents. The improvements may include flashing caution signs and signalization. However, if further improvements prove necessary, then interchange justification studies will be undertaken. It is estimated that the construction of each interchange would cost \$4,500,000.

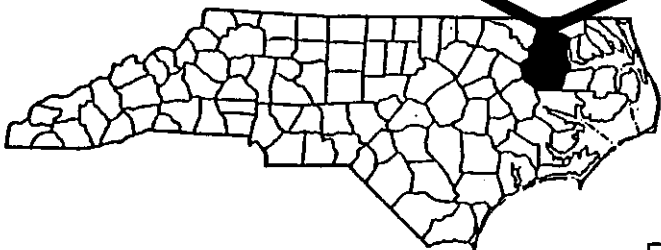
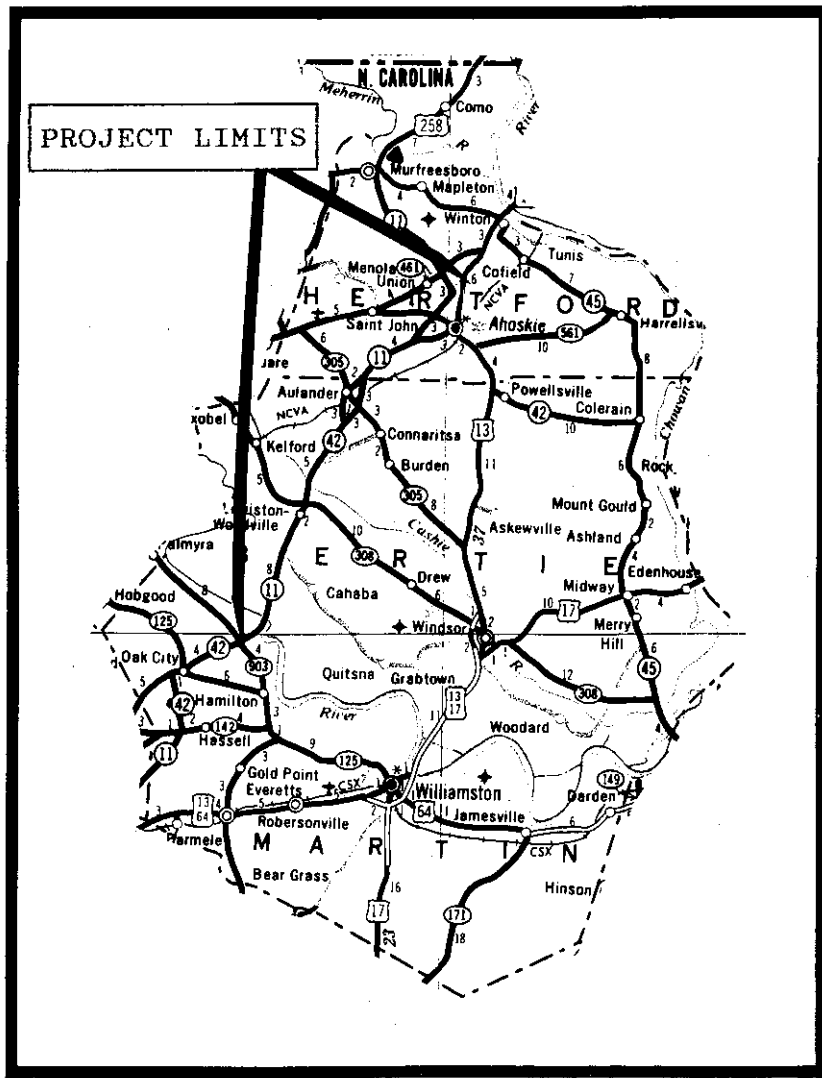
During the planning/preliminary design stage of the project, the following historic properties will be taken into consideration in determining the side of the road where widening is to take place:

The King-Casper-Ward-Bazemore House, located on the northwest side of NC 11, at the intersection with NC 42. This property is included in the National Register of Historic Places (NR), NR number 848.

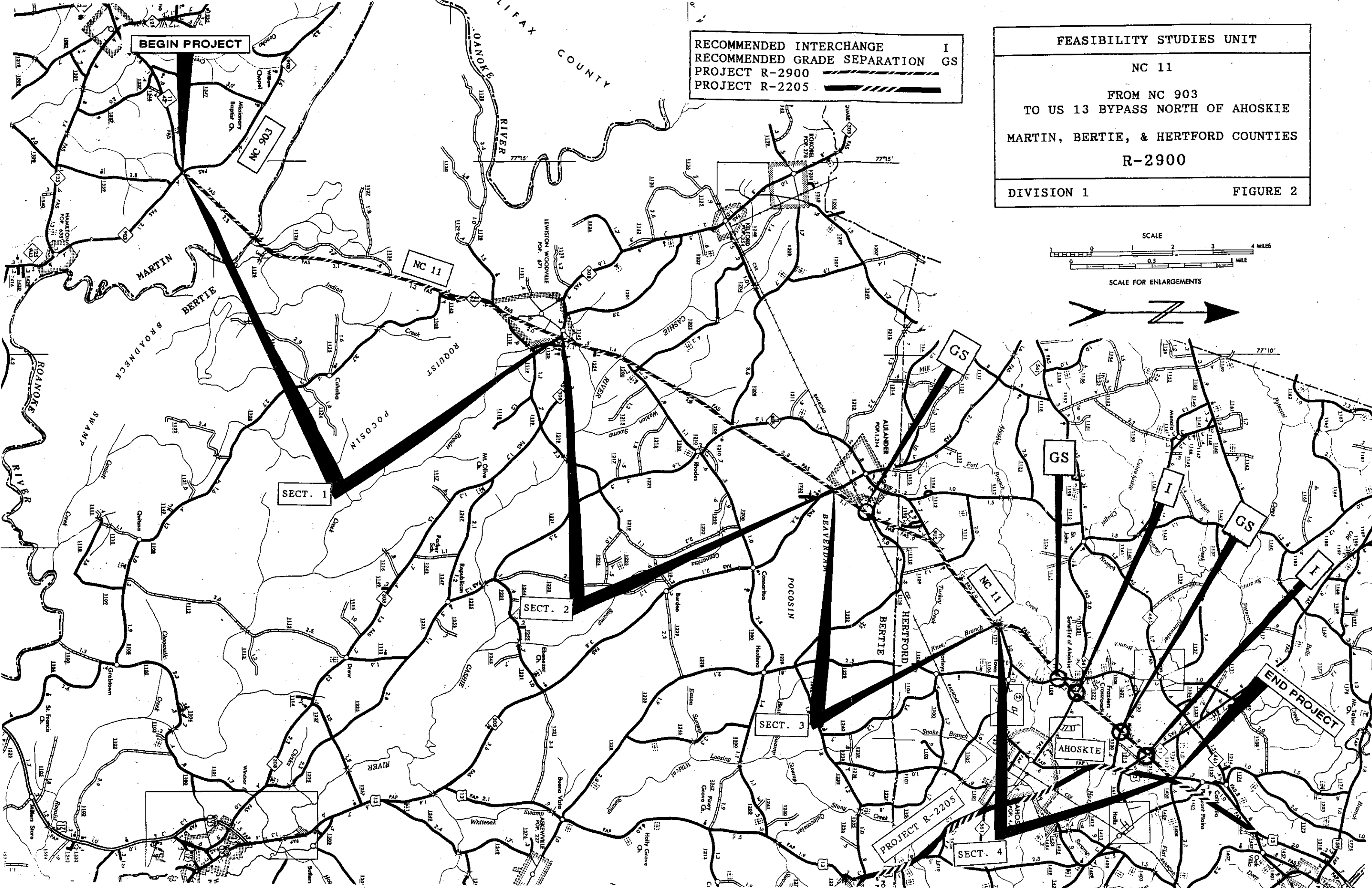
The James Newsome House (Wynnewood), located on the northwest side of NC 11, at the intersection with NC 42. This property is included in the NR, NR number 988.

The William Mitchell House, located northeast of the intersection of NC 11 and NC 42. This property is included in the NR, NR number 235.

The permitting requirements, and compliance with Section 4(f) of the DOT Act, Section 106 of the National Historic Preservation Act, or GS 121-12 (a) would depend on the assessed impacts of the final design, and type of funding for this project.



FEASIBILITY STUDIES UNIT	
NC 11	
FROM NC 903 TO US 13 BYPASS NORTH OF AHOSKIE	
MARTIN, BERTIE, & HERTFORD COUNTIES	
R-2900	
DIVISION 1	FIGURE 1

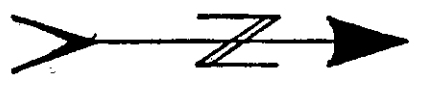


BEGIN PROJECT

RECOMMENDED INTERCHANGE I  
 RECOMMENDED GRADE SEPARATION GS  
 PROJECT R-2900  
 PROJECT R-2205

FEASIBILITY STUDIES UNIT  
 NC 11  
 FROM NC 903  
 TO US 13 BYPASS NORTH OF AHOSKIE  
 MARTIN, BERTIE, & HERTFORD COUNTIES  
 R-2900  
 DIVISION 1      FIGURE 2

SCALE  
 0 1 2 3 4 MILES  
 0 0.5 1 MILE  
 SCALE FOR ENLARGEMENTS



SECT. 1

SECT. 2

SECT. 3

SECT. 4

END PROJECT

