

FEASIBILITY STUDY

NC 5 from US 1 in Aberdeen to South City Limits in Pinehurst

Moore County

Division 8

FS-0108B



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

A handwritten signature in black ink that reads "Ron Hairr".

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5/19/03
Date

Moore County

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I. General Description

This feasibility study describes the recommended improvements to NC 5 in Moore County. The project study limits (see Figure 1) are from US 1 in Aberdeen to the South City Limits in Pinehurst, a distance of 4.0 miles. Without improvements, this section of NC 5 would operate at LOS E by 2030. To improve the level-of-service, it is recommended that NC 5 be widened to a four-lane divided curb and gutter facility from US 1 to the South City Limits of Pinehurst on 100 feet of right of way.

For the purposes of this study, the studied portion of NC 5 was divided into two sections. Section 1 begins at US 1 (southern end of the study) and ends at Shepherd Trail. Section 2 begins at Shepherd Trail and continues to the intersection of Dawkins Street/Olivia Lane.

It is anticipated that there will be no residential or business relocations due to this project. A preliminary estimate of cost was prepared by NCDOT. This estimate includes approximately \$13,400,000 for construction and \$3,100,000 for ROW for a total cost of \$16,500,000.

Construction.....	\$13,400,000
Right-of-Way.....	\$3,100,000
Total Cost	\$16,500,000

At the request of the Village of Pinehurst, we have evaluated roadway improvements to NC 5 from Dawkins Street/Olivia Lane to NC 211 (identified as Section 3), and include the associated cost and impacts in this study (See the Other Alternates Considered section). Given the cultural and social impacts to the historic areas in the Village of Pinehurst, we anticipate that improvements to NC 5 in this area will pose significant planning and design challenges. Therefore, consideration should be given to performing additional studies of an urban bypass facility of NC 5 to the west of Pinehurst.

II. Need for the Project

The purpose of this project is to increase the traffic carrying capacity of NC 5 from US 1 in Aberdeen to the Southern City Limits of Pinehurst in Moore County.

NC 5 is designated as a major thoroughfare in the current Aberdeen, Pinehurst, and Southern Pines Thoroughfare Plan, which was adopted in 1990, and is a minor arterial in the North Carolina Statewide Functional Classification System.

NC 5 between US 1 and the South City Limits of Pinehurst (Sections 1 & 2) is currently a two-lane, 22-foot wide facility with 5-foot unpaved shoulders on each side for most of the project. At the beginning of the project in Aberdeen, the roadway width varies from 24 feet to 56 feet to accommodate turn lanes. The intersection of US 1 and NC 5 is a signalized intersection.

NC 5 between the South City Limits of Pinehurst and NC 211 (Section 3) has the same configuration as NC 5 within the study limits. At NC 211 in Pinehurst, the pavement width widens to accommodate a turn lane. Additional turn lanes are provided at select locations along the corridor, including Pinehurst Street, Monticello Drive, and Morganton Road. There are five signalized intersections along the corridor. These intersections are at US 1, Monticello Drive, Morganton Road, NC 2, and NC 211.

Currently, the traffic estimates (2001) range between 8,200 and 16,500 vehicles per day (vpd) with the highest volumes recorded between NC 2 and Monticello Drive in the section under consideration as an additional alternate (see Figure 2a).

Traffic projections estimate the 2030 volumes to range between 16,000 and 30,300 vpd for this section of NC 5 (see Figure 2b).

The 2004-2010 draft Transportation Improvement Program lists project R-2812 as a roadway improvement project that occurs in the vicinity of NC 5. This project would widen NC 211 from NC 73 to SR 1208 in Pinehurst. The 7.2-mile project will widen NC 211 from a two-lane road to multi-lanes.

Capacity analyses were performed for the peak hour for the existing (2001) and 2030 projected traffic volumes along NC 5. The anticipated levels-of-service (LOS) for NC 5 were determined using methodologies contained in the *Highway Capacity Manual (HCM) Arterial and Intersection Analysis* and are indicated in Tables 1 and 2.

**Table 1.
NC 5 Two-Lane/Multi-Lane Highway Levels of Service^a**

NC 5 ^b	2001 Two-Lane Peak Hour LOS (v/c ratio)	2030 Two-Lane Peak Hour LOS (v/c ratio)	2030 Multi-Lane Peak Hour LOS
Southern Segment (Aberdeen)	D (0.38)	E (0.68)	B
Northern Segment (Pinehurst)	D (0.40)	E (0.75)	B

^aAnalyses conducted in HCS 2000 4.1b based on NCDOT traffic volume projections.

^bThe Southern Segment consists of Sections 1 and 2 as described in Section I of this study while the Northern Segment consists of Section 3 as described in Section I of this study.

**Table 2.
NC 5
Intersection Levels of Service^a
Northern Segment – Pinehurst^b**

Intersecting Road with NC 5	2001		2030		2030 Improved	
	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)	AM Peak Hour LOS (Delay)	PM Peak Hour LOS (Delay)
NC 211 – signalized ^c	C (33.5)	C (33.8)	F (271.5)	F (257.7)	D (36.2)	D(41.0)
NC 2 – signalized ^d	C (33.0)	C (20.7)	F (388.4)	F (248.0)	D (54.5)	D (51.2)
Morganton Road (SR 1205) – signalized	B (18.7)	B (19.5)	F (133.6)	F (132.9)	D (44.1)	D (38.2)
Monticello Drive – signalized	C (34.5)	C (32.6)	F (137.2)	F (132.1)	D (35.3)	C (34.4)

^aAnalyses conducted in HCS 2000 4.1b based on NCDOT traffic volume projections, year 2030 improvements include a five-lane section on NC 5 with no additional improvements unless otherwise noted.

^bYear 2030 recommended improvements include the following: a five-lane section on NC 211, exclusive right-turn lanes for northbound, eastbound and westbound approaches, and traffic signal phasing to accommodate right-turn overlaps and protected-permitted left turns on all approaches.

^cYear 2030 recommended improvements include the following: a five-lane section on NC 5, dual westbound left-turn lanes, split phasing on NC 2 and protected-permitted left-turns on NC 5 with a northbound exclusive right-turn lane running on overlap phasing.

The arterial capacity analysis indicates that both the Southern and Northern Segments of the NC 5 corridor currently operate at LOS D. Without the implementation of improvements, they would operate at LOS E in 2030 (Table 1).

Accident data obtained for NC 5 from 1998 through 2000 indicates the accident rate, from US 1 to NC 211, is 245.4 crashes per 100 million vehicle miles (100MVM) traveled. The statewide average for rural North Carolina routes

is 229 crashes per 100MVM traveled. Forty-two percent of the crashes were rear-end collisions because of slow or stopped vehicles. Twenty-seven percent of the accidents were crashes that occurred at an angle, and five percent of the accidents occurred when vehicles were turning left onto NC 5 from other roads. All of these represent types of accidents that could be potentially avoided or reduced if the roadway is widened.

III. Environmental Screening

The following is a preliminary review of environmental issues that have a potential impact to the project. The information obtained for the environmental screening is from readily available database information only. No survey work other than a field inspection was prepared for this study. The environmental screening is not a substitute for the project planning/environmental documentation process. The purpose of the environmental screening is to identify potential issues early in the process. For the purpose of this study, potential environmental issues were identified within a 200-foot corridor along the existing NC 5 between US 1 in Aberdeen and NC 211 in Pinehurst. Figures 3a, 3b, and 3c show the location of potential environmental issues.

Historic Properties

As part of the environmental screening process, the North Carolina State Historic Preservation Office (SHPO) was contacted to determine if any historic resources on the National Register of Historic Places (NRHP) or State Study Lists exist within the proposed project corridor. Places on the NRHP are protected under Section 106 of National Historic Preservation Act of 1966. The northern part of the corridor passes by the western edge of the Pinehurst Trotting Track. The racetrack is on the NRHP. Also, the portion of the corridor that is within the Pinehurst village limits passes along the western edge of the Pinehurst Historic District and through the Pinehurst Historic District Expansion. Both the Pinehurst Historic District and the Pinehurst Historic District Expansion are on the NRHP. The Pinehurst Historic District is also a National Historic Landmark (NHL). National Historic Landmarks are protected under both Section 106 and Section 110 of the National Historic Preservation Act of 1966. Figure 3a shows the location of these historic properties.

For the purpose of this screening, a cursory field inspection was conducted to identify properties within the study corridor that had the potential to be older than 50 years. No buildings were found to be 50 years or older. Should this project be programmed into the TIP, it is recommended that a survey of the corridor be conducted to identify any potentially eligible properties.

Floodplains

Moore County is a regular participant in the National Flood Insurance Program. Federal Emergency Management Agency (FEMA) floodplain map

Panels 37125C 0155C, 37125C 0162C, 37125C 0165C, all for Moore County and Incorporated Areas, were reviewed to determine whether the proposed project corridor would cross the 100-year floodplain. The project corridor crosses approximately 500 feet of the 100-year floodplain along Aberdeen Creek at the southern end of the project in Aberdeen. A base flood elevation of 331 feet was noted.

Stream Classification

The proposed project corridor is located in the Lumber River Basin. The southern end of the project corridor crosses Aberdeen Creek (see Figure 3b). Aberdeen Creek is not listed in the Basinwide Information Management System (BIMS). Since Aberdeen Creek is a freshwater stream, it is classified as (C), a freshwater stream that supports aquatic life and is suitable for secondary recreational activities. All freshwaters are classified as (C) as a minimum. Also, Horse Creek is located approximately 6,500 feet west of the project corridor. It is listed in BIMS as WS-III, a water supply stream that is within a moderately developed area. During any environmental documentation study, the appropriate coordination with the North Carolina Department of Environment and Natural Resources (NCDENR) and the U.S. Army Corps of Engineers (USACE) should occur.

Wetlands

National Wetland Inventory Maps for the Southern Pines quad (USGS) were reviewed to determine whether the proposed project corridor would impact any wetlands. The southern end of the proposed project would cross a wetland associated with Aberdeen Creek that is approximately 100 feet wide (see Figure 3b). Another small pocket of wetlands exists along the edge of the corridor. During preparation of any environmental assessment, it is recommended that these wetlands be surveyed and delineated. Proper permitting from the U.S. Army Corps of Engineers should be obtained before construction of the project and appropriate mitigation measures taken if required.

Threatened and Endangered Species

The North Carolina Natural Heritage Program (NHP) and U.S. Fish and Wildlife Service (FWS) were contacted to determine whether any threatened and/or endangered species may exist within the project corridor.

Table 3 shows the threatened and endangered species that may exist within the project corridor. A survey for these species should be completed during preparation of any environmental assessment. If these species are found to be present, additional investigations should be undertaken.

Table 3 Threatened and Endangered Species Potentially Within the NC 5 Corridor (US 1 to NC 211)			
Name (Scientific Name)	Federal Status ¹	State Status ²	Habitat
Red-cockaded woodpecker (<i>Picoides borealis</i>)	LE	E	Mature pine forests from 80 to 120 years old, mainly long-leaf pine
Coastal Sedge (<i>Carex exilis</i>)	--	T	Seepage bogs
White wicky (<i>Kalmia cuneata</i>)	FSC	E-SC	Pocosins
Sandhills bog lily (<i>Lilium iridollae</i>)	FSC	T	Peaty seepage bogs
Sandhills pyxie-moss (<i>Pyxidantha barbulata</i> var <i>brevifolia</i>)	FSC	E	Sandhills
Chapman's yellow-eyed grass (<i>Xyris chapmanii</i>)	--	SR-T	Mucky sandhills seeps
Roughleaf yellow-eyed grass (<i>Xyris scabrifolia</i>)	FSC	SR-T	Sandhill seeps and bogs
¹ Definitions of Federal Status: LE=Listed Endangered, LT=Listed Threatened, FSC=Species of Special Concern.			
² Definitions of State Status: E=Endangered, T=Threatened, E-SC: Endangered-Special Concern, SR-T=Significantly Rare-Threatened.			

Sources: North Carolina Natural Heritage Program, <http://www.ncsparks.net/nhp>, January, 2002.

U.S. Fish and Wildlife Service, <http://es.southeast.fws.gov/country%20lists.htm>, March, 2001.

Environmental Justice

Executive Order 12898 requires that Federal agencies identify and address disproportionately high and adverse effects of federally funded projects on minority and low-income populations. The Census 2000 demographic data was reviewed at the block level for high levels of minority and Hispanic populations. Potential Environmental Justice (EJ) concerns for minority and Hispanic populations may be found approximately halfway between the beginning and the end of the corridor (see Figure 3c). Other minority and Hispanic concerns are located at southern end of the corridor. To determine potential EJ concerns related to income levels, 1990 Census data were used because Census 2000 economic data is not available.

Hazardous Materials

Because of the liability associated with purchasing properties containing hazardous materials, state and Federal databases were reviewed using information provided by First Search Technology Corporation. Twenty-three sites adjacent to the proposed corridor were determined to contain hazardous materials. Figure 3a shows the location of these sites. Table 4 provides

information regarding each site. Before purchasing right-of-way property, a Phase I environmental audit should be conducted to precisely determine potential hazardous materials impacts.

	Facility Name	Facility Address	Type of Potential Impact	Distance/ Direction
1	Farm Chemical	McDonald Street and NC 5, Pinehurst	CERCLIS ^a , LUST/AST ^b	In Corridor
2	Moore County Landfill	Ridgecrest Road (SR 1103) and NC 5	STATE ^c	0.01 mi. NE
3	Pilot Shell Service	200 W. South Street, Aberdeen	UST/AST ^d	0.04 mi. SE
4	Browns Auto Supply	201 W. South Street, Aberdeen	RCRA-GEN ^e	0.04 mi. SE
5	Aberdeen Coca Cola Bottling Company	203 W. South Street, Aberdeen	UST/AST	0.04 mi. SE
6	CFM	200 S. Sandhills Boulevard, Aberdeen	UST/AST	0.08 mi. SW
7	Sandhill Telephone Company	121 Holly Ridge Road, Aberdeen	UST/AST	0.09 mi. NE
8	Alltel Carolina	211 N. Poplar Street, Aberdeen	UST/AST	0.09 mi. NE
9	US Postal Service	602 Cherokee Road, Pinehurst	UST/AST	0.09 mi. NE
10	Aberdeen Pesticide Dumps	Allison Road and NC 5, Aberdeen	NPL ^f , CERCLIS, STATE,	0.1 mi. SW
11	AAR Power Bossing	Anderson and Taylor Street, Aberdeen	RCRA-GEN	0.17 mi. SW
12	Moore County Landfill	456 Landfill Road, Aberdeen	UST/AST	0.18 mi. SW
13	INTEK, Inc.	300 Taylor Street, Aberdeen	RCRA-GEN	0.20 mi. SW
14	NC State Highway Patrol	521 S. Sandhills Boulevard, Aberdeen	UST/AST	0.20 mi. SW
15	Page & Shamburger, Inc.	401 S. Sycamore Street, Aberdeen	UST/AST	0.21 mi. SE
16	Aberdeen Electric	Knight Street, Aberdeen	UST/AST	0.22 mi. NE
17	How Enterprises	Taylor St. and NC 5, Aberdeen	CERCLIS, STATE	0.23 mi. SW
18	Parker Zenith	Taylor Street, Aberdeen	STATE	0.23 mi. SW
19	Colonial Abrasive	312 S. Pine Street, Aberdeen	RCRA-GEN	0.25 mi. SE
20	Garys Transmission Service	306 Sandhill Boulevard, Aberdeen	LUST/AST	0.29 mi. NE
21	Richards WCCO, Inc.	100 E. Maple Street, Aberdeen	CERCLIS, STATE	0.31 mi. NE
22	Pantry #3301	US 15-501 and NC 211, Aberdeen	LUST/AST	0.47 mi. SW
23	Golf Course Maintenance	700 Morganton Road, Pinehurst	LUST/AST	0.48 mi. NE

Table 4 Potential Hazardous Materials Impacts to the NC 5 Corridor				
	Facility Name	Facility Address	Type of Potential Impact	Distance/ Direction
			1 NPL 4 CERCLIS 4 RCRA-GEN 10 UST/AST 4 LUST/AST 4 STATE	
	Total			
<p>^aCERCLIS – Comprehensive Environmental Response Compensation and Liability Information System. EPA database of current and potential Superfund sites currently or previously under investigation. Source: U.S. EPA.</p> <p>^bLUST/AST – Leaking underground/aboveground Storage Tanks. NC Department of Natural Resources Division of Environmental Management (DEM) includes facilities and/or locations that have reported the possible release of petroleum contaminants from USTs or ASTs. Source: NC DEM.</p> <p>^cSTATE – North Carolina Sites List . Contains a listing of sites and facilities that are being investigated due to reported releases of hazardous substances. Source: NC Department of Natural Resources.</p> <p>^dUST/AST – Underground/Aboveground Storage Tanks. Indicates the presence of underground petroleum storage tanks. Source: NC DEM.</p> <p>^eRCRA-GEN – Resource Conservation and Recovery Act Generators. Database of registered hazardous materials generators and those facilities that treat, store, and dispose of hazardous materials. Source: U.S. EPA.</p> <p>^fNPL – National Priority List. List of confirmed or proposed Superfund sites. Source: U.S. EPA.</p>				

Source: Environmental First Search Corporation, 2002.

IV. Description of Alternates

The proposed widening of NC 5 was divided into two sections to reflect the road's location through the Town of Aberdeen to the Southern City Limits of the Village of Pinehurst (See Figure 4). Section 1 begins at US 1 in Aberdeen and ends at Shepherd Trail. This section is within the Town of Aberdeen and contains commercial development. The length of this section is 1.2 miles with a posted speed limit of 45 miles per hour (mph). Section 2 begins at Shepherd Trail and ends at Dawkins Street/Olivia Lane. The land use along this section is primarily undeveloped. The length of this section is 2.8 miles with a posted speed limit of 55 mph.

Due to the location of the railroad on the eastern side of NC 5, the most feasible widening option is to the west. Traffic signals are proposed at the intersections of NC 5 and Sandpit Road (SR 1103). Because six to eight trains per day use the railroad, railroad signals and crossing gates have been proposed for the intersections of NC 5 and Dawkins Street/Olivia Lane, NC 5 and Fields Drive (north), and NC 5 and Fields Drive (south).

The proposed cross-sections were developed based on 2030 traffic projections. The alternates studied included a four-lane divided and a five-lane roadway. The four-lane divided facility, which is being considered in Sections 1 and 2, consists of four 12-foot lanes with a 17.5-foot raised grass median. The five-lane facility, which is also being considered in Sections 1 and 2, consists of four 12-foot through lanes and a 12-foot center turn lane.

Since the speed limit and land use patterns vary between US 1 and NC 211, alternates were developed to accommodate these changes. Alternates using the same cross-sections throughout were evaluated as well as alternates which used combinations of the curb and gutter and shoulder sections.

A combination of cross-sections for Sections 1 and 2 were considered. These combinations include a four-lane median-divided facility with either curb and gutter or 6-foot outside shoulders and a five-lane facility with a center turn lane and either curb and gutter or outside shoulders.

Table 5 specifies each of the alternates considered.

Alternate	Description	Right-of-Way
1	Section 1: five-lane curb & gutter facility Section 2: five-lane curb & gutter facility	100 feet 100 feet
2	Section 1: five-lane curb & gutter facility Section 2: five-lane shoulder facility	100 feet 150 feet
3	Section 1: four-lane median-divided facility with curb & gutter Section 2: four-lane median-divided facility with curb & gutter	100 feet 100 feet
4	Section 1: four-lane median-divided facility with curb & gutter Section 2: four-lane median-divided facility with outside shoulders including 4 foot paved shoulders	100 feet 150 feet

Cost Estimates

Table 6 provides a breakdown of the cost estimates for the alternates.

Alternate	Construction Cost	Right-of-Way Cost	Total Cost	Relocations
1	15,100,000	3,100,000	18,200,000	0/0
2	14,300,000	7,100,000	21,400,000	2/2
3 (Preferred)	13,400,000	3,100,000	16,500,000	0/0
4	13,400,000	7,100,000	20,500,000	2/2

Note: The cost estimates above include an additional 2-feet of pavement in the outside lanes on the curb and gutter sections. The anticipated cost for this additional pavement ranges from approximately \$200,000 to \$650,000 depending upon the exact cross-section configuration. In addition, the cost for a 5-foot sidewalk is provided on one side of the curb and gutter section of this project at costs ranging from \$200,000 to \$650,000.

Other Alternates Considered

At the request of the Village of Pinehurst, improvements to NC 5 in Pinehurst (Section 3) were also evaluated for informational purposes during this study. Section 3 begins at Dawkins Street/Olivia Lane and ends at NC 211. It has a length of 2.9 miles with a speed limit of 35 mph. Three cross section configurations were considered for this section of NC 5. The first cross-section (Alternate 5) consists of a three-lane roadway of two 12-foot through lanes with a 12-foot center turn lane and an 80-foot right-of-way. The second cross-section (Alternate 6) is a five-lane curb and gutter facility with a 100-foot right-of-way. The third cross-section (Alternate 7) is a four-lane median divided facility using curb and gutter with a 100-foot right-of-way.

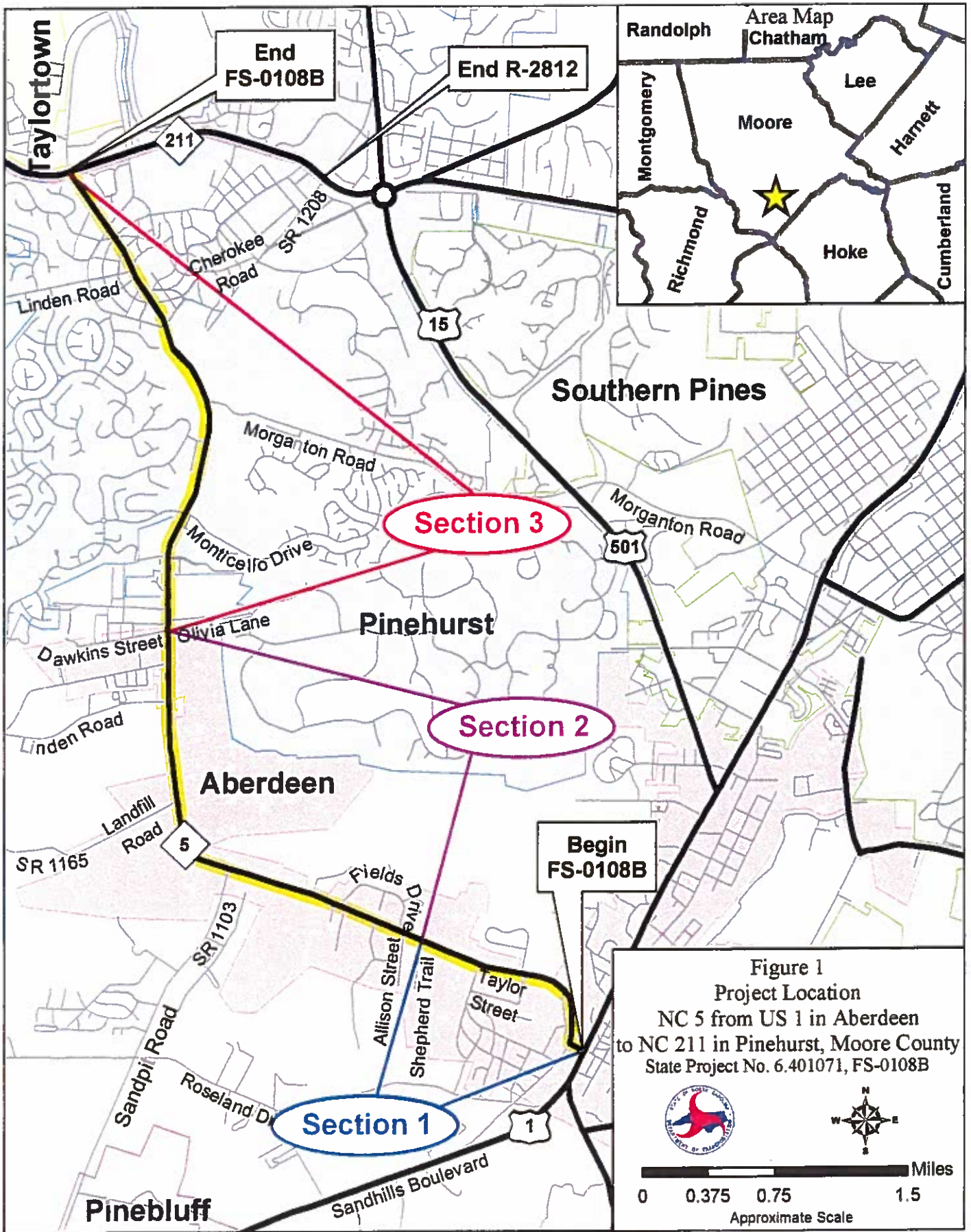
Due to the projected traffic volumes on NC 5 in this section, the three-lane configuration does not provide an acceptable level-of-service for the design year. While both the four-lane divided and five-lane sections will adequately accommodate the design year traffic volumes, the right-of-way required may prove disruptive to the historic nature of Pinehurst. Given the cultural and social impacts to the historic areas in the Village of Pinehurst, we anticipate that improvements to NC 5 in this area will pose significant planning and design challenges. Therefore, consideration should be given to performing additional studies of an urban bypass facility of NC 5 to the west of Pinehurst under a separate feasibility study.

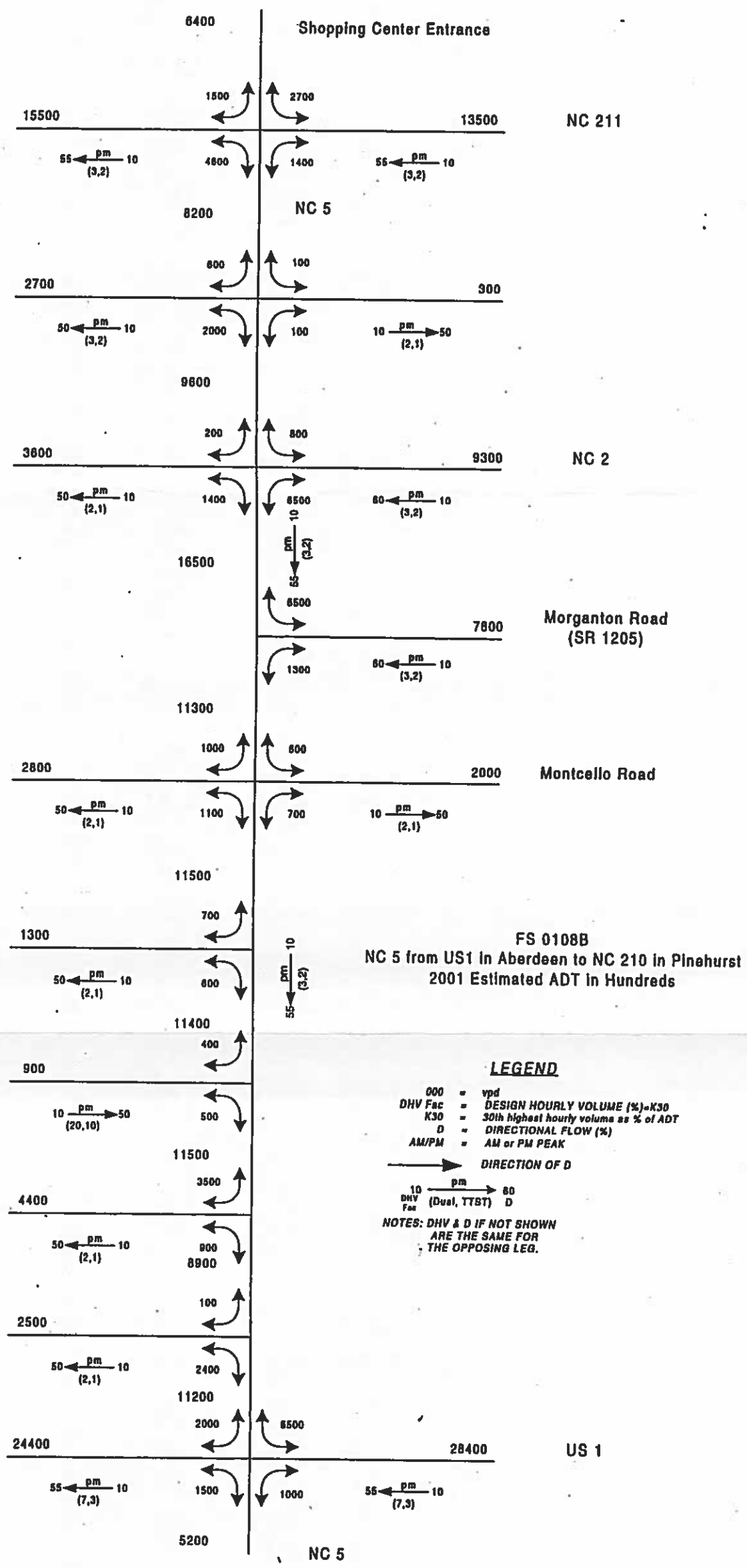
Cost Estimates

Table 7 provides a breakdown of the cost estimates for improvements to this section of NC 5.

Table 7				
NC 5 Widening from Dawkins Street/Olivia Lane to NC 211				
Cost Estimate				
Alternate	Construction Cost	Right-of Way Cost	Total Cost	Relocations
5 (three-lane curb & gutter)	7,300,000	4,600,000	11,900,000	3/1
6 (five-lane curb & gutter)	11,900,000	10,200,000	22,100,000	4/6
7 (four-lane median-divided curb & gutter)	12,700,000	10,200,000	22,900,000	4/6

Note: The cost estimates above include an additional 2-foot of pavement on the outside lanes to accommodate bicycles. The anticipated cost of this improvement is \$500,000. In addition, the cost also includes a 5-foot sidewalk on one side of the road at an anticipated cost of \$500,000.





LEGEND

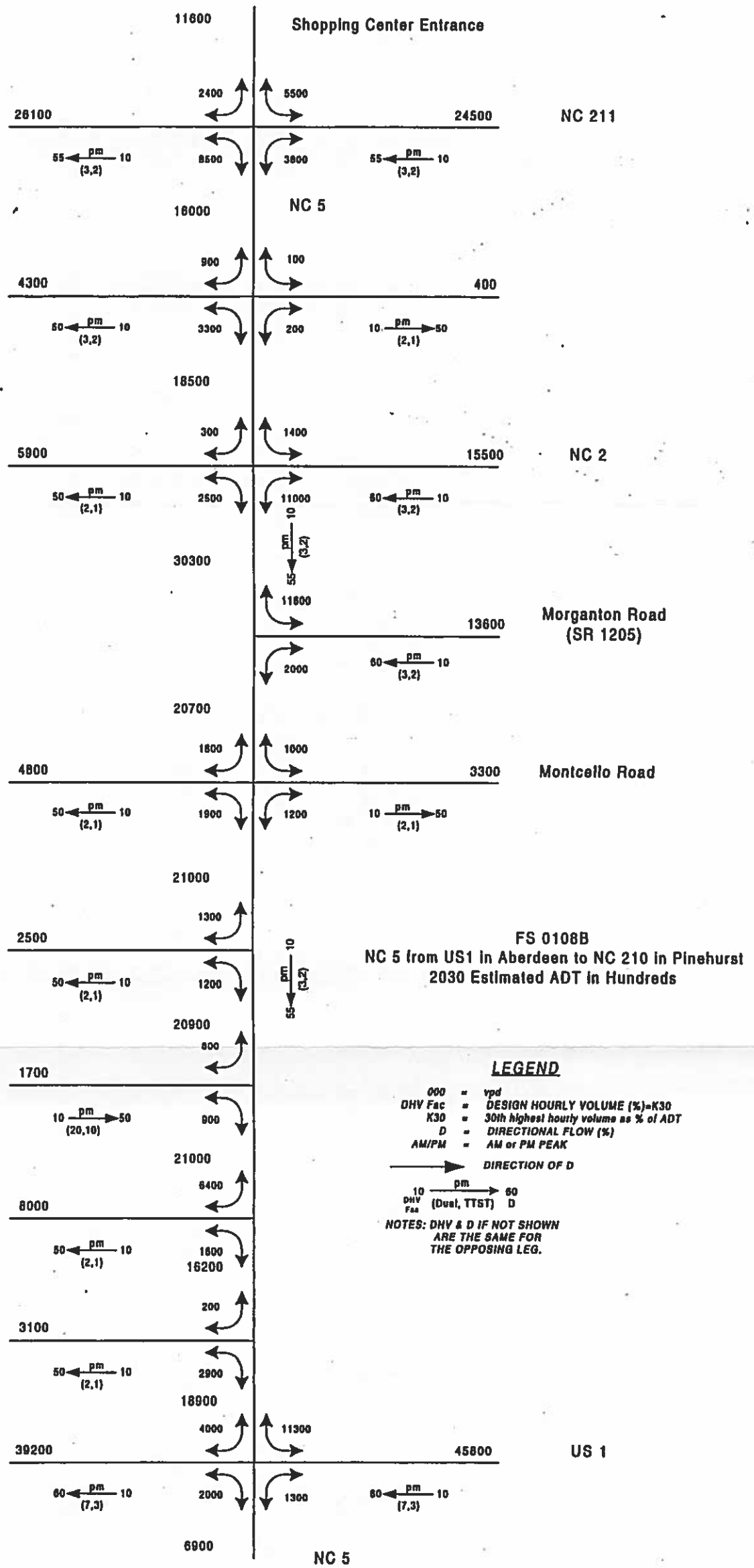
000 = vpd
 DHV Fac = DESIGN HOURLY VOLUME (%)=K30
 K30 = 30th highest hourly volume as % of ADT
 D = DIRECTIONAL FLOW (%)
 AM/PM = AM or PM PEAK

→ DIRECTION OF D

10 → pm → 80
 DHV Fac (Dual, TTBT) D

NOTES: DHV & D IF NOT SHOWN ARE THE SAME FOR THE OPPOSING LEG.

Figure 2a.
2001 Traffic Estimates
 NC 5 from US 1 in Aberdeen to NC 211 in Pinehurst
 Moore County
 State Project No. 6.401071, FS-0108B



Linden Road (SR 1115)

Linden Road (SR 1115)

Landfill Road (SR 1165)

Sandplt Road (SR 1103)

Pinehurst Street (SR 1108)

Figure 2b.
2030 Traffic Estimates
 NC 5 from US 1 in Aberdeen to NC
 210 in Pinehurst
 Moore County
 State Project No. 6.401071, FS-0108B

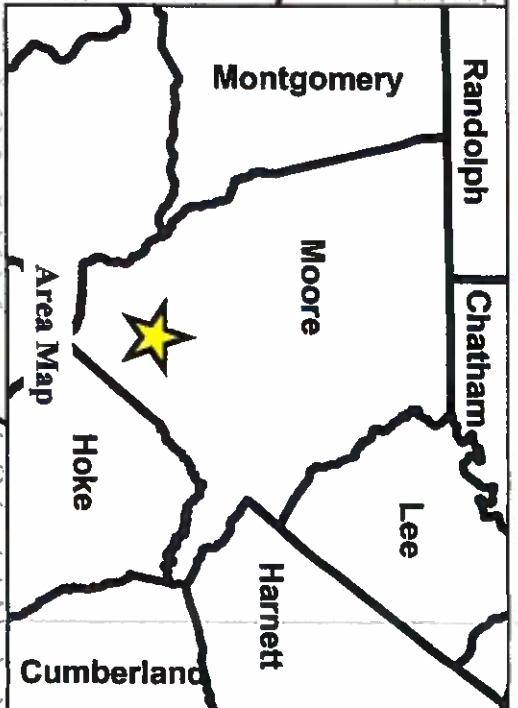
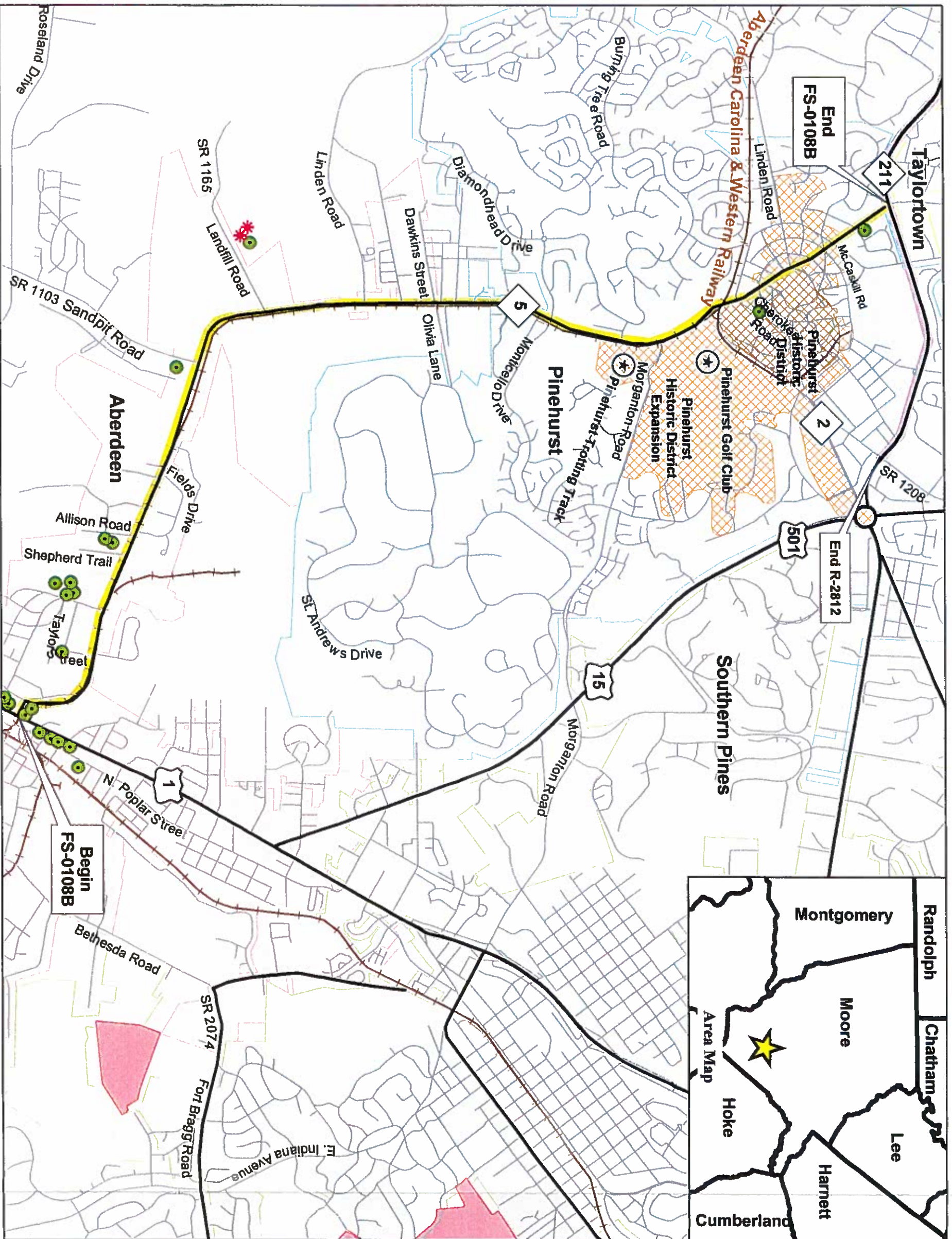


Figure 3a.
 Environmental Screening Map
 Human Environment
 NC 5 from US 1 in Aberdeen
 to NC 211 in Pinehurst
 Moore County

State Project No. 6-401071, FS-0108-B

LEGEND

- National Pollutant Discharge Sites
- Hazardous Materials Sites
- Solid Waste Landfills
- Points of Interest
- Historic Site
- Railroads
- Streets
- NRHP Resource
- NRHP and NHL Resource
- Parks



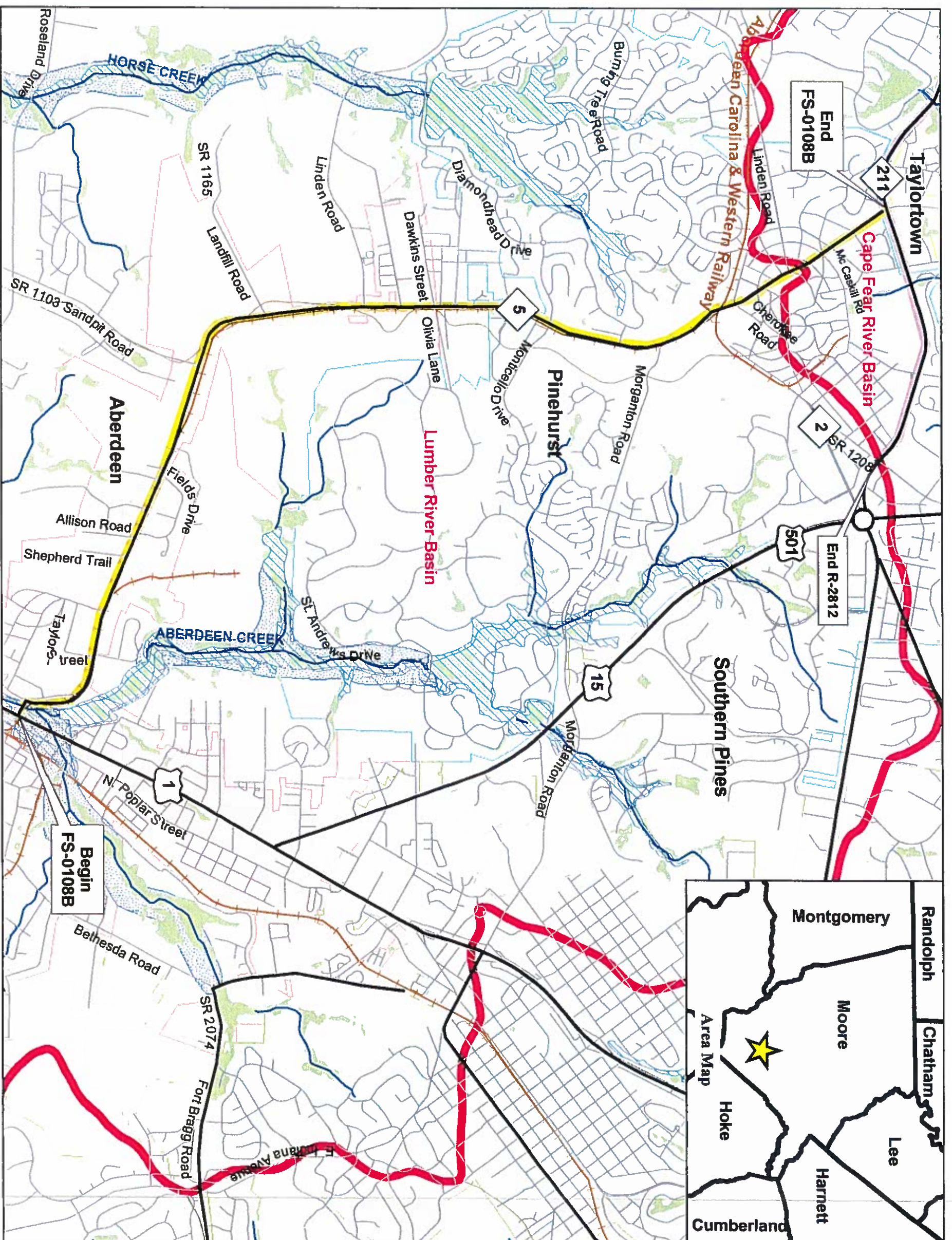
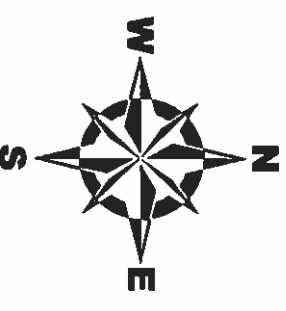


Figure 3b.
 Environmental Screening Map
 Natural Environment
 NC 5 from US 1 in Aberdeen
 to NC 211 in Pinehurst
 Moore County

State Project No. 6.401071, FS-0108-B

LEGEND

- Railroads
- Streets
- Streams
- 100-Year Floodplains
- NWI Wetlands
- Groundwater Discharge Sites
- River Basin Boundary



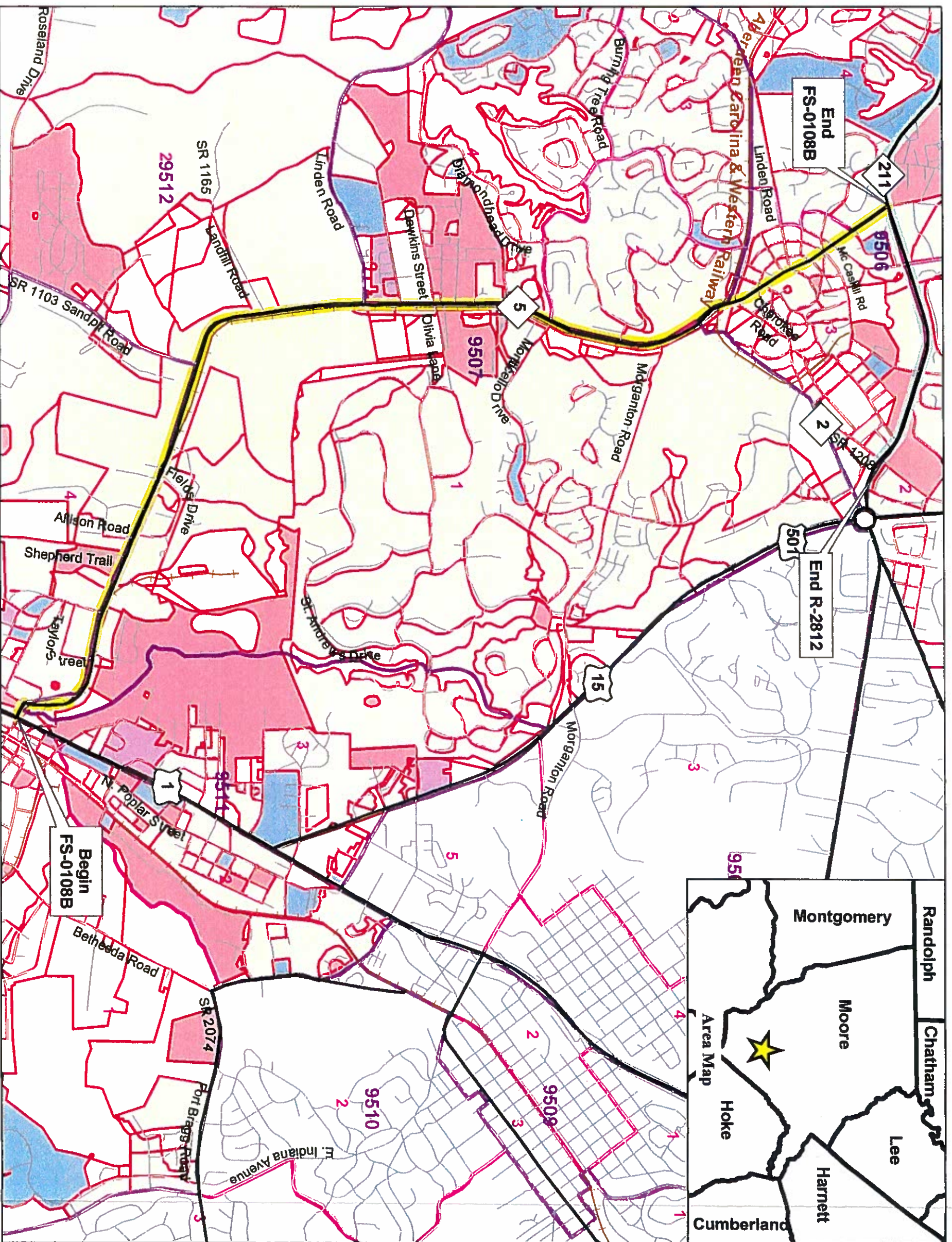

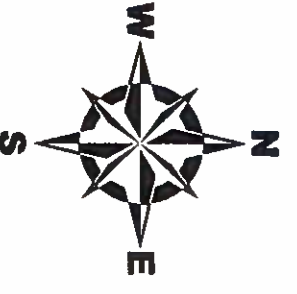


Figure 3c.
 Environmental Screening Map
 Socioeconomic Environment
 NC 5 from US 1 in Aberdeen
 to NC 211 in Pinehurst
 Moore County

State Project No. 6.401071, FS-0108-B

LEGEND

-  Railroads
-  Streets
-  Census 2000 Tracts
-  Census 2000 Block Groups
-  Study/Area_2000Blocks
-  Minority EJ Concerns
-  Hispanic EJ Concerns
-  Minority and Hispanic EJ Concerns
-  9509 Census 2000 Tract Number
-  2 Census 2000 Block Group Number



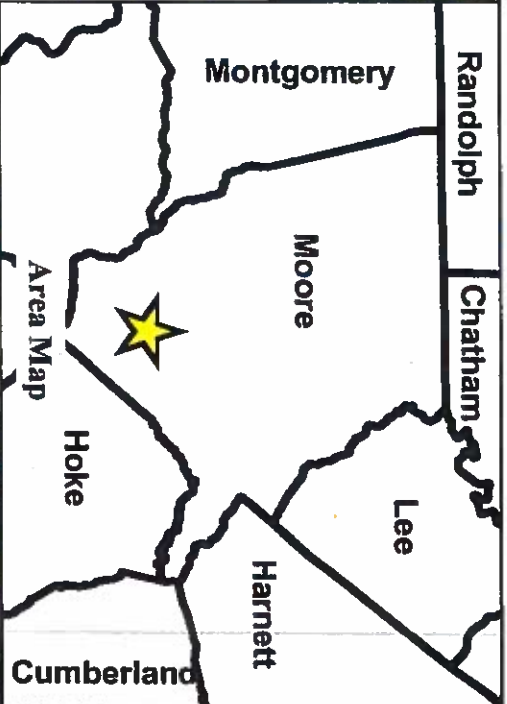
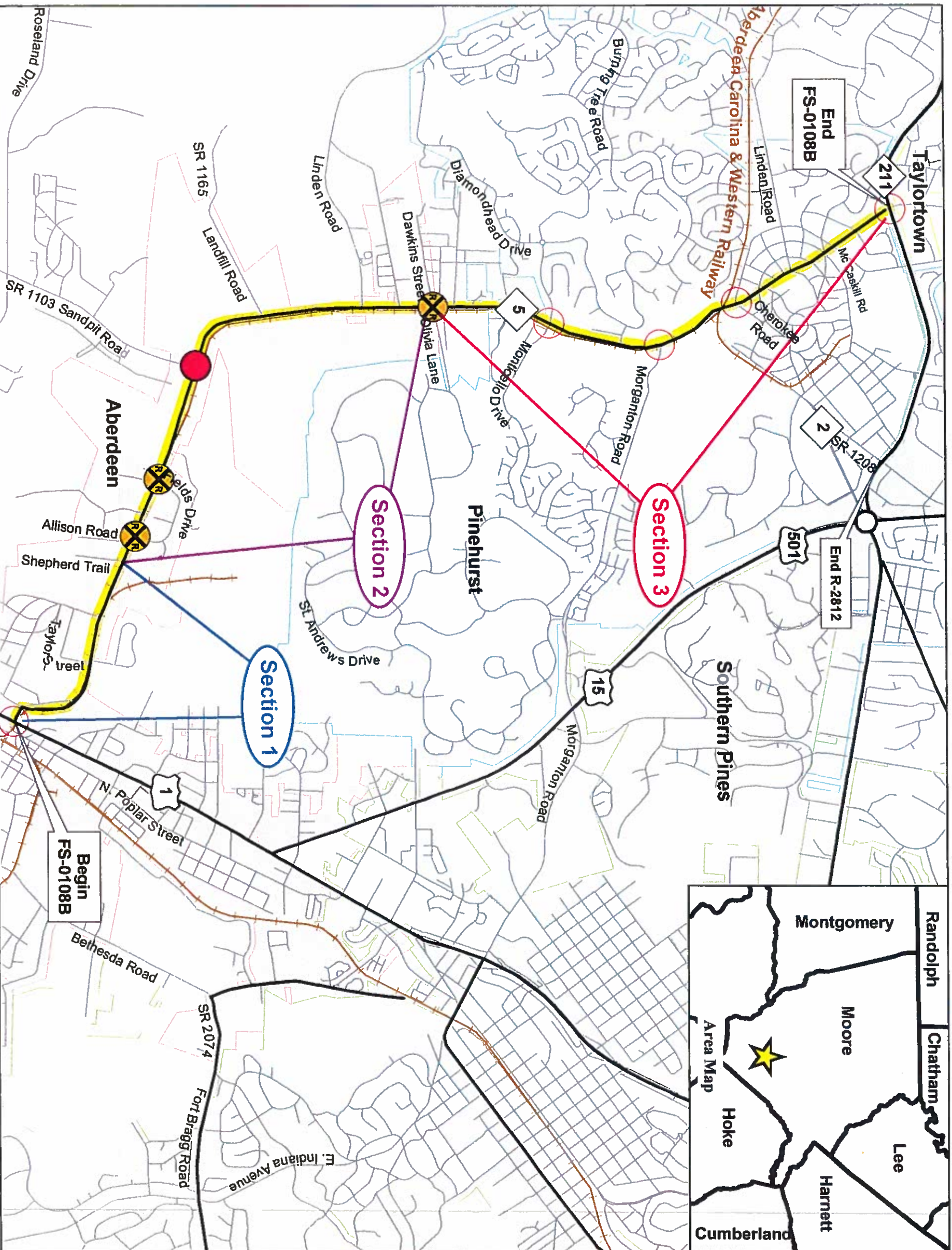





Figure 4.
Existing and Proposed
Signaling
NC 5 from US 1 in Aberdeen
to NC 211 in Pinehurst
Moore County
State Project No. 6.401071, FS-0108-B

LEGEND

-  Existing Traffic Signal
-  Proposed RR Crossing Signal and Gates
-  Proposed Traffic Signal

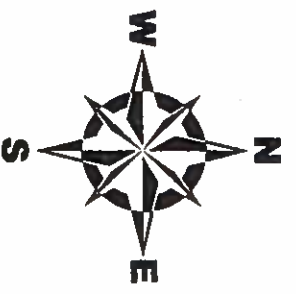


Figure 5

Photographs



Photo 1 - NC 5 Northbound at US 1



Photo 2 - NC 5 Northbound at Pinehurst Street



Photo 3 - NC 5 Northbound at SR 1103



Photo 4 - NC 5 Northbound at Landfill Road



Photo 5 - NC 5 Northbound at Linden Road



Photo 6 - NC 5 Northbound at Monticello Drive

Figure 5

Photographs (cont.)



Photo 7 – NC 5 Northbound at Morganton Road



Photo 8 – NC 5 Southbound at Morganton Road



Photo 9 – NC 5 Northbound at NC 2



Photo 10 – NC 5 Southbound at NC 2



Photo 11 – NC 5 Northbound at NC 211