INTERSTATE 73 SOUTH
DILLON, HORRY, AND MARION COUNTIES, SOUTH CAROLINA

DRAFT ENVIRONMENTAL IMPACT STATEMENT

Submitted Pursuant to 42 U.S.C. 4332(2)(c)
by the
U.S. Department of Transportation
Federal Highway Administration
and
South Carolina Department of Transportation

in cooperation with
U.S. Army Corps of Engineers;
U.S. Coast Guard;
U.S. Department of Agriculture, Natural Resources Conservation Service;
U.S. Fish and Wildlife Service;
U.S. Environmental Protection Agency;
National Oceanic and Atmospheric Administration, Office of National Marine Fisheries;
S.C. Department of Archives and History;
S.C. Department of Commerce;
S.C. Department of Health and Environmental Control;
S.C. Department of Health and Environmental Control, Office of Coastal Resource Management;
S.C. Department of Natural Resources;
S.C. Emergency Management Division; and
S.C. Department of Parks, Recreation, and Tourism

May 30, 2006
Date of Approval

Mr. Tony L. Chapman, P.E., State Highway Engineer
South Carolina Department of Transportation

May 30, 2006
Date of Approval

Mr. Robert L. Lee, Division Administrator
Federal Highway Administration

The following persons may be contacted for additional information concerning this document:

Mr. Patrick L. Tyndall
Environmental Program Manager
Federal Highway Administration
1835 Assembly Street
Suite 1270
Columbia, South Carolina 29201
(803) 765-5460

Mr. Mitchell D. Metts, P.E.
I-73 Project Manager
South Carolina Department of Transportation
955 Park Street
Post Office Box 191
Columbia, South Carolina 29202
(803) 737-1421

S-1 FEDERAL HIGHWAY ADMINISTRATION

Administrative Action - Environmental Impact Statement

(X) Draft ( ) Final (X) Draft Section 4(f) Statement Attached

S-2 WHO CAN I CONTACT FOR MORE INFORMATION?

The following individuals may be contacted for additional information concerning this project:

Mr. Patrick Tyndall
Environmental Program Manager
Federal Highway Administration
1835 Assembly Street, Suite 1270
Columbia, South Carolina 29201-2430
(803) 765-5460

Mr. Mitchell Metts, P.E.
Program Manager
South Carolina Department of Transportation
P.O. Box 191
Columbia, South Carolina 29202
(803) 737-1421

S-3 WHAT IS THE PROJECT AND WHAT IS ITS PURPOSE?

The South Carolina Department of Transportation (SCDOT), in association with the Federal Highway Administration (FHWA), proposes to construct Interstate 73 (I-73) on new alignment in northeastern South Carolina. The portion of the project to be analyzed in this environmental impact statement (EIS) is located in the northeastern corner of South Carolina. The project study area, shown in Figure 1-2 (page 1-3), extends southeast from I-95, and is bounded to the northeast by the North Carolina/South Carolina state line, to the southeast by U.S. Route 17, and to the southwest by the eastern edge of the Great Pee Dee River floodplain, U.S. Route 378, and U.S. Route 501. The project would extend from I-95 in Dillon County, through Marion County and into Horry County. It would terminate at SC Route 22 in Horry County, which would be made part of I-73.

A typical section was developed to accommodate a six-lane facility with corridors for future rail lines and allowances for frontage roads where needed. Figure 2-1 (page 2-7) represents the interim design, which is proposed to be constructed initially. It would accommodate two lanes of traffic in each direction. In the future, when traffic volumes increased to a point that additional lanes would be necessary in order to maintain an acceptable level of service, an additional lane in each direction could be added within the median (refer to Figure 2-2, page 2-10). An estimated 400-foot wide right-of-way would be acquired where frontage roads would be needed. Where frontage roads are not required, an estimated 300-foot wide right-of-way would be adequate. The longest alternative would be 48.3 miles long and the shortest would be 42.6 miles long.

The proposed alternatives would have interchanges with I-95, U.S. Route 501, S.C. Route 41A, U.S. Route 76 and S.C. Route 22. Depending upon the alternative, they would also have an interchange with S.C. Route 41, S-23, or S-308.

The purpose of the proposed project is to provide an interstate link between I-95 and the Myrtle Beach region to serve residents, businesses, and tourists while fulfilling congressional intent in an environmentally responsible and community sensitive manner.

S-4 WHAT OTHER GOVERNMENT ACTIONS ARE BEING PLANNED?

In consultation with the SCDOT, the following projects were identified as other important planned improvements to be implemented in the vicinity of I-73:

- The widening of S.C. Route 38 is on-going. The at-grade intersection with U.S. Route 501 is being replaced with a grade-separated interchange;
- The Southern Evacuation Lifeline project is currently being evaluated; an EIS is being prepared for this road that will connect the southern Grand Strand with the Conway area;
- The widening of S.C. Route 9 between Nichols and Green Sea is being evaluated;
- A bridge replacement project is proceeding on the U.S. Route 378 crossing of the Little Pee Dee River;
- A bridge replacement is proceeding on the S.C. Route 917 crossing of the Little Pee Dee River;
- The Main Street Connector between S.C. Route 22 and Main Street in North Myrtle Beach is currently underway; and
- The Fantasy Harbor Bridge is also underway between Harrelson Boulevard and George Bishop Parkway.

S-5 WHAT ALTERNATIVES WERE CONSIDERED?

Initially there were 141 potential alternatives developed for this project. They were evaluated and reduced to two primary corridors with connectors between them that made it possible to combine the corridors in different ways. The Reasonable Alternatives for the proposed project include the No-build Alternative, and eight Build Alternatives (Alternatives 1 through 8). These were developed in conjunction with agency and public involvement.

The No-build Alternative would not satisfy the purpose and need for the project, because the purpose of this project is to provide interstate linkage between I-95 and the Myrtle Beach region, promote economic

development in the three county area, improve hurricane evacuation, reduce local traffic congestion and provide a corridor for future rail access.

Each of the Build Alternatives satisfied the purpose and need for the project. However, seven of the eight alternatives were eliminated based upon their potential impacts. Alternative 3 was recommended as the Preferred Alternative because it would have the fewest impacts to wetlands, lowest impacts to farmlands, least impact to cultural resources, lowest cost to construct, and would be the least disruptive to existing traffic patterns to construct (refer to Table S-1, page S-5).

S-6 WHAT WOULD BE THE MAJOR ENVIRONMENTAL IMPACTS?

The environmental consequences that would result from implementation of the proposed action are impacts to wetlands of approximately 384 acres (which includes approximately 19,200 linear feet of stream impacts), the relocation of 81 residences and 7 commercial establishments, and potential noise impacts to 37 residences (refer to Table S-1, page S-5).

S-7 ARE THERE ANY AREAS OF CONTROVERSY?

The alternatives described in this document will be presented to the public. Alternatives similar to many of the current alternatives were presented at four Public Information meetings. After the Public Information meetings the alternatives were modified, new segments added, and previous segments eliminated in response to comments received.

The Preferred Alternative has not been submitted to the public yet, but will be at three public hearings to be held in June 2006. The alternative has been selected based in part upon the comments received from the public over the course of the project development. Once the public has had a chance to review and comment on the Preferred Alternative, and after the completion of the field work for wetlands, archaeological resources, and protected species, further refinements to the alignment may be made.

The impacts to wetlands and to streams are two areas of natural resources that are of concern for this project. The location of the crossing of the Little Pee Dee River has been a major focus of discussion. The two potential crossings associated with all eight Build Alternatives are located along existing crossings to minimize impacts from a new corridor.

Many residents along the potential alignments have expressed concern over the proximity of the alignment to them. Petitions have been submitted on behalf of several of these residents. Cultural resource issues have also been identified that could be impacted by the proposed alignments. The one designated as the preferred has the least impact to potential cultural resource sites.

S-8 WHAT ARE THE UNRESOLVED ISSUES?

A wetland delineation has not yet been performed for the Preferred Alternative. This will be performed to determine precise wetland impacts and the conditions of the impacted wetlands before the preparation of the final EIS. Also, a protected species survey will be performed to determine the location of any previously unrecorded federally threatened and endangered species. An archaeological survey for the Preferred Alternative will also be performed prior to the final EIS. The wetland mitigation has not been precisely defined and the construction methodology that could affect wetlands has not been specified at this time. The design of the proposed stream crossings will be subject to review by the Agency Coordination Team. The funding for construction of the project is not currently available. It is planned that the right-of-way will be acquired initially and then construction will proceed as funding becomes available.

S-9 WHAT OTHER GOVERNMENT ACTIONS WOULD BE REQUIRED?

The following governmental agencies are involved in review of this project: U.S. Army Corps of Engineers, U.S. Environmental Protection Agency; U.S. Department of Interior, Fish and Wildlife Service; National Marine Fisheries Service; U.S. Coast Guard, U.S. Department of Agriculture, Natural Resource Conservation Service, S.C. Department of Health and Environmental Control; S.C. Department of Archives and History (State Historic Preservation Officer); S.C. Emergency Management Division, S.C. Department of Parks, Recreation and Tourism, S.C. Department of Natural Resources, and S.C. Department of Commerce. The following types of actions have been, or will be, needed for the proposed project:

- Section 7 (*Endangered Species Act of 1973*, as amended) compliance;
- Section 402 (*Clean Water Act of 1972*, as amended) National Pollutant Discharge Elimination System permit;
- Compliance with the *South Carolina Stormwater Management and Sediment Reduction Act* (1991);
- Sections 401 and 404 (*Clean Water Act*) wetland and stream impact permit;
- Section 9 of the *Rivers and Harbors Act of 1899* coordination with the USCG; and
- Section 10 of the *Rivers and Harbors Act of 1899* compliance.

Table S.1
REASONABLE ALTERNATIVE MATRIX
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	CATEGORY	Unit of Measure	ALTERNATIVE 1	2	3	4	5	6	7	8
PURPOSE AND NEED	System Linkage		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Economic Development		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Hurricane Evacuation		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Local Traffic Congestion		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Multimodal Planning		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ENGINEERING CRITERIA	Length	Miles	44.9	47.7	44.2	42.6	48.3	43.6	46.0	44.3
	Design Criteria	Meets/Does Not Meet	Meets	Meets	Meets	Meets	Meets	Meets	Meets	Meets
	Constructability	Scale 1-6 (1 highest)	4	3	1	6	5	1	4	4
	Construction Cost	Dollars (Billions)	1.492	1.547	1.290	1.392	1.430	1.406	1.559	1.595
NATURAL FEATURES	Threatened and Endangered Species	Yes (#) / No	No	No	No	No	No	No	No	No
	Species of Concern	Yes (#) / No	Yes (1)	No	No	Yes (1)	No	No	No	Yes (1)
	Wetlands	Acreage	417.5	443.6	384.1	497.0	412.9	413.1	492.1	448.6
	Fill	Acreage	372.8	386.6	352	453.2	372.9	365	453.0	386.8
	Bridge	Acreage	44.8	57.0	32	43.9	40.1	48	39.2	61.8
	Wetland Quality	Value	2,919.4	2,869.4	2,486.1	3,212.4	2,816.1	2,588.4	3,105.8	2,976.8
	Fill	Value	2,556.0	2,408.5	2,228.5	2,847.0	2,481.4	2,212.5	2,769.3	2,486.1
	Bridge	Value	363.4	460.9	267.6	365.4	334.7	375.9	336.4	490.7
	Streams									
	Total Crossings	# of Crossings	60	62	58	45	56	64	41	66
	Perennial	# (Linear Feet)	52 (18,986)	54 (18,052)	48 (16,243)	35 (12,891)	49 (15,878)	53 (18,420)	32 (10,864)	57(20,260)
	Intermittent	# (Linear Feet)	8 (1,968)	8(3,070)	10(3,770)	10 (4,877)	7(3,060)	11 (3,780)	9 (5,969)	9(1,978)

	Outstanding Resource Water	# of Crossings	10	10	5	10	10	5	9	10
	303(d) Impaired	# of Crossings	3	6	3	6	2	7	5	7
	Habitat	Unique	No	No	No	No	No	No	No	No
	Uplands	Acreage	2,139	2,210	1,923	1,884	2,154	1,979	1,899	2,194
	Floodplains	Acreage	173	193	94	321	176	111	323	191
MAN-MADE FEATURES	Hazardous Material Sites	#	2	3	1	2	2	4	2	3
	Parks and Wildlife Refuges	Yes (#) / No	0	0	1	0	0	1	0	0
	Historical Structures	Yes (#) / No	1 Visual	2 Visual	1 Visual	1 Direct	1 Visual	2 Visual	1 Visual, 1 Direct	2 Visual
	High Potential Area for Archaeological Sites	Acreage	1,086	1,144	1,032	991	1,149	1,028	1,057	1,078
	Noise (R= Residential, C= Church)	#	18R, 1C	19R	37R	17R	22R, 1C	41R	20R	15R
	Farmland	Acreage	1,993	2,009	1,708	1,717	2,136	1,835	1,781	2,155
	Prime	Acreage	1,046	1,319	1,094	868	1,344	1,147	1,036	1,159
	Unique	Acreage	0	0	0	0	0	0	0	0
	Statewide Important	Acreage	947	690	614	849	792	688	745	996
SOCIOECONOMIC ISSUES	Community Impacts	Scale 1-6 (1 least impact)	5	3	2	3	2	4	1	5
	Total Relocations	#	121	92	88	74	98	80	51	116
	Residential Relocations	#	109	82	81	61	93	68	45	98
	Commercial Relocations	#	12	10	7	13	5	12	6	18
	Environmental Justice	Yes / No	No	No	No	No	No	No	No	No
INFRASTRUCTURE	Airports	#	0	0	0	0	0	0	0	0
	Fire Stations	#	0	0	0	0	0	0	0	0
	Schools	#	0	0	0	0	0	0	0	0
	Churches	#	0	3	0	0	0	3	0	3
	Cemeteries	#	0	0	0	0	0	0	0	0

S-10 WHAT ENVIRONMENTAL COMMITMENTS HAVE BEEN MADE?

- To provide an interstate link between I-95 and the Myrtle Beach region to serve residents, businesses, and tourists while fulfilling congressional intent in an environmentally responsible and community sensitive manner.

- A Section 404 permit from the USACE and a Section 401 Water Quality Certification from SCDHEC will be obtained for unavoidable impacts to wetlands and waters of the U.S. and mitigation will be completed for these impacts.

- In the event that previously unknown cultural resources are discovered during construction, the resources will be handled according to 36 CFR §800.11.

- Relocation will be conducted in accordance with the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970,* as amended. Relocation resources will be available to all relocates without discrimination.

- Best Management Practices in accordance with local, state, and federal guidelines will be incorporated during the design and construction of the project to minimize impacts to water quality.

- SCDOT will implement a seasonal moratorium pertaining to the shortnose sturgeon, in the Little Pee Dee River, for all in-water work between February 1 and April 30 of each year. Work will not impede more than fifty percent of the channel between January 1 and April 30. No special measures will be employed outside this moratorium except for normal Best Management Practices.

- SCDOT and FHWA will obtain approval from the SCDNR Heritage Trust Preserve Board for the taking of property in the Little Pee Dee Heritage Trust Preserve. In addition, the SCDOT and FHWA will enter into a memorandum of agreement with the SCDNR for the taking of property in the Little Pee Dee Heritage Trust Preserve and purchase of compensatory mitigation.

- SCDOT and FHWA will coordinate with the ACT and other resource agencies on the final design of bridges and culverts for this project.

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CHAPTER 1 - PURPOSE AND NEED FOR ACTION

1.1 What is the I-73 Project?

I-73 is a national highway project that will provide a transportation corridor from Michigan to South Carolina. The I-73 project will start at Sault Ste. Marie, Michigan and go through portions of Ohio, West Virginia, Virginia, and North Carolina before terminating near the Myrtle Beach area (Figure 1-1).

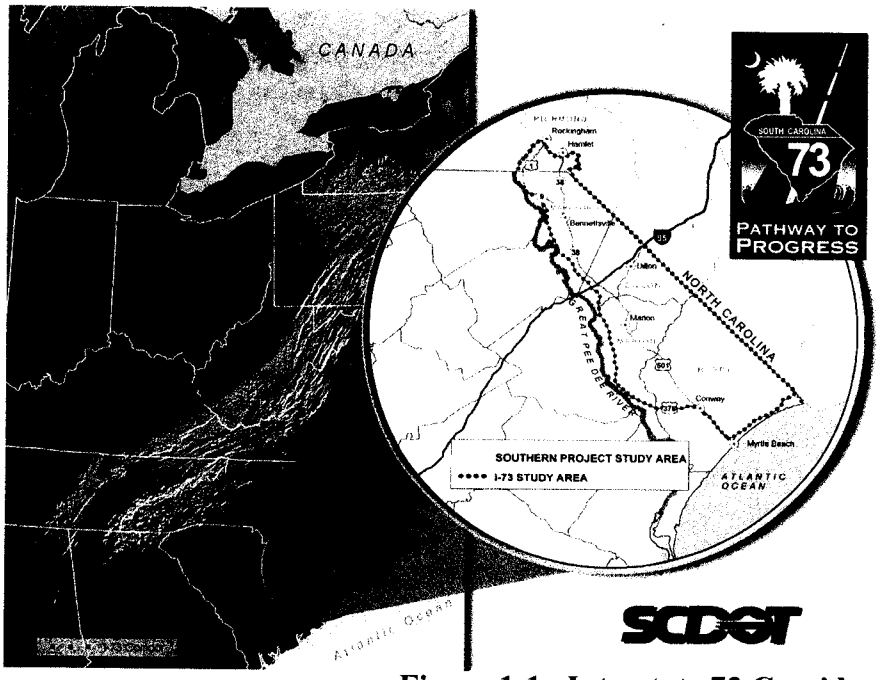


Figure 1-1. Interstate 73 Corridor

Currently, Michigan and Ohio have postponed this project due to a lack of funding, while West Virginia has completed parts of I-73, also known as the King Coal Highway and Coalfields Expressway. West Virginia is waiting on more funding prior to completing the entire I-73 corridor project. Virginia is completing a Final Environmental Impact Statement for its portion of I-73 and is planning to submit the document to the Federal Highway Administration (FHWA) in 2006. North Carolina has also completed portions of I-73 by the re-designation of existing roads as an interstate facility. North Carolina Department of Transportation is currently completing environmental analyses, planning phases, and right-of-way acquisitions. This Environmental Impact Statement (EIS) has been prepared to evaluate and document the potential benefits and impacts that would result from construction of I-73 in South Carolina. In addition to this EIS, there are 10 Technical Memoranda that provide supporting documentation and are hereby incorporated by reference into this EIS. These Technical Memoranda include the following:

- *Alternative Development Technical Memorandum;*
- *Community Impact Analysis Technical Memorandum;*
- *Cultural Resources Technical Memorandum;*
- *Hazardous Material Technical Memorandum;*
- *Hurricane Evacuation Analysis Technical Memorandum;*
- *Indirect and Cumulative Technical Memorandum;*
- *Noise Technical Memorandum;*

- *Public Involvement Technical Memorandum;*
- *Traffic Technical Memorandum; and,*
- *Natural Resources Technical Memorandum.*

1.1.1 Where is the project located?

The portion of the project to be analyzed in this EIS is located in the northeastern corner of South Carolina. The project study area, shown in Figure 1-2, extends southeast from I-95, and is bounded to the northeast by the North Carolina/South Carolina state line, to the southeast by U.S. Route 17, and to the southwest by the eastern edge of the Great Pee Dee River floodplain, U.S. Route 378, and U.S. Route 501. A separate EIS is being prepared to analyze the portion of Interstate 73 extending from I-95 to the vicinity of Hamlet, North Carolina.

1.1.2 What would the I-73 facility be like?

The proposed I-73 facility would be a high speed, divided, fully controlled access roadway that would require interchanges for access. Existing access to properties would be maintained by the use of frontage roads. Existing traffic patterns would be maintained by providing overpasses for east and west traffic flow.

Two typical sections were developed to accommodate the number of lanes needed for the future traffic volumes, as well as a multimodal corridor. Figure 1-3 (on page 1-4) represents the interim design, which is proposed to be constructed initially and would accommodate two lanes of traffic in each direction. In the future, when traffic volumes increase to a point that additional lanes are necessary in order to maintain an acceptable level of service, an additional lane in each direction could be added. This ultimate design would accommodate three lanes of traffic in each direction; refer to Figure 1-4 (on page 1-5). A 400-foot right-of-way would be acquired in the vicinity of frontage roads so that additional right-of-way would not be required when the ultimate design was needed. Where frontage roads are not required, a 300-foot right-of-way would be adequate.

1.1.3 Why was the project initiated?

The I-73 Corridor was identified as a High Priority Corridor by the U.S. Congress in the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. Congress designated high priority corridors as those that would provide the most efficient way of integrating regions, linking major population centers of the country, providing opportunities for increased economic growth, and serving the travel and commerce needs of the nation. The corridors that Congress designated were to be included in the National Highway System. Congress wanted the FHWA, along with the states, to develop long-range plans and feasibility studies for these corridors, and focus federal funds towards these areas for road construction. The proposed project is the South Carolina segment of the I-73/I-74 High Priority Corridor and is currently listed as number five on the National Highway Systems High Priority Corridors list.[1]

[1] 23 U.S.C. §1105(c) (1991, as amended through P.L. 109-59).

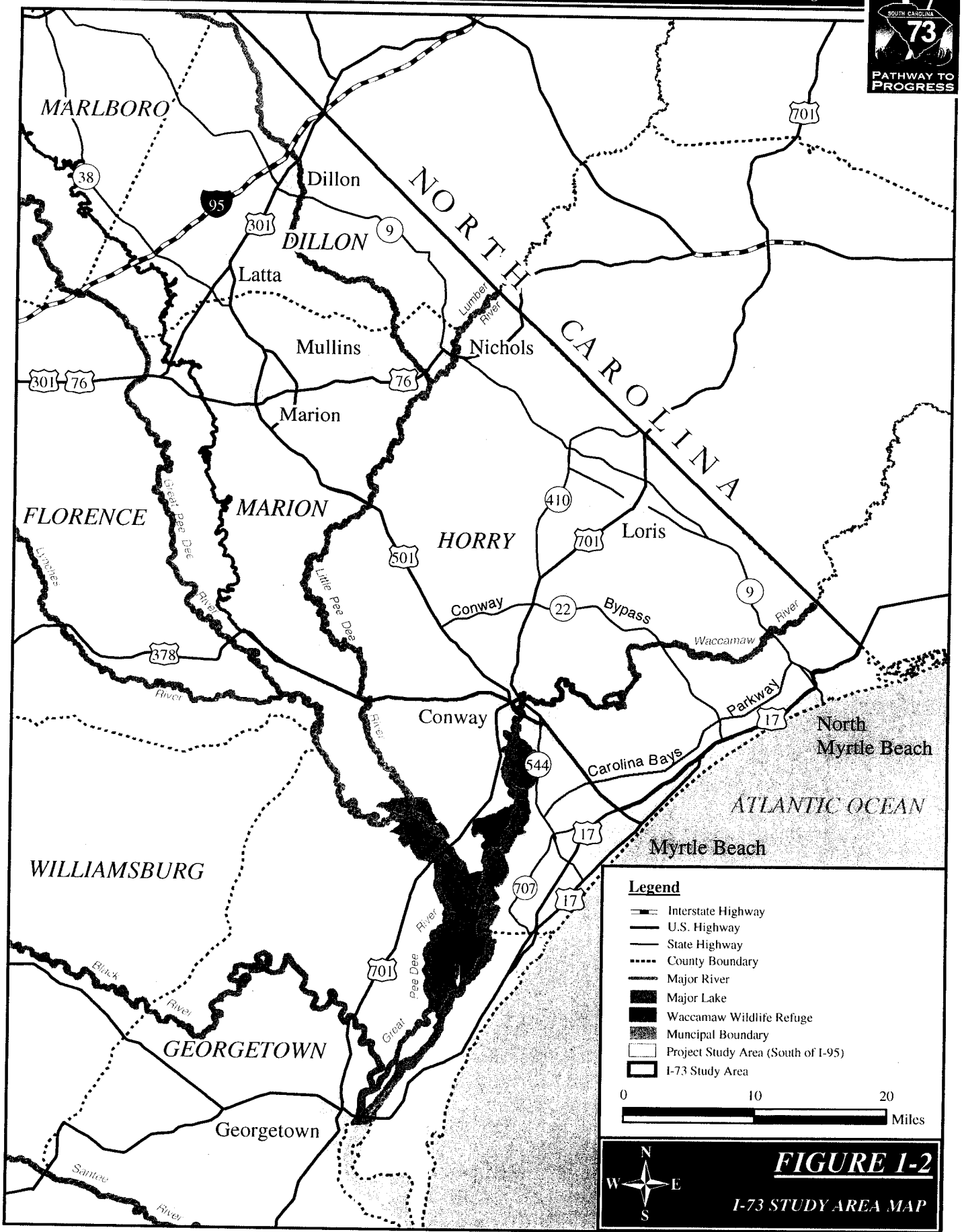
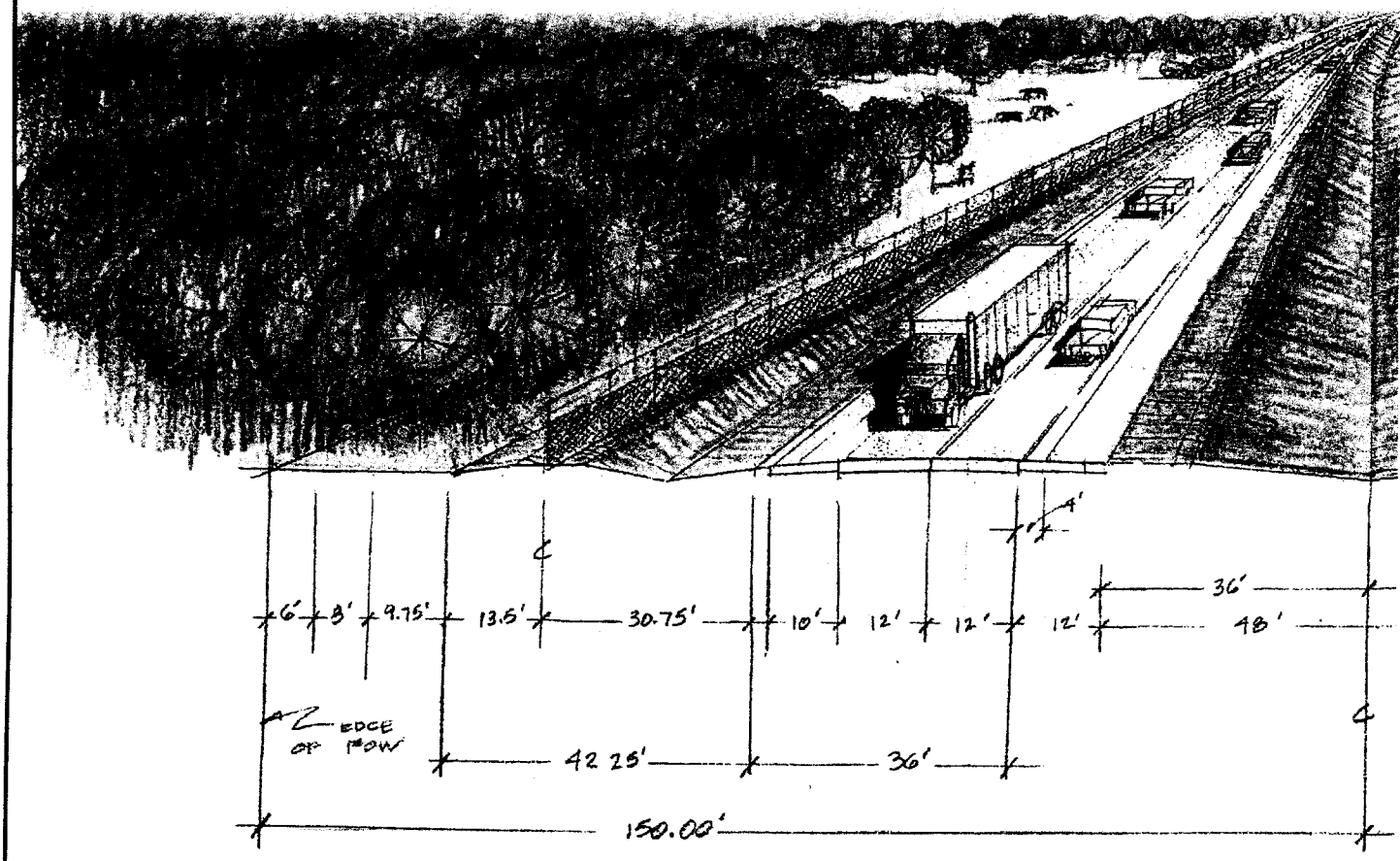


FIGURE 1-2

I-73 STUDY AREA MAP



I-73 INTERIM - NO FRONTAGE RD. AT LEFT /S

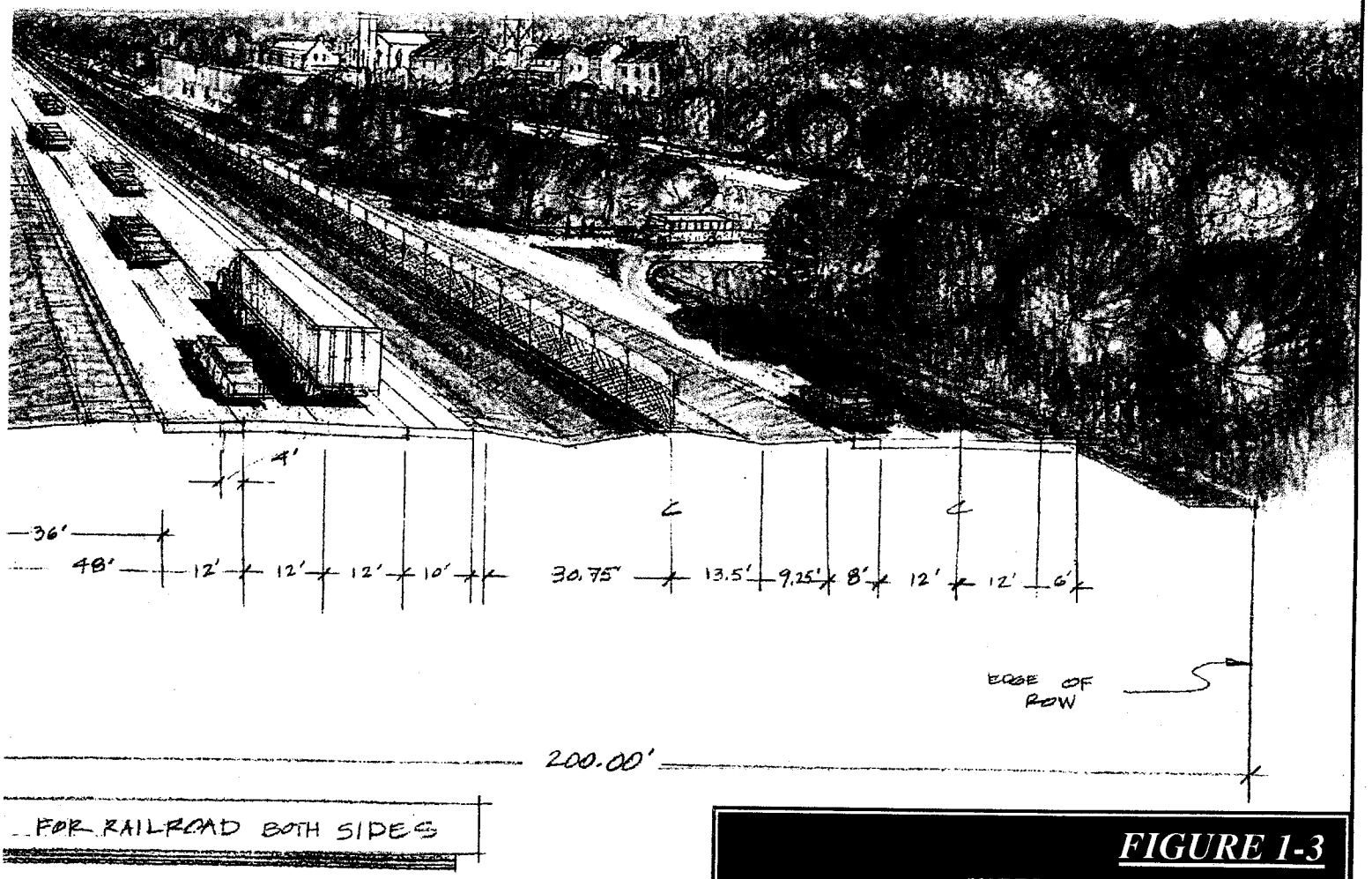
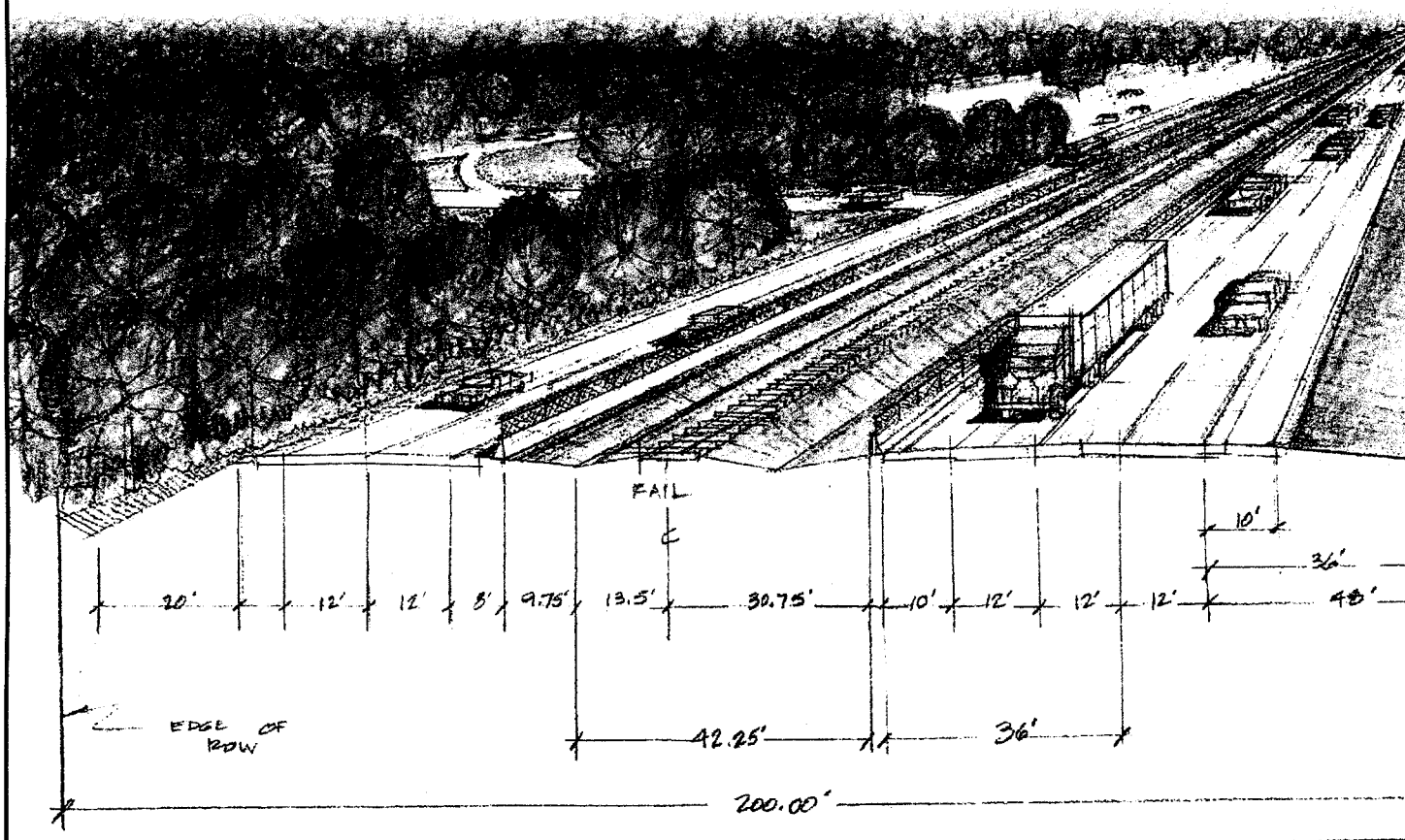


FIGURE 1-3

INTERIM TYPICAL SECTION
FRONTAGE ROAD ON ONE SIDE
SPACE FOR RAILROADS ON BOTH SIDES



I-73 – ULTIMATE 6 LANES

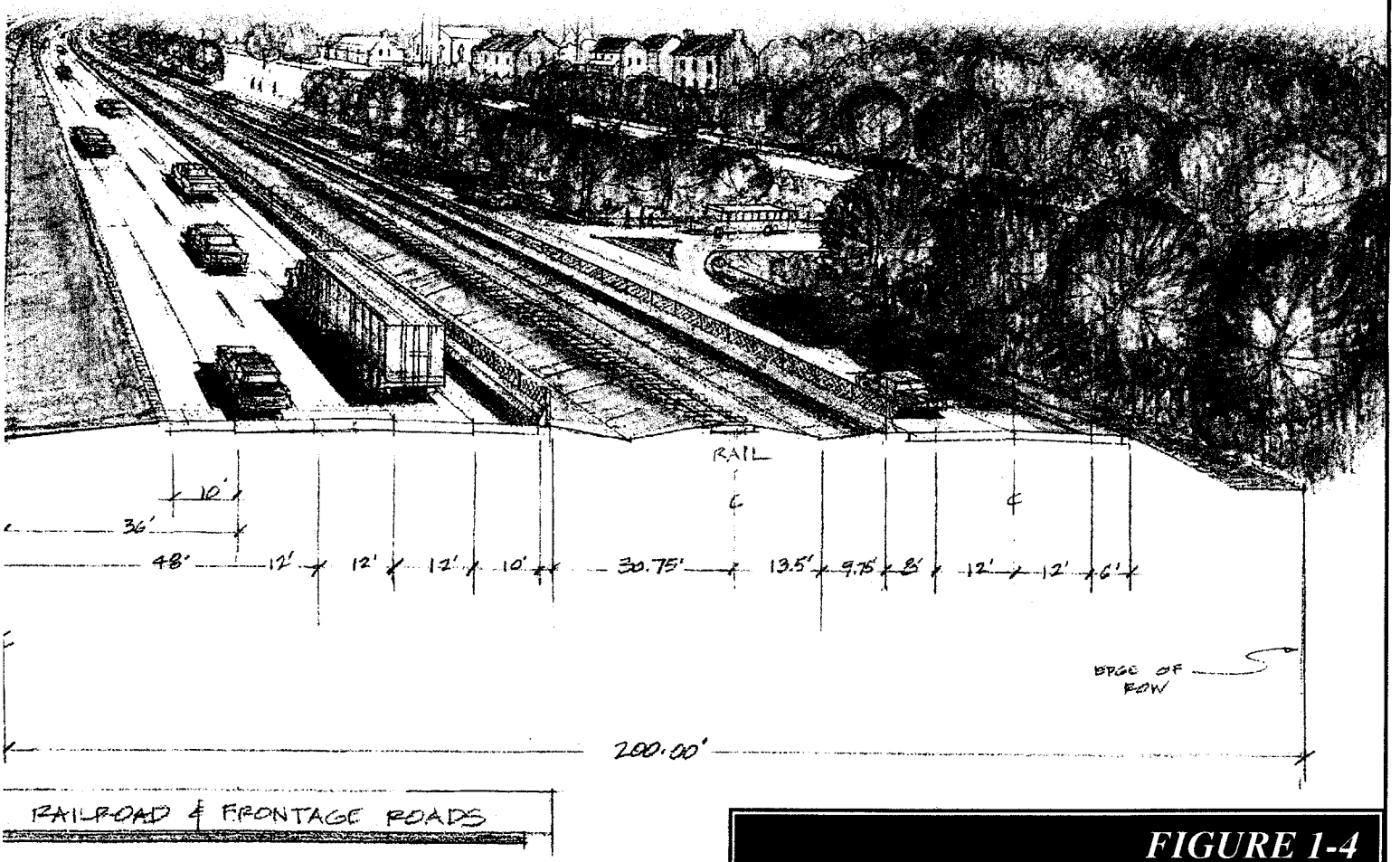


FIGURE 1-4

ULTIMATE TYPICAL SECTION WITH RAILROAD AND FRONTAGE ROADS

A corridor feasibility study was started in 1994 after ISTEA was approved and identified the I-73/I-74 corridor as a high priority. This study evaluated upgrading existing roads starting at the North Carolina state line at U.S. Route 1 in Marlboro County, going through Dillon, Marion, Horry, Georgetown, or possibly Williamsburg and Berkeley Counties, and ending on the U.S. Route 17 corridor near the city of Charleston, South Carolina in Charleston, County.[2]

The Transportation Equity Act (TEA-21), enacted in 1998, built on what ISTEA had established by continuing and improving the current programs, while establishing new initiatives. TEA-21 shortened the I-73/I-74 High Priority Corridor by changing its terminus from Charleston, South Carolina to the general vicinity of Myrtle Beach, Conway, and Georgetown, South Carolina.

A second feasibility study was completed by the South Carolina Department of Transportation (SCDOT) for I-73 in South Carolina in June of 2003. The study was completed in response to the change of the I-73 terminus from Charleston, S.C. to the Myrtle Beach, S.C. area in TEA-21. The study cited the needs of fulfilling congressional intent and providing an interstate link to the Grand Strand area along with the benefits of improved hurricane evacuation, improved capacity for vehicular and freight movement in the area, and support of population and economic growth as reasons for building I-73. The feasibility study recognized that there had been some improvements to roads in the project study area; however, the improved roads were predicted to have capacity problems along some segments in 2025, based on traffic modeling. Future traffic projections indicated that I-73 would divert traffic from existing roadways, thereby improving capacity and reducing traffic congestion.[3]

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was passed by Congress and signed into law on August 10, 2005. SAFETEA-LU acknowledges the prior purpose for, and designation of, I-73 as a High Priority Corridor, along with designating it as a project of "national and regional significance" (23 U.S.C. §101(2005)). In addition, SAFETEA-LU provides substantial funding for the I-73 project in South Carolina.

At the State level, Concurrent Resolution H3320 by the S.C. General Assembly states "that the members of the General Assembly express their collective belief and desire that the Department of Transportation should consider its next interstate project as one that provides the Pee Dee Region with access to the interstate system." Both Congress and the S.C. General Assembly have appropriated money to SCDOT to study the potential corridor for the proposed I-73.

1.1.4 Who is responsible for this project?

The SCDOT, in partnership with the FHWA, recognizes the need for transportation improvements from Interstate 95 to the Myrtle Beach region. This EIS is being prepared by the SCDOT for the FHWA (Project Team) in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR §§1500-1508); and, the FHWA environmental impact and related procedures (23 CFR §771). The

[2] South Carolina Department of Transportation. (April 1997). *I-73 Feasibility Study.*
[3] South Carolina Department of Transportation. (June 2003). *I-73 Feasibility Study.*

FHWA must have an approved Final EIS and signed Record of Decision (ROD) prior to the final design activities, property acquisition, purchase of construction materials, or commencement of project construction (23 CFR §771.113).

The FHWA has extended invitations and the following agencies have accepted the request to participate as cooperating agencies:

- U.S. Army Corps of Engineers (USACE);
- U.S. Coast Guard (USCG);
- U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS);
- U.S. Fish and Wildlife Service (USFWS);
- U.S. Environmental Protection Agency (USEPA);
- National Oceanic and Atmospheric Administration Office of National Marine Fisheries (NOAA Fisheries);
- S.C. Department of Archives and History (SCDAH);
- S.C. Department of Commerce (SCDOC);
- S.C. Department of Health and Environmental Control (SCDHEC);
- S.C. Department of Health and Environmental Control Office of Coastal Resource Management (SCDHEC-OCRM);
- S.C. Department of Natural Resources (SCDNR);
- S.C. Emergency Management Division (SCEMD); and
- S.C. Department of Parks, Recreation, and Tourism (SCPRT), (refer to Appendix A).

What is a cooperating agency?

According to the CEQ, a cooperating agency is any agency (including state, local, and tribal governments or agencies) that has legal jurisdiction or special expertise regarding any environmental impact from the project. The full definition can be found in 40 CFR §1508.5, and the cooperating agency process is described in §1501.6.

The proposed project will attempt to conserve the natural environment, community values, and cultural resources by minimizing impacts to the natural and human environment. One way this project will seek to conserve the natural environment is by evaluating the use of existing roadways. Avoiding sensitive areas and minimizing impacts will be done to the extent that they can be reasonably accomplished. Meaningful participation from the public, interested stakeholders, and resource agencies has been and will continue to be encouraged to ensure that both natural and human interests are addressed.

1.2 Why study impacts to the environment?

This EIS has been prepared to comply with NEPA. NEPA requires that a detailed analysis be prepared if any federal agency is undertaking a "major federal action significantly affecting the quality of the human environment".[4] In this detailed study, the federal agency must include an assessment of the impacts to the environment from the proposed action and any adverse effects that cannot be avoided should the proposed action be implemented.[5] In addition, the agency must include any alternatives to

[4] 42 U.S.C. §4332(C)(2).
[5] 42 U.S.C. §4332(C)(2)(i)-(ii)

the proposed action, the relationship between short-term uses of the environment and long-term productivity due to the proposed action, and any irreversible or irretrievable commitment of resources if the proposed action were to occur.[6] The purpose of NEPA documents is to provide the decision makers with the best available information so that agency personnel can make an informed decision about the project. The intent of NEPA is to promote better decision making by federal agencies when they undertake actions that may have effects on the environment.

The CEQ is the regulating agency for NEPA and has developed a set of regulations that provide more detailed information about implementation of NEPA. These regulations have specific requirements of what should be included in an EIS (40 CFR §1502).

1.2.1 What type of impacts will be evaluated?

There are three types of impacts that may occur when an action takes place: direct impacts, indirect impacts, and cumulative impacts. Each are defined and discussed below. The terms "impact" and "effect" are used interchangeably throughout this document, because they share the same meaning according to the CEQ regulations (40 CFR §1508.8).

Direct impacts are defined by the CEQ as impacts, "which are caused by the action and occur at the same time and place" (40 CFR §1508.8(a)). For example, a direct impact to a resource such as wetlands would be a loss of acreage due to the construction of the road.

Indirect impacts are defined in 40 CFR §1508.8(b) as those impacts "which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems." An example of an indirect effect would be development by a third party after a new road and interchange has been constructed.

The CEQ defines cumulative impacts in 40 CFR §1508.7 as an "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." An example of a cumulative impact would be loss of habitat from a current project added to changes resulting from past and future projects in the project study area, such as timber harvesting or agricultural practices.

Impacts are analyzed to determine how an alternative may affect resources if it were implemented. Each alternative that is under consideration may have impacts of varying degrees. These variances, or differences, are used by the decision makers to evaluate and compare each alternative.

[6] 42 U.S.C. §4332(C)(2)(iii)-(v)

1.2.2 How does the FHWA evaluate impacts?

FHWA has developed a set of regulations (23 CFR §771) to further guide its agency in applying NEPA and CEQ regulations. In addition, FHWA published Technical Advisory T 6640.8A in 1987 to help further guide the agency in preparation of NEPA documents, as well as *Position Paper: Secondary and Cumulative Impact Assessment in the Highway Project Development Process*[7] for further guidance on indirect and cumulative impacts. Guidance for noise abatement due to construction and highway traffic noise and mitigation of environmental impacts to privately-owned wetlands can be found in 23 CFR §772 and §777, respectively.

FHWA uses the term "secondary" for indirect impacts, and gives it similar meaning as the CEQ regulations. Indirect and cumulative impacts must be addressed when doing a project, especially in terms of the impacts from induced growth (i.e. new businesses, industry, residences). FHWA must incorporate indirect and cumulative impacts from induced growth, but is not responsible for mitigating actions that are beyond its control.[8] This requires FHWA to evaluate the possibility of induced growth, but FHWA is not responsible for mitigating for the growth since a third party would be performing the action.

1.3 What is the purpose of the project?

The purpose of the proposed project is to provide an interstate link between I-95 and the Myrtle Beach region to serve residents, businesses, and tourists while fulfilling congressional intent in an environmentally responsible and community sensitive manner.

1.4 Why do we need the project?

The following primary and secondary needs have been identified in connection with the proposed federal action, which are in accordance with FHWA guidelines. The degree to which the project will serve the primary needs identified below will receive greater emphasis than the secondary needs in the alternatives and impacts analysis.

What are primary and secondary needs?

A *Primary Need* is an essential need for the project that must be met.

A *Secondary Need* is a need of lesser importance that may be met indirectly when the project is completed and the primary needs are fulfilled.

1.4.1 Primary Needs:

- **System Linkage** – Improve national and regional connectivity by providing a direct link between I-95 and the Myrtle Beach region.
- **Economic Development** – Enhance economic opportunities and tourism in South Carolina.

[7] HEP-32. FHWA (April, 1992).
[8] *Department of Transportation v. Public Citizen*, 541 U.S. 752, 124 S. Ct. 2204 (2004).

1.4.2 Secondary Needs:

- **Hurricane Evacuation** – Facilitate a more effective evacuation of the Myrtle Beach region during emergencies.
- **Relieve Local Traffic Congestion** – Reduce existing traffic congestion on roads accessing the Myrtle Beach region.
- **Multimodal Planning** – Allow for future provision of a multimodal facility within the Interstate Corridor.

1.5 What is system linkage?

I-73 provides an opportunity to address a significant link lacking in the interstate system in South Carolina. Horry County is the most populated county in the State not currently served by an interstate highway. The proposed project would provide a needed connection between the highly popular tourist destination of Myrtle Beach and the interstate system at I-95. It would also provide an interstate link to Marion County.

System linkage will provide a direct interstate link between the interstate system at I-95 and the Myrtle Beach region. This new interstate link will improve tourist access and facilitate the movement of goods to and from South Carolina.

According to the 2005 Myrtle Beach Statistical Abstract, there were an estimated 12.8 million visitors to the area in 2003. Approximately 81 percent of the visitors travel to the area via automobile from within South Carolina; from surrounding states such as North Carolina, Kentucky, New York, Pennsylvania, and Ohio; and from the eastern Canadian provinces. In 2004, the American Automobile Association (AAA) ranked Myrtle Beach fourth in the United States as a driving destination, behind the major metropolitan areas of Orlando, Florida; Anaheim, California; and Las Vegas, Nevada. Myrtle Beach is the only one of these destinations not served by at least one major interstate.[9] I-73 would provide linkage to facilitate the movement of people and goods to and from South Carolina via the interstate highway system.

The alternative corridors developed for I-73 would extend south from I-95 and end at S.C. Route 22. S.C. Route 22 currently is a four-lane divided highway extending between U.S. Route 501 near Conway to U.S. Route 17 in North Myrtle Beach. The interchange of these two roads would be such that the traffic on I-73 would continue smoothly onto S.C. Route 22. It would not be apparent to motorists that they had left I-73 and moved onto S.C. Route 22.

The portion of S.C. Route 22 from where I-73 would intersect it, all the way to its eastern terminus at U.S. Route 17 would be incorporated into I-73. It is a fully controlled access roadway and would otherwise meet interstate design standards except that the paved portion of the road shoulders is too

[9] American Automobile Association. (May 19, 2004). *AAA Travel Agency Sales Strong for 2004; Cruises, European Destinations Once Again Top Agent's List.*

narrow. This would require additional paving of the road shoulders. However, the footprint of the roadway would not change, thus no additional direct impacts would result.

The current roads between Myrtle Beach and I-95, such as U.S. Route 501, U.S. Route 378, and S.C. Route 9, are used heavily during the tourist season (which runs from April to September). U.S. Route 501 is the main road used between I-95 and the Myrtle Beach region in the project study area (refer to Figure 1-2 on page 1-3).

The project would provide opportunity for economic development for the three counties in the project study area.

1.6 How could this project affect economic development?

The project study area is located in the northeast portion of South Carolina, including the Pee Dee and Waccamaw Regions. The project study area encompasses portions of Dillon, Marion, and Horry Counties. With the exception of Horry County, which has experienced rapid growth, the project study area has grown at a moderate rate over the last several decades. The proposed action is needed in order to provide opportunity for economic development within the region in hopes of bringing needed jobs.

SAFETEA-LU identifies selection factors that are used to determine where to focus federal resources with regard to highway projects. Several of the selection factors are focused on economic development in regions. One selection factor is to determine if the project would allow regional integration to spur economic development and growth, especially in areas that are not adequately served by existing roads (23 U.S.C. §101 (2005)). This project would provide better integration of the study area with the rest of the Midwestern United States and Canada to facilitate easier movement of goods and people. Other selection factors of SAFETEA-LU focus on more efficient movement of commercial freight through a corridor (23 U.S.C. §101 (2005)). As discussed in Section 1.7, the current roadways through the project study area experience frequent stop and go situations and heavy congestion. This project would provide another corridor for moving goods to and from the project study area, which would reduce the travel and delivery times for commercial freight.

1.6.1 Who lives in Dillon, Horry, and Marion Counties, and what population characteristics shape these counties?

Population growth in Marion and Dillon has been moderate over the past four decades, while Horry County has experienced significant population growth since 1970 (Table 1.1).

Chart 1.1 provides population forecasts through year 2030 based on 2000 U.S. Census data. It is anticipated that Horry County would continue to experience high population growth, especially when compared to Dillon and Marion Counties. According to the 2005 South Carolina Statistical Abstract,[10] Dillon County is expected to have a population growth of 1.1 percent, while Marion County is forecasted

[10] South Carolina Budget and Control Board, Office of Research and Statistics. (2005). South Carolina Statistical Abstract. http://www.ors2.state.sc.us/abstract/index.asp Last accessed March 13, 2006.

to have population growth of 5.8 percent between 2005 and 2030. Horry County is expected to have a population increase of 53.4 percent between 2005 and 2030.

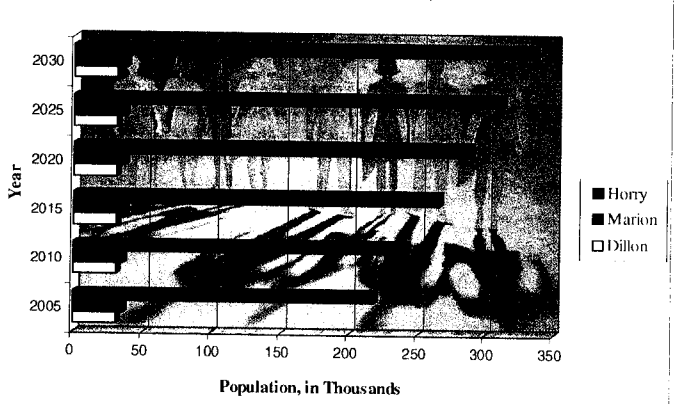
The Cities of Dillon, Marion, and Conway are the County seats of Dillon, Marion, and Horry Counties, respectively. The Cities of Dillon and Marion serve as population centers for their respective counties, while the City of Myrtle Beach is Horry County's population center. The demographic composition of the population centers and county seats are shown in Table 1.2 on page 1-13.

Table 1.1
County Population Growth
Total Population, in Thousands
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	1970	1980	1990	2000	% Change
Dillon	28.84	31.08	29.11	30.72	6.5%
Horry	69.99	101.42	144.05	196.63	180.9%
Marion	30.27	34.18	33.90	35.46	17.1%

Source: United States Census Bureau, Census of Population, 1970-2000.

Chart 1.1
County Population Growth Forecasts, 2005 to 2030



Source: South Carolina Statistical Abstract 2005, South Carolina Budget and Control Board, Office of Research and Statistics.

Of the three counties, Dillon and Marion had lower median household incomes than those of the rest of the state as well as the United States in 2000.[11] They averaged $10,500 below the median household income of the State of South Carolina and $15,416 below that of the nation (Chart 1.2 on page 1-13).[12]

1.6.2 What are some of the social and housing characteristics of Dillon, Horry, and Marion Counties?

Table 1.3 (page 1-14) provides information on the social characteristics of Dillon, Horry, and Marion Counties. The populations of the three counties are similar in terms of their median age, the percentage of the population older than 65 years, and average household size. The Counties of Dillon and Marion, as compared to Horry County, have higher percentages of households with no vehicle and no phone service. In addition, Dillon and Marion Counties have more than twice the percentage of the population with less than a ninth grade education level when compared to Horry County.[13]

[11] U.S. Census Bureau. (2000). *2000 U.S. Census State and County Quickfacts,* http://quickfacts.census.gov Last accessed March 28, 2006.
[12] *Ibid.*
[13] U.S. Census Bureau. (2000). *American Fact Finder Census 2000, Demographic Profile Highlights,* http://factfinder.census.gov Last accessed March 28, 2006.

Table 1.2
Demographic Composition of County Seats and Population Centers with Greater than 2000 People
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Community	2000 Population	% Non-White	% White
Dillon County			
Dillon (County Seat)	6,316	46.6%	53.4%
Latta	1,410	42.3%	57.7%
Horry County			
Conway (County Seat)	11,788	45.1%	54.9%
Myrtle Beach	22,759	20.8%	79.2%
N. Myrtle Beach	10,974	6.6%	93.4%
Loris	2,079	44.4%	55.6%
Marion County			
Marion (County Seat)	7,042	68.2%	31.8%
Mullins	5,029	62.7%	37.3%

Source: Census 2000 Population, Demographic and Housing Information, Population by Race and Hispanic or Latino Origin for Places in South Carolina.

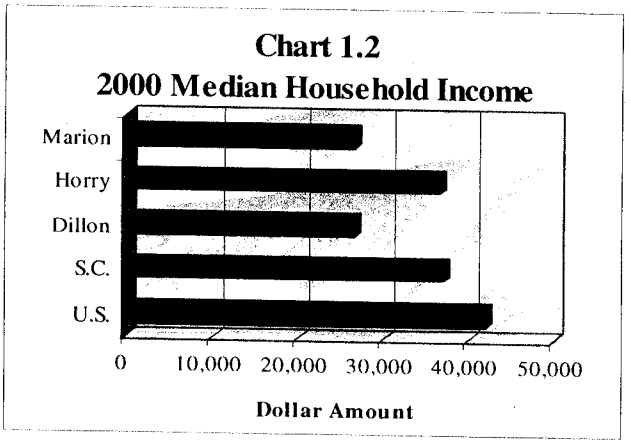


Table 1.4 provides information on the housing characteristics of Dillon, Horry, and Marion Counties. All of the counties are similar in terms of owner-occupied housing. Dillon and Marion Counties are similar in many housing characteristics including the median value of homes, the number of homes built before 1979, and the number of owners that have lived in their homes for more than 10 years. Seventy-five percent of homes in Horry County were built within the last 26 years and 72 percent of the population have lived in their homes for less than ten years. These figures reflect the growth occurring in Horry County.

The median value of homes in Horry County is significantly higher than those in Dillon and Marion Counties. Dillon and Marion Counties have around the same percentages of housing structures as mobile homes and single family structures, while Horry County had a lower amount of both types, which can be attributed to more multi-family units located in the county.

According to the 2000 U.S. Census, of the three counties that encompass the project study area, Horry County had the highest percentage (81.1 percent) of people 25 or older with a high school education. This percentage was higher than that of the United States, which was 80.4 percent and that of South

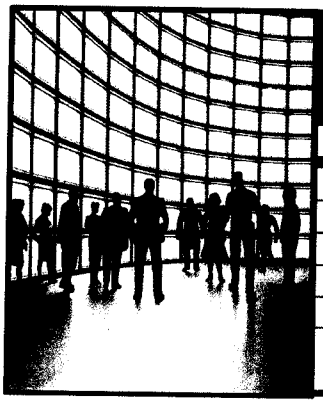


Table 1.3
County Demographic Characteristics
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	Dillon	Horry	Marion	S.C.
Median Age	34	38	32	35
Population over 65	12%	15%	13%	12%
Average household size	2.7	2.3	2.6	2.5
No vehicle	15%	7%	16%	9%
No phone service	10%	3%	9%	4%
Population w/ less than 9th grade education	11%	5%	11%	8%

Source: U.S. Census Bureau American Fact Finder Census 2000 Demographic Profile Highlights.

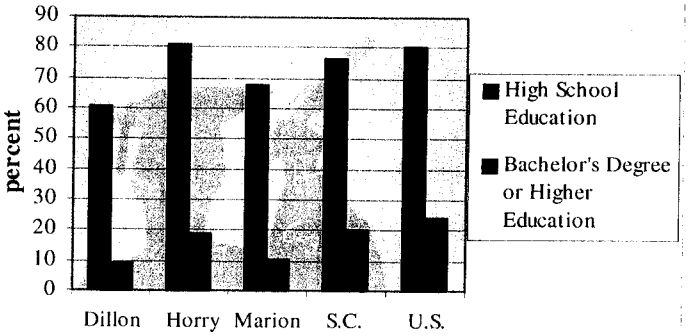
Table 1.4
Housing Characteristics of Counties in the Project Study Area
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	Dillon	Horry	Marion	S.C.
Owner occupied	72%	73%	74%	72%
Median value of homes	$60,700	$119,700	$63,500	$94,900
Homes built before 1979	59%	25%	61%	54%
Owner lived in homes more than 10 years	44%	28%	44%	37%
Mobile homes	33%	20%	30%	20%
Single family structures	57%	45%	61%	62%

Source: U.S. Census Bureau American Fact Finder Census 2000 Demographic Profile Highlights.

Carolina, which was 76.3 percent. Dillon County had 60.7 percent of people 25 or older in their county with a high school education, while Marion County had 68 percent. The percentage of people 25 and older who had a bachelor's degree or higher in the three counties was lower than both South Carolina (20.4 percent) and the United States (24.4 percent) (Chart 1.3). Horry County had 18.7 percent of its population 25 and older with a bachelor's degree or higher, while Marion County had 10.2 percent and Dillon County had 9.2 percent in 2000.[14]

Chart 1.3
Education Levels of Dillon, Horry, and Marion Counties



[14] U.S. Census Bureau. (2000). *2000 U.S. Census State and County Quickfacts*, http://quickfacts.census.gov Last accessed March 28, 2006.

1.6.3 What are the employment characteristics in Dillon, Horry, and Marion Counties?

What job training opportunities are available in the three counties?

Table 1.5 presents some of the public job training and adult education options available in Dillon, Marion, and Horry Counties. Each county has a number of educational centers for adults to receive job training, adult literacy programming, resume/interview preparation and other career training. Both Dillon and Horry counties have 2-year technical colleges and Horry County has Coastal Carolina University, the only 4-year college in the region.[15]

Table 1.5
County Job Training/Adult Education Options
Interstate 73 EIS: I-95 to the Myrtle Beach Region

County	Name	Type
Dillon	Dillon One-Stop Workforce Center	Job Training
	The Center for Accelerated Technical Training	Job Training
	Dillon Technology Center	Technology
	Northeastern Technical College	Technical
	Dillon County Technology Center-Adult Education	Adult Education
Horry	South Carolina Academy for Nurse Aide Training	Job Training
	Horry County One-Stop Workforce Center	Job Training
	The Career Center	Job Training
	Horry -Georgetown Technical College at Conway	Technical
	Coastal Carolina University	4-Year College
Marion	Marion County One-Stop Workforce Center	Job Training
	Marion County Technical Education Center	Technology
	Clemson Cooperative Extension Service of Marion	Adult Education
	Marion County Adult Education Center	Adult Education

Source: South Carolina Employment Security Commission, College and Technical School Info, 2006.

How has employment changed in the three counties?

Employment opportunities in the three-county area are primarily located in Horry County, with Dillon and Marion Counties having a lower number of jobs and experiencing some losses since 2000. This decline in employment during the 2000-2004 timeframe was attributed to plant closures

[15]South Carolina Employment Security Commission. (2005). *Quarterly Census of Employment and Wages by County, Second Quarter 2005*

and layoffs in certain industries such as those related to textiles, plastics, and foods/candy production, and some in the retail sector as well. These operations were either moved off-shore to less expensive markets (e.g., to South America or Asia), consolidated operations with other South Carolina locations, or simply downsized. As shown in Table 1.6, only Horry County has experienced positive job growth since 2000.

Table 1.6
Total Employment, by County
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	[illegible]	2004	[illegible]	2000	[illegible]	[illegible]
Dillon	9,702	9,197	[illegible]	[illegible]	[illegible]	[illegible]
Horry	[illegible]	96,401	[illegible]	105,009	[illegible]	[illegible]
Marion	[illegible]	10,809	10,448	9,998	10,648	-15.3%
Three-county Total	[illegible]	**116,407**	**118,37[illegible]**	**124,092**	**119,685**	**3.8%**

Source: South Carolina Employment Security Commission, "Labor Force and Employment Data, 2000-2004".

What are the employment characteristics for the three counties?

County employment characteristics for Dillon and Marion Counties are quite similar in terms of the top employment sectors. Manufacturing, retail trade, educational, health care and food service employ a vast majority of both Counties' labor forces. Not surprisingly, Horry County's tourism sector drives its economy with accommodation and food services, retail trade and professional services employing many of the county's employees (see Charts 1.4 to 1.6 on page 1-17).[16]

Table 1.7 (page 1-18) lists the top employers located in Dillon, Horry, and Marion Counties. According to the 2000 U.S. Census data, the primary industries in Dillon and Marion Counties include manufacturing, educational/health/social services, and retail trade. Primary industries in Horry County include construction, retail trade, educational/health/social services, and the service industry.

Agriculture is also an important part of the economic base within the three counties. For example in 2002, Dillon County ranked 4th in the state and 34th in the United States for total value of tobacco sales; Horry County ranked 1st in the state and 5th in the nation for total value of tobacco sales; and Marion County ranked 3rd in the state and 28th in the country for total value of tobacco sales.[17]

[16] South Carolina Employment Security Commission. (2006). *College and Technical School Info,* http://www.sces.org/Individual/Education/schools.htm Last accessed March 28, 2006.
[17] USDA. (2002). *2002 Census of Agriculture County Profile, Dillon, Horry, and Marion Counties.*

Chart 1.4
Dillon County Employment, by Industry

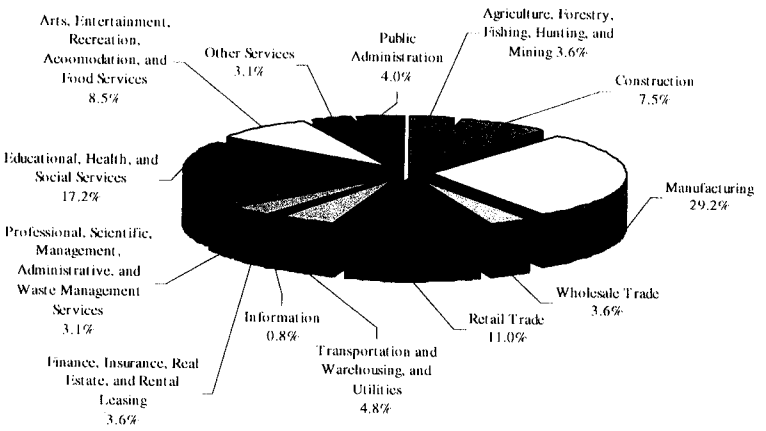


Chart 1.5
Horry County Employment, by Industry

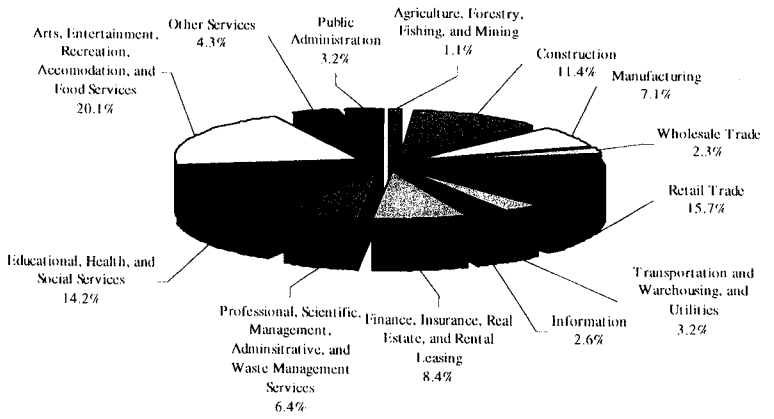


Chart 1.6
Marion County Employment, by Industry

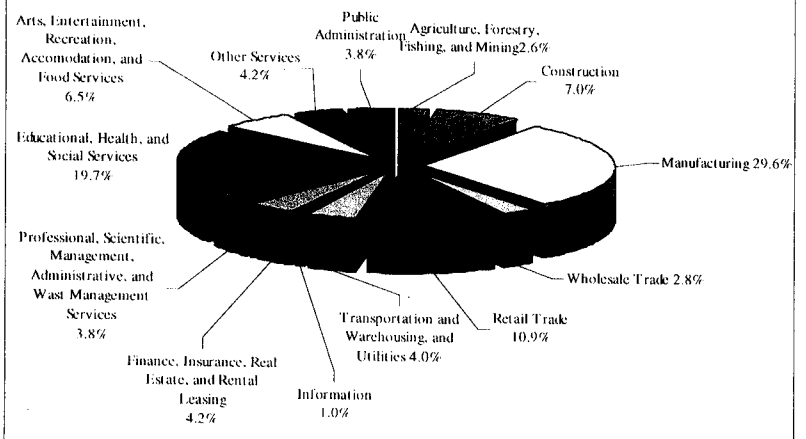


Table 1.7
Top Employers by County
Interstate 73 EIS: I-95 to Myrtle Beach Region

Employer	No. of Employees	[illegible]
Dillon County		
Perdue Farms	1050	[illegible]
Dillon Yarn	423	[illegible]
South of the Border	450	[illegible]
Wix Corporation	374	[illegible]
McLeod Health	320	[illegible]
Franco Manufacturers	300	[illegible]
Harbor Freight Tools	240	[illegible]
Horry County		
Horry County Department of Education	4000	Education
Burroughs & Chapin Co.	2214	Real Estate & [illegible]
Wal-Mart Associates Inc.	1792	Customer [illegible]
Horry County Gov.	1470	Government
AVX-Conway	1380	Electronic Components
Conway Hospital Inc.	1000	Health Care
Grand Strand Regional Medical Center	1000	Health Care
[illegible]	960	Golf Course Management
Marion County		
[illegible]	734	Automotive components
[illegible]	770	Woven damask jacquard
[illegible]	245	Sailboats
[illegible]	210	Women's hosiery
[illegible]	210	Plastic parts molding
[illegible]	200	Military rations packaging
[illegible]	143	Plastic and rubber moldings
[illegible]	105	Light bulbs

Source: U.S. Census Bureau, American Fact Finder Census 200 Demographic Profile Highlights.

1.6.4 What are the unemployment rates and poverty levels in Dillon, Horry, and Marion Counties?

Unemployment rates reflect the total employment trends observed previously in Table 1.6 (page 1-16). With a three-county region unemployment rate of roughly 9.8 percent, the region's unemployment is much higher than South Carolina's state average of 6.7 percent and the national average of 5.1 percent (Table 1.8 on page 1-19). Dillon and Marion Counties have two of the higher unemployment rates in South Carolina.

According to the U.S. Census Bureau, a county is considered poor if more than 20 percent of its population is below the poverty line. According to 2000 poverty estimates calculated by the U.S. Census Bureau,[18]

[18] U.S. Census Bureau. (2000). *2000 U.S. Census State and County Quickfacts,* http://quickfacts.census.gov Last accessed March 28, 2006.

both Dillon (24.2 percent) and Marion Counties (23.2 percent) have exceeded 20 percent of their populations living below the federal poverty threshold, respectively. Horry County has only 12 percent of its population living below the poverty line. The state percentage of 14.1 percent is also lower than both Dillon and Marion Counties.

Table 1.8
Unemployment Rates, 2005
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	2005 Unemployment Rate
Dillon	9.5%
Horry	5.9%
Marion	13.9%
Three-County Average	**9.8%**
State Average	**6.7%**
National Average	**5.1%**

Source: South Carolina Employment Security Commission, "Labor Force and Employment Data, 2005"

1.6.5 How would this project benefit the recruitment of new businesses to the three-county area?

Having an interstate would provide opportunities to recruit new businesses and industry by virtue of being linked and having proximity to the interstate system. Although the presence of an interstate is not enough to generate new jobs, it is one of the key factors that industries and businesses seek when siting a facility. According to an industry magazine specializing in evaluating future locations for companies, "whether a company is setting up a manufacturing facility, distribution center, (or) retail outlet...it is absolutely critical that the location it chooses be supported by a robust transportation infrastructure. Regardless of the specific type of facility, it will need to be able to quickly and economically move raw materials, supplies, and finished products in and out....Not having the transportation infrastructure you require, however, will almost always get a location removed from your list of possibilities."[19]

Certainly an interstate alone does not necessarily lead to economic growth, but the improved access and mobility from I-73 would provide the Pee Dee Region with enhanced development opportunities. However, the presence of an interstate is a necessary component of the ability to attract new businesses to an area. Local city and county governments, along with non-governmental organizations, would have the ultimate responsibility in recruiting new businesses and industries to their areas. However, having this interstate would be an added advantage to attract a company to locate in these counties.

It is also anticipated that the construction of a new interstate facility would stimulate the development of tertiary services in close proximity to the corridor. Convenience services such as restaurants, gas stations, and accommodations would provide additional employment and income to the neighboring communities. Opportunities for development of tourist-friendly establishments and recreational facilities would likely increase with an interstate connecting the Myrtle Beach region to I-95 and the interstate highway system.

[19] Bill King and Michael Keating. "2005 Logistics Quotient: The Top Logistics Metros in the United States." Expansion Management September 14, 2005: www.expansionmanagement.com.

1.6.6 Would this project benefit travel and tourism in the three-county area?

Travel and tourism are the largest employer and fourth largest generator of gross state product in South Carolina, respectively.[20] In 2004, tourists spent $7.8 billion in South Carolina, approximately 31 percent of it in Horry County.[21] Sales tax paid by visitors was over $253 million (11.4 percent of total sales tax collections), and overall state and local government revenues generated by tourism were over $1 billion.[22] According to the Myrtle Beach Area Statistical Abstract the majority of visitors are attracted to the area by the beach, shopping, and numerous golf courses.[23] Economic development in the Myrtle Beach region is anticipated to continue and the interstate would help to accommodate this growth and increase tourism.

Tourism is based on the concept of a location being a desirable vacation destination. The Atlantic Ocean as well as an abundance of golf courses lead to the attractiveness of the Myrtle Beach region as a destination of choice. The Travel Channel named Myrtle Beach as one of America's Best Beaches for 2003-2004, and named it as one of the Best Family Beaches due to the multitude of activities for all ages.[24] In addition, VacationSpots.com named Myrtle Beach the Top Beach Spot in 2005 and it was named a favorite travel destination by readers of Southern Living magazine in 2005.[25] Along with being a top beach destination, the Myrtle Beach area has received numerous awards as a top golf destination. In fact, Myrtle Beach is ninth on Golf Digest's list of the 50 Greatest Golf Destinations in the World (based on a survey of 700 low-handicapped golfers), and received the 2005 Golfers' Choice Bronze Award for Best Travel Destination by the Toronto Sun (based on a survey of more than 200,000 readers).[26]

Reaching the destination with efficiency and ease is a part of the overall vacation experience. American Automobile Association, along with the American Highway Users Alliance and The Road Information Program, released a study in 2005 locating the top summer traffic bottlenecks in the country. These bottlenecks were based on information from the FHWA, state departments of transportation, and the travel and tourism industry. The drive between I-95 and the Myrtle Beach area on U.S. Route 501 was listed as 23rd in the top 25 for vacation travel delays and congestion.[27] The proposed project would enable tourists to access the area more efficiently and provide a high-speed access route to the region.

[20] South Carolina Budget and Control Board, Office of Research and Statistics. (2005). *South Carolina Statistical Abstract 2005,* http://www.ors2.state.sc.us/abstract/index.asp Last accessed March 28, 2006.
[21] South Carolina Department of Parks, Recreation and Tourism (2004), *The Economic Impact of Domestic Travel Expenditures on South Carolina Counties.*
[22] South Carolina Budget and Control Board, Office of Research and Statistics. (2005). *South Carolina Statistical Abstract 2005,* http://www.ors2.state.sc.us/abstract/index.asp Last accessed March 28, 2006.
[23] Myrtle Beach Area Chamber of Commerce. (February 2005). *Statistical Abstract for the Myrtle Beach Area of South Carolina 16th ed.*
[24] *Ibid.*
[25] Myrtle Beach Area Convention and Visitors Bureau, *Myrtle Beach Area Accolades* http://www.myrtlebeachinfo.com/cvb/media/press-accolades.html Last accessed March 21, 2006.
[26] *Ibid.*
[27] American Automobile Association, American Highway Users Alliance, and The Road Information Program (June 30, 2005), *Are We There Yet? A Report on Summer Traffic Bottlenecks and Steps Needed to ensure that Our Favorite Vacation Destinations Remain Accessible.*

1.7 How would this project affect hurricane evacuation?

Hurricane evacuation is a concern for the Myrtle Beach region due to the dramatic increase in the resident population and coinciding tourist and hurricane seasons. The Saffir-Simpson Hurricane Scale is used by the National Hurricane Center and the SCEMD to rate the intensity of the hurricane on a scale of one to five. The wind speed is the primary determining factor when rating a hurricane, with Category One hurricanes having the lowest wind speeds and Category Five hurricanes having the highest wind speeds.

The Saffir-Simpson Hurricane Scale:
Category One – 74 to 95 mph winds
Category Two – 96 to 110 mph winds
Category Three – 111 to 130 mph winds
Category Four – 131-155 mph winds
Category Five – More than 155 mph winds

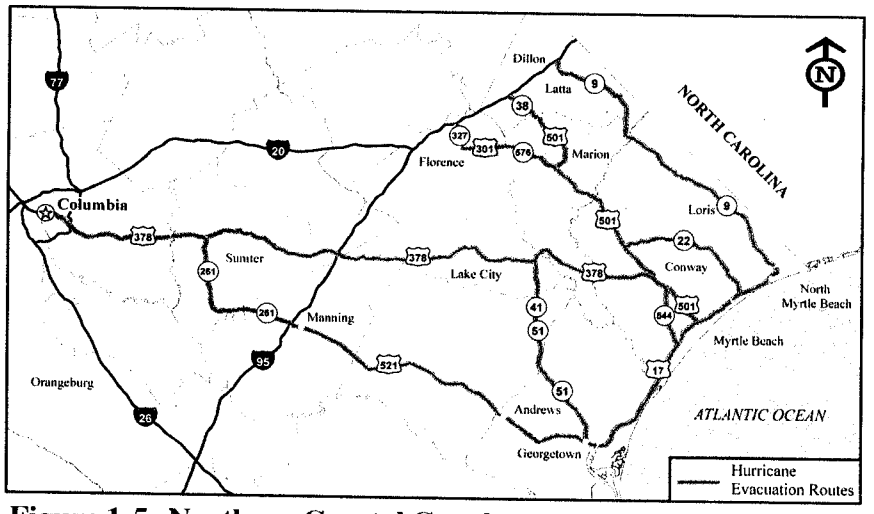


Figure 1-5. Northern Coastal Conglomerate

The region is currently served by three designated hurricane evacuation routes that connect U.S. Route 17 to I-95: S.C. Route 9; U.S. Route 501; and U.S. Route 521 (Figure 1-5). In addition, U.S. Route 378, designated as a hurricane evacuation route, connects to U.S. Route 501 in Conway.

Horry County had a permanent population of 196,629 people in 2000.[28] According to SCPRT, Horry County's resident population, combined with its tourists, equated to an average population per day of 296,809. In the event of a natural or man-made threat, Horry County would need to evacuate both the resident and tourist populations. Approximately 300,000 people attempting to leave an area via the current evacuation routes would result in a strain of the existing facilities. The addition of a four-lane interstate system would help reduce the time for evacuation.

The 2003 *South Carolina Hurricane Plan,* completed by SCEMD, contains evacuation estimates for the Northern Coastal Conglomerate that encompasses Clarendon, Darlington, Dillon, Florence, Georgetown, Horry, Lee, Marion, Marlboro, Sumter, and Williamsburg counties, and in turn, the project study area.[29] As stated in the 2003 Plan:

[28] South Carolina Budget and Control Board, Office of Research and Statistics. (2005). *South Carolina Statistical Abstract 2005,* http://www.ors2.state.sc.us/abstract/index.asp Last accessed March 28, 2006.
[29] South Carolina Emergency Management Division. (June 2003). *The South Carolina Hurricane Plan.*

Clearance times generally fall below 24 hours...however, due to the limited road network and the large numbers of tourists and permanent residents who would have to evacuate in the northern conglomerate, times could potentially exceed 26 hours for a Category 4-5 hurricane, high tourist occupancy scenario.

What is evacuation clearance time?

Evacuation clearance time is the amount of time that passes between the first vehicle evacuating entering the road network and ends when the last vehicle has reached an assumed point of safety, in this case, I-95. It does not account for the time any one vehicle spends traveling on the road network to reach the point of safety.

Within the Northern Coastal Conglomerate, two major bottlenecks occur on U.S. Route 501. One bottleneck occurs on U.S. Route 501 between U.S. Route 17 Bypass and Conway that causes an increase in evacuation time (refer to Figure 1-5). Lane reversal is feasible on a portion of U.S. Route 501; however, it results in negligible clearance time reductions because the other major bottleneck that controls clearance time on this road (U.S. Route 501 at Aynor) is "upstream" of the reversal area.[30] The proposed project would provide a four-lane controlled-access interstate facility for which the lanes could be reversed, as opposed to U.S. Route 501, which is not a controlled-access facility. This would easily provide a more efficient evacuation route than is currently in place and is anticipated to relieve pressure on other evacuation routes currently running at capacity.[31]

A study was completed to analyze what impacts the I-73 corridor would have to the efficiency of evacuating residents and tourists from the Myrtle Beach area during the threat of a hurricane coinciding with high tourist occupancy rates.[32] The same model used by SCEMD to study hurricane evacuation scenarios was used to perform this analysis. The study looked at evacuation times for 2005 along U.S. Route 501, as it is the primary evacuation route for the largest number of people in the region, has the greatest bottlenecks, and it would be the most relieved if I-73 were constructed. The study compared evacuation times for the year 2005 and the year 2030 with and without I-73, and if lanes were reversed on I-73, including the Conway Bypass (S.C. Route 22) section.

Table 1.9 (page 1-23) reflects current and projected 2030 evacuation times (in hours) by storm category along U.S. Route 501, S.C. Route 9, and on I-73 if it is constructed.[33] The times for the different hurricane categories are presented due to the increasing numbers of persons evacuated by category zones. The higher the category of storm, then the larger the evacuation area and the more traffic on evacuation routes.

If I-73 is constructed, and assuming high tourist occupancy, the time for evacuation along U.S. Route 501 would reduce by 10.9 hours for a Category 4-5 and high tourist occupancy with the addition of traffic evacuating along I-73. If lanes were reversed on I-73 and the Conway Bypass (S.C. Route 22)

[30] *Ibid.*
[31] SCDOT. December 2005. *I-73 Environmental Impact Statement Hurricane Evacuation Analysis.*
[32] SCDOT. December 2005. *I-73Environmental Impact Statement Hurricane Evacuation Analysis.*
[33] *Ibid.*

Table 1.9
Evacuation Clearance Times on U.S. Route 501, S.C. Route 9 and I-73 by Hurricane Category (in hours)
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	Category 1-2	Category 3	Category 4-5
Evacuation times on U.S. Route 501			
2005 Base Year	16	21	24.2
2030 without I-73 constructed	24	32	37.4
2030 with I-73 constructed	16.7	22.6	26.5
2030 with I-73 constructed & Lane Reversal on I-73	13.8	18.9	22.4
Evacuation times on S.C. Route 9			
2005 Base Year	9.8	11.6	13.4
2030 without I-73 constructed	11.2	13.2	15.5
2030 with I-73 constructed	9	10.8	12.6
2030 with I-73 constructed & Lane Reversal on I-73	7.9	9.5	11.2
Evacuation times on Interstate 73			
2030 with I-73 constructed	19.5	25	29
2030 with I-73 constructed & Lane Reversal on I-73	12.6	16	18.9

then the evacuation time would reduce by 15 hours on U.S. Route 501 for a Category 4-5 storm and high tourist occupancy. Evacuation time along S.C. Route 9 would also benefit by decreasing 2.9 hours with I-73 present and by 4.3 hours if lanes were reversed at the Conway Bypass and on I-73.

If I-73 were not built, the evacuation time in 2030 on S.C. Route 9 would be over 15 hours while evacuation time could exceed 37 hours in a worst-case scenario (Category 4-5) on U.S. Route 501. With clearance times this long, the decision to evacuate would have to be made early in the hurricane watch period before the National Hurricane Center has reliable data to make predictions concerning storm track or hurricane intensity. This could result in needless evacuations of residents and tourists, which would hurt the region's economy.

I-73 would provide another route for evacuation and reduce clearance times along U.S. Route 501 by over ten hours. The southbound lanes of I-73 and the Conway Bypass (S.C. Route 22) could also be reversed, allowing more cars to evacuate at the same time.

This project would reduce clearance times along U.S. Route 501 by over 10 hours, allowing the Myrtle Beach region to evacuate faster in emergency situations.

With lane reversal, evacuation time would be reduced by an additional four hours along U.S. Route 501 and an additional ten hours on I-73. The potential overall savings in evacuation time could be up to 18 hours in a worst-case scenario (Category 4-5 and high tourist occupancy). Due to the eight alternatives being in close proximity to one another, from a hurricane evacuation standpoint, no appreciable difference would be discerned in attracting different amounts of evacuation traffic from either coastal or inland counties.

1.8 Would the project relieve local traffic congestion?

As discussed in Section 1.5, System Linkage, the vast majority of the visitors to the Myrtle Beach region travel there by automobile. This large number of visitors arriving to the area by vehicle congests the local transportation network. Traffic diverted to I-73 would reduce congestion on local roads. The addition of I-73 would improve the travel efficiency within the three-county (Dillon, Marion, and Horry Counties) study area.

By providing an interstate link, tourism traffic would be diverted from the regional roadways in turn relieving traffic congestion on other roads accessing the Myrtle Beach region.

A traffic model is a numerical program based on existing conditions that enables the user to project current and future traffic volumes.

Based upon the results of the traffic modeling, the average speed of travel of vehicles on the network would increase from slightly less than 52 miles per hour to more than 56 miles per hour, depending upon the alternative. This is a large increase in speed when spread over the number of trips in the network each day. This efficiency is also reflected in the reduction that would occur in travel times between I-95 and U.S. Route 17, an approximately 65 mile distance, of between 10 to 15 minutes. Likewise, vehicle hours traveled (VHT) would decrease in the network for all of the build alternatives versus the no-build (refer to Chapter 2).

Safety is a concern on roadways with high congestion and frequent stop and go conditions. Roads in the project area are used by tourist and commercial traffic that are sometimes not familiar with the roads. Added to that is the local traffic, some of which is farm machinery or slow moving vehicles. U.S. Route 501, U.S. Route 378, and S.C. Route 9 all have uncontrolled access, meaning that access is unconstrained to the businesses and residences along them. This results in increased stopping of traffic for vehicles turning off and onto these roads, along with a number of stoplights and signage. In Dillon, Horry, and Marion Counties, a majority of the work force either commutes alone (74 to 79 percent), with a smaller percentage carpooling (14.4 to 18 percent) or taking public transportation (0.5 to 1.3 percent). The average travel time to work for Dillon County and Marion County residents is around 28 minutes, while the average travel time to work for Horry County residents is 23.7 minutes.[34]

An interstate would have controlled access via interchanges and access ramps, have mainly one posted speed (normally it is anticipated to be 70 miles per hour in rural areas), and would not have frequent stopping due to traffic turning or stoplights/signs. In addition, an interstate would have better safety designs and standards than the current roads in the project area. An interstate would provide relief to the already strained network accessing the region by improving capacity, thereby providing a safer transportation route for tourists and residents.

[34] U.S. Census Bureau. (2000). *American Fact Finder Census 2000, Demographic Profile Highlights*, http://factfinder.census.gov Last accessed March 28, 2006.

1.9 How would the project incorporate multimodal planning?

The project would proactively plan for future transportation options within the I-73 corridor.

The U.S. Department of Transportation (USDOT) stated that traffic congestion is expected to increase 400 percent on our urban freeways and 200 percent on other roads by 2020.[35] One need of the proposed action is to provide a corridor to accommodate a future multimodal facility. By providing for a multimodal facility, an increase in future visitors could be served without having to add highway capacity. Although at this point in the planning process a specific multimodal component has not been designated, the goal is to provide a corridor for future rail within the proposed right-of-way corridor. The future rail within the project study area would be limited to a design speed of 79 miles per hour, which is not appreciably different from the proposed design speed of 75 miles per hour for I-73. The future rail project would be required to undergo a separate NEPA analysis and environmental permitting process prior to construction.

On October 20 1992, under ISTEA, the USDOT announced the designation of the Southeast High-Speed Rail (HSR) corridor connecting Charlotte, North Carolina, Richmond, Virginia, and Washington, D.C. On December 1, 1998, under TEA-21, the Southeast HSR corridor was extended from Charlotte, North Carolina through Greenville, South Carolina and Atlanta Georgia to Macon, Georgia; and from Raleigh, North Carolina through Columbia, South Carolina and Savannah, Georgia to Jacksonville, Florida .[36]

HSR, as a mode of transportation, has the potential to provide an efficient, reliable, safe, and an affordable alternative to highway and airport congestion. In order to implement the development of the Southeast HSR corridor, the Southeastern Economic Alliance was created consisting of 14 cities across six Southeast states. In 1999, the SCDOT Transportation Commission passed a resolution in favor of the Southeast HSR corridor and supporting extensions of the HSR system to Charleston, South Carolina and Myrtle Beach, South Carolina.

An EIS was completed for the corridor between Washington, D.C. and Charlotte, North Carolina in 2002, identifying a preferred route for the rail system. The EIS for the segment from Petersburg, Virginia (and possibly Richmond, Virginia) to Raleigh, North Carolina is currently underway and should be completed in the spring of 2006 or 2007.[37] Also, an EIS is currently being prepared for the linking of Hampton Roads and Norfolk, Virginia area to the Southeast HSR corridor and should be completed by early 2006.[38] A feasibility study for HSR between Charlotte, North Carolina and Macon, Georgia was completed in 2004, and found a HSR corridor between the two locations was practical. The City of Charlotte is also generating funds via a local tax to build portions of their commuter rail system that will likely become part of the HSR.

[35] Southeast High Speed Rail Organization. www.sehsr.org Last accessed March 28, 2006.
[36] Federal Railroad Administration. http://www.fra.dot.gov Last accessed March 28, 2006.
[37] Southeast High Speed Rail Organization. www.sehsr.org Last accessed March 28, 2006.
[38] *Ibid.*

Since the alignment of the Southeast HSR corridor could come in close proximity to the ultimate I-73 corridor, this project seeks to plan for future transit options by preserving a corridor adjacent to the proposed I-73. This rail corridor could provide a connection between the HSR line and the Myrtle Beach region. The future Myrtle Beach monorail as well as other local transit options such as the Lymo bus system would provide these travelers with the means to travel locally while visiting the Myrtle Beach region. Again, this I-73 project will only preserve 100 feet for future multimodal accomodations. More detailed analysis is beyond the scope of decisions to be made in this document.

1.10 Will I-73 be a toll road?

Although I-73 has received to date 90.5 million dollars in federal earmarks and an additional 2.5 million dollars in state funding from the S.C. General Assembly, it will not be enough to construct this project.

An earmark refers to money that has been reserved or set aside for a particular purpose.

Traditionally, roadway construction has been financed using the money raised by taxes levied on fuel. The federal government provided the largest share of the money, typically 80 percent, while the state and/or local governments provided the balance. The projected highway needs for South Carolina total more than $59.7 billion over the next twenty years (2005 dollars). The FHWA funding projections for South Carolina over that time are $10.5 billion and state highway funding projections are roughly $8.9 billion[39]. This leaves a projected funding shortfall of over $40 billion dollars.

SCDOT, along with the Metropolitan Planning Organizations (MPO) and Council of Governments (COG), identified interstate improvement and construction projects throughout the state. These needed interstate improvements, which include widening existing interstates, improving existing interchanges, and construction of new interstates, are estimated to cost approximately $10.5 billion (2005 dollars, I-73 is one of the projects listed).

The gap between state needs and the funding available are not unique to South Carolina. High infrastructure demands nationwide have led to a wide gap between the cost of the roadway improvement needs and the amount of money available for financing projects. This has resulted in a movement toward the use of innovative finance techniques and other methods of project delivery such as the design/build approach, as explained in Section 1.11. In an effort to take advantage of every opportunity to attract the funds necessary for the project, other available means to provide the financing for this project will be explored.

Congress also has recognized this gap and has enacted changes in federal legislation to permit the use of innovative financing. Previous highway bills began addressing innovative financing by permitting the establishment of State Infrastructure Banks (SIB's) which allow the use of federal funds to make loans to projects which require additional funding to advance the projects in a timely manner. South Carolina has the most successful SIB in the country. This bank has assisted in the financing of over $3

[39] *20 Year Needs Analysis*, SCDOT, January 2005.

billion of projects in the state. However, these loans require some form of revenue to pay debt service over the life of the bonds, which are issued by the bank. Loan repayments have included local fees and taxes as well as state truck registration fees, gas tax, and future federal highway funds.

Another useful financing tool has involved the establishment of loan and credit assistance programs under the Transportation Infrastructure Finance and Innovation Act (TIFIA). This program provided a much needed federal loan which allowed construction to begin on the Arthur Ravenel, Jr. bridge in Charleston. The funds to repay the loan included a combination of future state highway funds, Charleston County funds, and funds from the State Ports Authority.

The advent of innovative financing tools has generated more interest in the use of tolls as a financing mechanism in many parts of the United States. Until recently tolls were not allowed on Interstate facilities except on new highway bridges or tunnels. A major change occurred as a part of the 1998 highway bill (TEA-21) which established a toll pilot program. This program allowed tolling on up to three existing Interstate facilities to fund needed construction or rehabilitation on Interstate highway corridors that could not otherwise be maintained or improved.

SAFETEA-LU (passed in 2005) continued this trend by providing states an opportunity to allow tolling on new facilities that use federal funds (Interstate System Construction Toll Pilot Program). This program included the following requirements:

- States or interstate compacts of states may apply;
- Tolling must be the most efficient and economical way to finance the project;
- Automatic toll collection is required (see later discussion of toll collection);
- There may be no requirement to block improvements to competing facilities;
- Revenues may only be used for debt service, reasonable rate of investment of private equity, and for operation and maintenance costs.

The S.C. General Assembly passed Bill H4422 on January 24, 2006 which stated that "the Department of Transportation may impose and collect a toll on the proposed Interstate 73 corridor upon completion of this highway project. This toll must be used to pay for the cost of planning, right-of-way acquisitions, financing, construction, operation, and other expenses associated with this highway project, and for the removal of the tolls upon payment of all such costs." The FHWA and SCDOT have looked into the possibility of using tolls to pay for part or all of the interstate construction, in accordance with SAFETEA-LU (23 U.S.C. §129 (2005)).

Innovative ways of financing roadway construction are currently being utilized throughout South Carolina. These include issuance of bonds that are paid back over time to pay for the construction of projects. These bonds can be paid back in a variety of ways, such as using future federal funds. Many localities are also joining in funding roads previously funded entirely by the state. One example is the hospitality fees Horry County used to match State Infrastructure Bank funds to construct the Road Improvement and Development Effort (RIDE) program. Other counties have assessed a local option sales tax to assist in meeting highway transportation demands. These include York, Beaufort, and

Charleston County. South Carolina DOT has also constructed the first road in the state funded with revenues from tolls (the Cross Island Expressway on Hilton Head Island) and licensed a private entity, the Connector 2000 Association (a 401C(3) corporation), to build and operate a second toll road, the Southern Connector in Greenville County.

A recent innovation in the U.S. has been the sale of a "concession" to a private entity to finance, design, and operate a toll facility. This method provides a private organization the opportunity to obtain a lease to build and/or operate a roadway facility for a period of time. To date, concessionaires have been European and Australian investors who have acquired a portfolio of toll facilities in those countries which are anticipated to provide sizeable returns on investment over a long period (i.e. 75 to 99 years). The stability provided by the portfolio as a whole has attracted large investors, such as pension funds, which heretofore have not been attracted to toll road investment. In most cases the facility is or will be a toll road that provides the long term return on investment.

In some cases the concession has been deemed of such value that the concessionaire has provided the owner an up front payment for the long-term lease. An example of this is the Chicago Skyway, where a private firm paid over $1.8 billion for a 99-year lease to operate the facility. The amount paid for a concession is directly related to the amount of money anticipated to be generated over the life of the lease. A second example involves the construction of a new facility in Texas. The Trans-Texas Corridor Initiative has resulted in an agreement with a concessionaire giving them the right to finance and construct $6 billion in infrastructure projects (toll roads) in the I-35 corridor. In return, the concessionaire is paying $1.2 billion for the concession rights. It should be noted that the creation of such a concession often entails restrictions on improvements to competing routes, to protect the potential revenue stream for a leased facility.

The above examples are perhaps among only a few throughout the country that provide the opportunity for such a large up front payment to the owner. However, that approach may be applied to construction of I-73.

Based on the above discussion, there appear to be five general approaches to financing I-73:

1) traditional financing with 80 percent federal and 20 percent state or local funding;
2) publicly issued bonds backed by future revenue; either from federal funding, toll revenue, local funds or some combination of the two;
3) a combination of 1 and 2;
4) a public/private partnership involving some level of private and public funds; and,
5) use of the concession approach involving a lease to a private entity in return for the right to finance, design, and build the road.

The last four options will probably involve toll financing. Each of these financing mechanisms is dependent upon the potential future revenues, either from federal allocations, other taxes, or tolls.

The amount of money that can be borrowed is limited by projections of these future revenues. An evaluation of the potential toll revenues, called an investment grade toll study, is a way to project the future revenues. It would be performed by the entity interested in financing the project. The revenue obtained by tolling can vary, depending upon the toll rate, traffic volume, competing untolled routes. These factors are often interrelated. The availability of competing routes can affect the traffic volumes on a tolled facility.

With the current state and federal funding climate the likelihood is that some type of tolling will have to be used to finance I-73.

The method of tolling can also affect the toll revenues. For example, a "closed system" with a toll required at most entrances and exits along a road would normally generate more money than an "open system" with a limited number of toll booths at specific locations. The closed system would generally involve traditional toll boths where users pay cash by the trip and could also contain electronic toll lanes which accommodate frequent users who can pay tolls electronically at high speed. An open system would eliminate cash booths and would require all users to have an electronic toll tag. Clearly this presents a problem on a facility like I-73 which will have a significant number of non-local users. In the future many anticipate a regional or even national system of electronic toll tags which can be used at all toll facilities in the region or ultimately in the United States. This would make the open system more attractive.

Finally a discount for local traffic, either based upon number of trips per month or use of an electronic transponder, would affect projected revenue.

This EIS was prepared based upon the impacts of a non-tolled highway. This provides a "worst-case" analysis for most impact categories, which are based upon traffic volumes. Further NEPA analysis would be completed if the facility is tolled in the future. It is anticipated that by tolling the interstate traffic volumes would decrease. A reduction in traffic volume would be expected to reduce the project's economic benefits, depending upon the amount of the reduction. The percentage of this decrease for I-73 could be between 50 to 70 of the untolled traffic volume, depending upon the toll cost and method of collecting the toll. Once a decision is made on tolling, an investment grade toll study would be anticipated. This study would provide traffic volumes that could be used to re-evaluate project impacts and benefits.

1.11 How would the road be constructed?

There are several options for this project to move through construction. It may be completed in phases, such as S.C. Route 31, or all at once like S.C. Route 22. The traditional method is design/bid/build, which involves as a first step the preparation of design construction plans. Right-of-way would be acquired toward the later stages of the roadway design and would generally be obtained before

construction is commenced. The project would be advertised and construction firms would bid to construct a project for a specific dollar amount. The SCDOT would select a firm based upon these bids.

A second option is the design/build approach, where bidders may be responsible for some portion of the right-of-way purchase and for both designing and building a project. The SCDOT selects one firm based upon factors which may include qualification and experience, time to construct the project, and cost.

If the project should be constructed as a public private partnership (PPP) or as a concession, that entity would be responsible for most or all right-of-way acquisition and would probably use the deign/build approach.

1.12 Summary

The purpose of this project is to provide an interstate link between I-95 and the Myrtle Beach region to serve residents, businesses, and tourists while fulfilling congressional intent in an environmentally responsible and community sensitive manner. The I-73 project is listed as a National High Priority Corridor and a project of "national and regional significance" by the U.S. Congress and also is supported by the South Carolina General Assembly.

The project is primarily needed to provide a major link from I-95 to the Myrtle Beach region, which will provide new opportunities for economic growth and development to counties that are at or below the nation's poverty standards. Dillon and Marion Counties both have 24.2 percent and 23.2 percent, respectively, of their populations living below the national poverty standard. In addition, both counties have average median household incomes that are $10,500 below that of the state, and $15,400 below that of the nation. The link will also provide an integration of regions and facilitate the movement of residents and tourists into and out of the Dillon, Horry, and Marion Counties. This I-73 corridor will provide a means of movement between the region and the Midwestern United States and Canada. The project will secondarily fulfill the needs of expediting hurricane evacuation of residents and tourists from the Myrtle Beach region, alleviate traffic congestion on state and local roads between I-95 and the Myrtle Beach region, and provide a corridor for future multimodal transportation. I-73 would provide a new hurricane evacuation route, lowering the evacuation times on other primary evacuation routes in the area such as U.S. Route 501 by more than ten hours. People traveling through the area will have the option of using a controlled-access highway which would reduce traffic from local and state roads and relieve some congestion. The corridor of I-73 will include a right-of-way that would allow for future high speed rail options.

There are several options for financing the roadway, but it seems likely that tolling will be used to pay for at least a portion of I-73. The tolling can be done in a variety of ways, depending upon the revenue needed and type of access for local traffic that is desired.

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CHAPTER 2 – DEVELOPMENT OF ALTERNATIVES

2.1 How were the Potential Alternatives Developed?

Alternative Evaluation Criteria were developed to define and prioritize the issues of concern during alternative development. The issues covered by the Alternative Evaluation Criteria were evaluated at different levels of detail over the course of the process, beginning at a very broad level and ending with more detailed evaluations. The primary and secondary needs of the project provided the initial guidelines for establishing the Alternative Evaluation Criteria. Categories of potential impacts were then added to the criteria. Utilizing the criteria would ensure that alternatives were developed that satisfy the project purpose and need, while at the same time attempt to conserve the natural environment, community values, and cultural resources by minimizing impacts to the natural and human environment. The Alternative Evaluation Criteria are detailed in the *Alternative Development Technical Memorandum* and include:

- Purpose and Need;
- Engineering criteria and constructability;
- Economics;
- Existing and future development;
- Indirect and cumulative impacts;
- Current and future land use;
- Traffic;
- Construction cost;
- Environmental factors;
- Socioeconomic issues;
- Infrastructure;
- Utility impacts;
- Use of existing transportation infrastructure; and,
- Toll Feasibility/Financial Feasibility.

The No-build Alternative is one of the alternatives under consideration in the NEPA Process. As its name indicates, it is the null alternative which evaluates the no construction option. This alternative allows the evaluation of the project study area in its current condition without potential impacts related to construction and operation of the proposed project. The No-build Alternative establishes a baseline of environmental and socioeconomic conditions against which all Build Alternatives can be compared.

Next, a computer model utilizing Geographic Information System (GIS) data was created to develop potential alignments. The Corridor Analysis Tool (CAT) is a computer program that allowed GIS data to be analyzed in a short period of time, allowing more time to be spent on interpretation, discussion, and comparison of potential corridors.

The CAT developed corridors through weighting the values that were assigned through interagency coordination, (refer to Section 2.1.1, page 5) for socioeconomic, engineering, environmental, and infrastructure resources in the project study area. The CAT uses a grid- or cell-based format. The program finds the corridor of least impact between the endpoints of each alignment (starting and ending points) and summarizes the impacts for each alignment corridor. The endpoints are set and the program developed a "least impact" line that connects the two points. Surrounding this line is a "suitability grid" that illustrates areas that are close to the best fit line and that are within a designated percentage (1 to 2 percent) of the least impact line. To ensure that the alignment would be functional as a roadway, the "least impact" line was adapted to accommodate a 75-mile per hour design speed using basic

design criteria. A more detailed explanation of how the CAT program operates can be found in the *GIS and Data Collection Activities Technical Memorandum.*

Multiple government agencies were identified as possible sources of GIS data and five information categories were identified that would be necessary to include in the CAT program. These categories were identified as socioeconomic/demographic, engineering, environmental, infrastructure, and physical/ cultural. Reference materials were also obtained that validated the GIS data.

Numerous federal, state, and local agencies along with non-governmental organizations were contacted for their available GIS data (refer to Table 2.1, page 2-3). Approximately 877 GIS data layers and 482 tiles of aerial photography were collected from 21 sources. A detailed list of the data layers including the supplying agency, data coordinate system, date of publication, and date of receipt can be found in the *GIS and Data Collection Activities Technical Memorandum.*

Approximately 52 GIS layers were determined to be complete and accurate for possible inclusion in the CAT program (refer to Table 2.2, page 2-4).

The 52 potential data layers were organized into four categories entitled environmental, roadways, infrastructure, and demographic/socioeconomic. Each feature within the 52 potential data layers utilized by the CAT was assigned a numerical value, on a scale of one to ten (ten representing the most valuable, refer to Appendix B).

Some of the GIS features were designated as constraints, which meant the feature was removed from consideration by the CAT when generating alternative corridors. A potential alignment should not pass through a feature designated as a constraint. The following layers were designated as constraints:

- Intact Carolina bays;
- Mitigation Banks and Sites;
- Known Federal Threatened and Endangered Species Locations;
- Known State Threatened and Endangered Species Locations;
- Archaeology Sites Potentially Eligible, Eligible, or Listed on National Register of Historic Places;
- Historic Resources Potentially Eligible, Eligible, or Listed on National Register of Historic Places;
- SCDNR Heritage Preserves;
- Publicly-owned Parks (Federal, State, and Local);
- Hazardous Sites Listed on NPS/SPL;
- Landfills;
- Mines/Geologic Features;
- Airports;
- Schools; and,
- Cemeteries.

Table 2.1
Agencies Contacted Regarding GIS Data
Interstate 73 EIS: I-95 to the Myrtle Beach Region

[illegible]	[illegible]
[illegible]	Census
[illegible]	[illegible]ment of Agriculture
[illegible]	[illegible]ental Protection Agency
[illegible]	Geological Sur[illegible]
[illegible]	[illegible]
[illegible]	S.C. Budge[illegible]rol Board
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[illegible]	[illegible]
[illegible]	City of [illegible]
[illegible]	City of Co[illegible]
[illegible]	City of Dillon[illegible]
[illegible]	City of Marion[illegible]
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[illegible]	[illegible]on a[illegible]elopment Council
[illegible]	[illegible]
[illegible]	[illegible]

The four categories were given an overall importance value that totaled 100 for the CAT program. They were given a value based upon the relative importance given to each category; environmental (50), roadways (10), infrastructure (20), and demographics/socioeconomic (20). The criteria weighting and constraints were then programmed into the CAT and used to generate preliminary Build Alternatives.

In addition, each state and federal resource and regulatory agency was given the opportunity to manually draw alternatives on a map. The impacts for these alternatives, along with those for the segments generated by the CAT, were then quantified. Overall, the CAT developed approximately 63 preliminary

Table 2.2
Possible GIS Layers for CAT Program
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Layer
ENVIRONMENTAL
National Wetland Inventory Mapping (Wetlands and Uplands)
Little Pee Dee River in Dillon County
Soils
Mitigation Banks and Sites
Species of Concern
Federal and State Threatened and Endangered Species
Archaeology Sites
Historic Resources (Architectural)
National Historic Register Sites
Heritage Preserves
Parks (federal, state, and local)
Wildlife Refuges
Federal Lands (Over 640 acres)
Land Stewardship
Hazardous Sites
Landfills
NPDES Sites
Streams/Rivers/Lakes
Streams/Rivers/Lakes-Special Designation
Watersheds
Floodplain for Great Pee Dee River
Floodplains
Land cover
Mines/Geologic Features
ROADWAYS
Roads (Urban and Rural)
INFRASTRUCTURE
Railroads
Transmission Lines
Oil Pipelines
Bridges
Airports
Buildings (Industrial Vacant)
Dams (Hazardous)
Fire Stations
Administrative Buildings (Government)
Churches
Community Facilities
Health Facilities
Hospitals
Libraries
Mental Health Facilities
Schools
Cemeteries
Incorporated Areas
Municipalities
Sewer Infrastructure
Pipelines
Treatment Plants
Surface Withdrawal Locations
Storage Sites
DEMOGRAPHIC/SOCIOECONOMIC
Minority Areas/Density
Low Income Areas/Density
Population Density

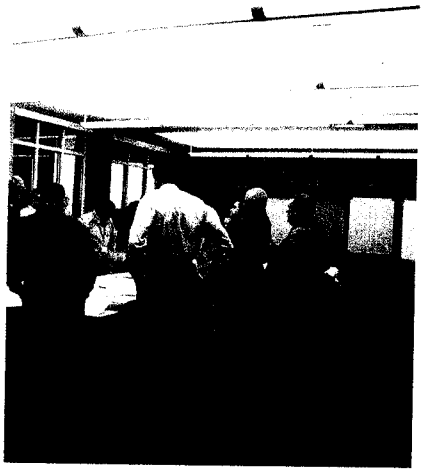
build segments, which were combined to form 141 possible preliminary Build Alternatives (refer to Figure 2-1, page 2-7). The impacts were quantified for each of the 141 preliminary Build Alternatives and are summarized in the *Alternative Development Technical Memorandum.* In addition, a sensitivity test was performed on the CAT program to verify that the values for features used by the CAT to select paths were minimizing potential impacts to the environment (refer to the *Alternative Development Technical Memorandum* for more details).

2.1.1 What is the Agency Coordination Team and what was their role in developing alternatives?

The Agency Coordination Team (ACT) consisted of representatives from:

- Federal Highway Administration (FHWA);
- U.S. Army Corps of Engineers (USACE);
- U.S. Coast Guard (USCG);
- U.S. Environmental Protection Agency (USEPA);
- U.S. Department of Agriculture - Natural Resource Conservation Service (NRCS);
- U.S. Fish and Wildlife Service (USFWS);
- NOAA Fisheries (NOAA-NMFS);
- S.C. Department of Archives and History (SCDAH);
- S.C. Department of Commerce (SCDOC)
- S.C. Emergency Management Division (SCEMD);
- S.C. Department of Health and Environmental Control (SCDHEC);
- S.C. Department of Health and Environmental Control – Office of Ocean and Coastal Resource Management (SCDHEC-OCRM);
- S.C. Department of Natural Resources (SCDNR);
- S.C. Department of Transportation (SCDOT); and,
- S.C. Department of Parks, Recreation, and Tourism (SCPRT).

The purpose of the ACT was to help merge the NEPA and Section 404 (wetland) permitting process and to offer multiple opportunities for the agencies to be involved in the development of the project. These opportunities were spread throughout the EIS development process and included agency participation in the determination of the study area boundaries, purpose and need and analysis criteria, development of alternatives, selection of alternatives for further study, Preferred Alternative, mitigation of unavoidable impacts, and project design features. For more detailed information about the ACT, please refer to Chapter 4.



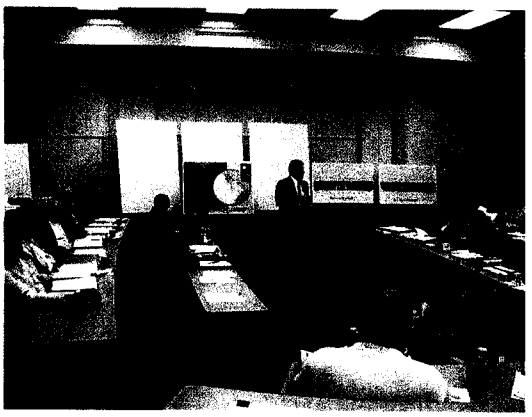
The agencies provided information pertinent to their particular areas of expertise throughout the EIS process. The ACT participated in the determination of the data layers used by the CAT. They also provided input on the features designated as constraints. ACT members assigned numerical values, on a scale of one to ten, to each feature in each data layer utilized by the CAT. They also set the weighting

for the layers. In addition, each agency was given the opportunity to draw alternatives on a map of the study area. The alternatives were then quantified using the CAT and the results provided to the ACT, along with the results from other segments generated by the CAT.

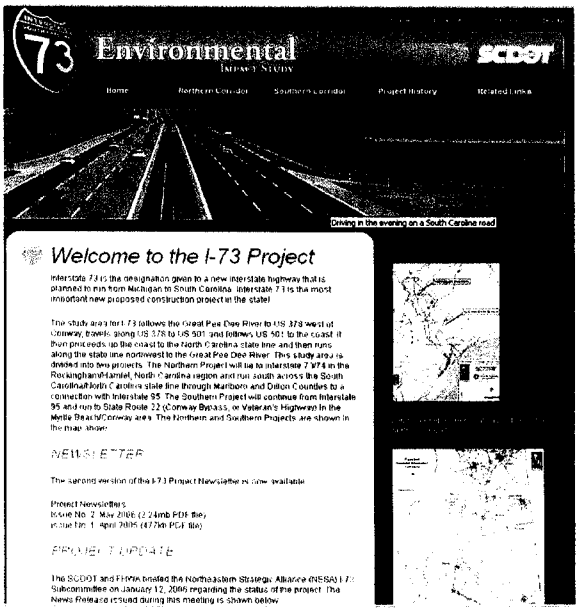
A field visit was conducted in May 2005 with the ACT to review areas of special interest to ACT members. Agency comments and data collected from the field visit were also used to modify the alternatives and to develop the indirect and cumulative impact analysis. To date, the ACT members have met a total of 18 times over the past 23 months.

2.1.2 How was the public involved in developing the preliminary Build Alternatives?

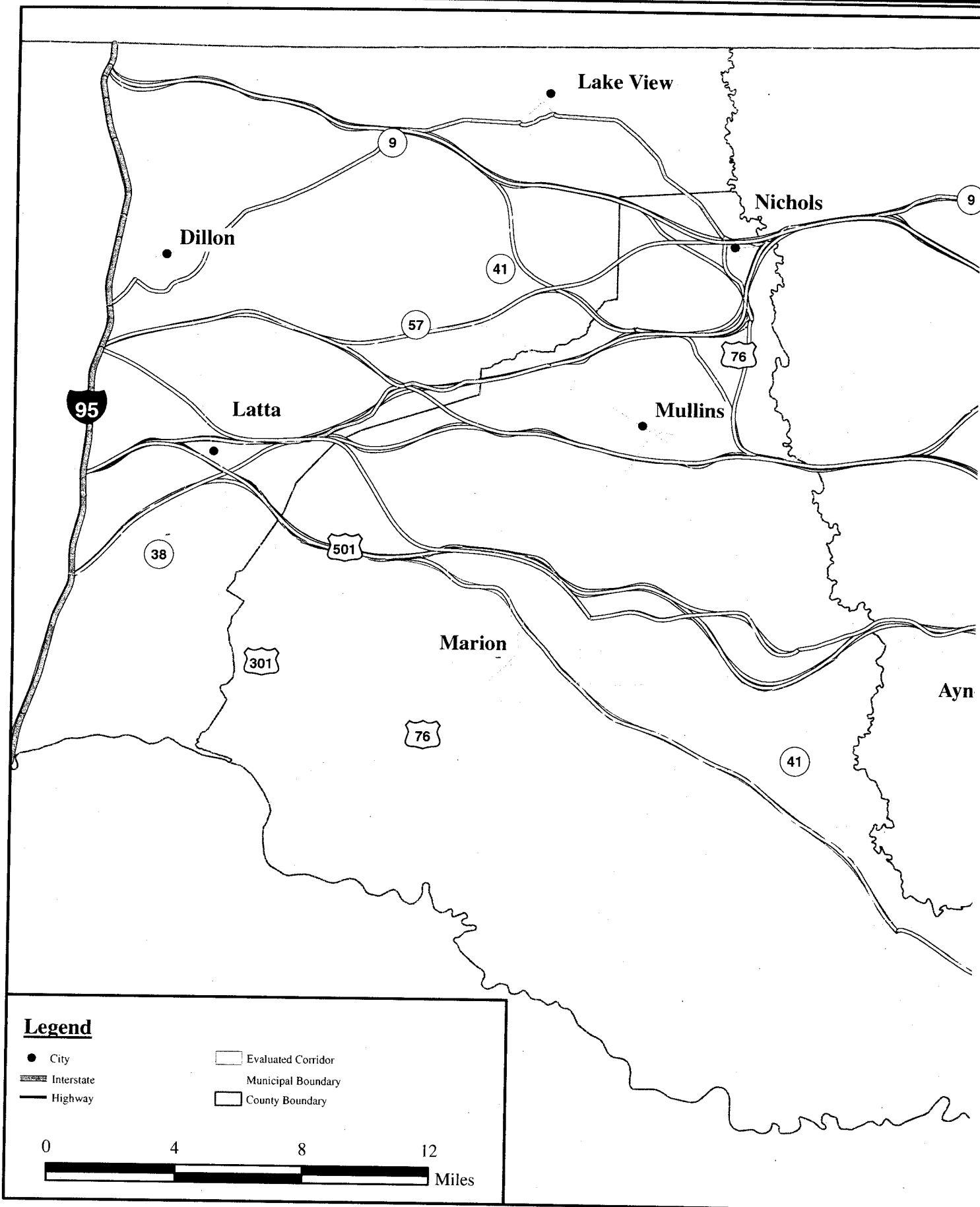
The public had opportunities for commenting on the project through scoping and information meetings, a telephone hotline, and a project website. Additional community information meetings were also held throughout the project study area in an effort to reach out to minority residents. Comments and recommendations that were gathered through coordination with the Stakeholder Working Group and the public were reviewed and taken into consideration during alternative development. Please refer to Chapter 4 for a detailed discussion of the public involvement process.



A Stakeholder Working Group was organized to create a forum for discussion with, transfer of information to, and to receive feedback from a diverse group of constituent representatives potentially impacted by the proposed project. Stakeholders were engaged in a series of meetings throughout the process and provided perspectives that represented the diverse demographics of the study area and various organizations and interest groups.



A project website was developed and updated periodically with new information and upcoming meeting times and locations. In addition, a toll-free telephone hotline was established for citizens without internet access to receive project updates and find out about upcoming meeting times and locations. The website and telephone hotline also allowed citizens to provide comments via email or in a recorded format, respectively. Furthermore, a project newsletter was available on the project website.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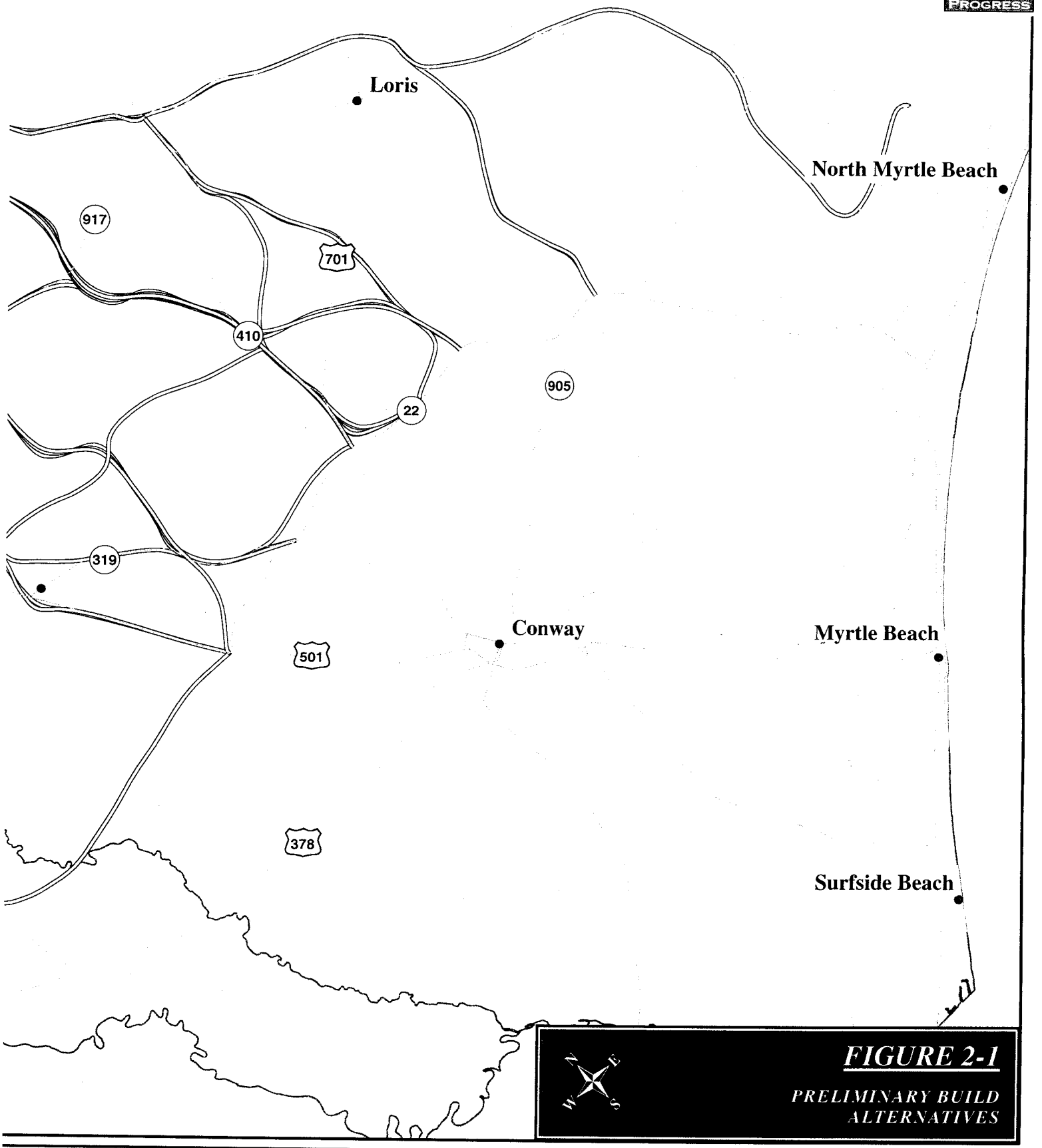


FIGURE 2-1

PRELIMINARY BUILD ALTERNATIVES

Public Scoping Meetings were held at two locations at the initiation of the project. The scoping meetings were an informal, drop-in style format that allowed citizens to ask questions and receive information on an individual basis. A survey of issues, a comment card, and an informational brochure were distributed to each attendee. The informational brochure included a brief description of the project, the official website address, and the toll-free hotline number. The information comments received from the public were used to help develop the project purpose and need and the initial alternatives.

2.2 How were the 141 preliminary Build Alternatives evaluated?

The Alternative Evaluation Criteria were used to compare the 141 preliminary Build Alternatives that could be created by different combinations of segments (refer to Figure 2-1, page 2-7). The alternatives were first screened using the Purpose and Need. The primary needs of system linkage and economic development were used as the first level of screening. For the project need to be fulfilled, the alternatives had to improve national and regional connectivity by providing a direct link between I-95 and the Myrtle Beach region, as well as enhance economic opportunities and tourism in South Carolina. Approximately seven preliminary Build Alternatives were eliminated for failure to satisfy these primary needs.

The secondary needs of the project were identified as hurricane evacuation, relief of local traffic congestion, and multimodal planning. It was determined that secondary needs of the project would be met indirectly by alternatives when the primary needs are fulfilled. Any Build Alternative would facilitate more effective evacuation of the Myrtle Beach region during emergencies, should reduce existing traffic congestion on roads accessing the Myrtle Beach region, and would help future provision of a multimodal facility within the interstate corridor. No preliminary Build Alternatives were eliminated due to failure to meet the secondary needs of the project.

The preliminary Build Alternatives were next evaluated against the potential impacts to the natural environment. A 600-foot corridor was initially used to quantify impacts because the typical section, as described previously in Chapter One (Section 1.2.2, page 1-2), had not been established when the preliminary Build Alternatives were developed by the CAT program. The 600-foot corridor was used because it was anticipated to provide adequate width to accommodate the proposed facility. Constraints were not impacted by any of the 141 preliminary Build Alternatives developed by the CAT. The following impacts were quantified by the CAT and compared in an effort to reduce the number of preliminary build alternative segments:

- Wetland acreage (classified as previously impacted or not impacted);
- Wetland value (determined by ACT-assigned valuation times acreage impacted);
- Upland acreage (total acreage);
- Species of concern;
- Infrastructure (i.e. churches or fire stations); and,
- Corridor length/cost (corridor length was used to estimate potential cost).

A detailed matrix of the segment impacts was completed. Competing segments, those that had the same start and endpoints, were compared and the segments with the highest impacts were eliminated. This resulted in reducing the number of preliminary Build Alternatives from 134 to 25.

2.3 How were the Reasonable Alternatives developed?

A summary of the process, including information for each of the 63 preliminary build segments, the 141 preliminary Build Alternatives, how segments were eliminated, and the information on the remaining 25 preliminary Build Alternatives was presented to the ACT for their consideration (refer to Figure 2-2, page 2-10). The Project Team made recommendations as to the Reasonable Alternatives to be carried forward and evaluated in more detail. After extensive discussion and evaluation at the December 9, 2004 ACT meeting, the ACT reached a consensus on designating seven of the 25 as Reasonable Alternatives for further study. The reasons that some of the alternatives were eliminated are detailed in the *Alternative Development Technical Memorandum*.

2.3.1 How was the public involved in developing the Reasonable Alternatives?

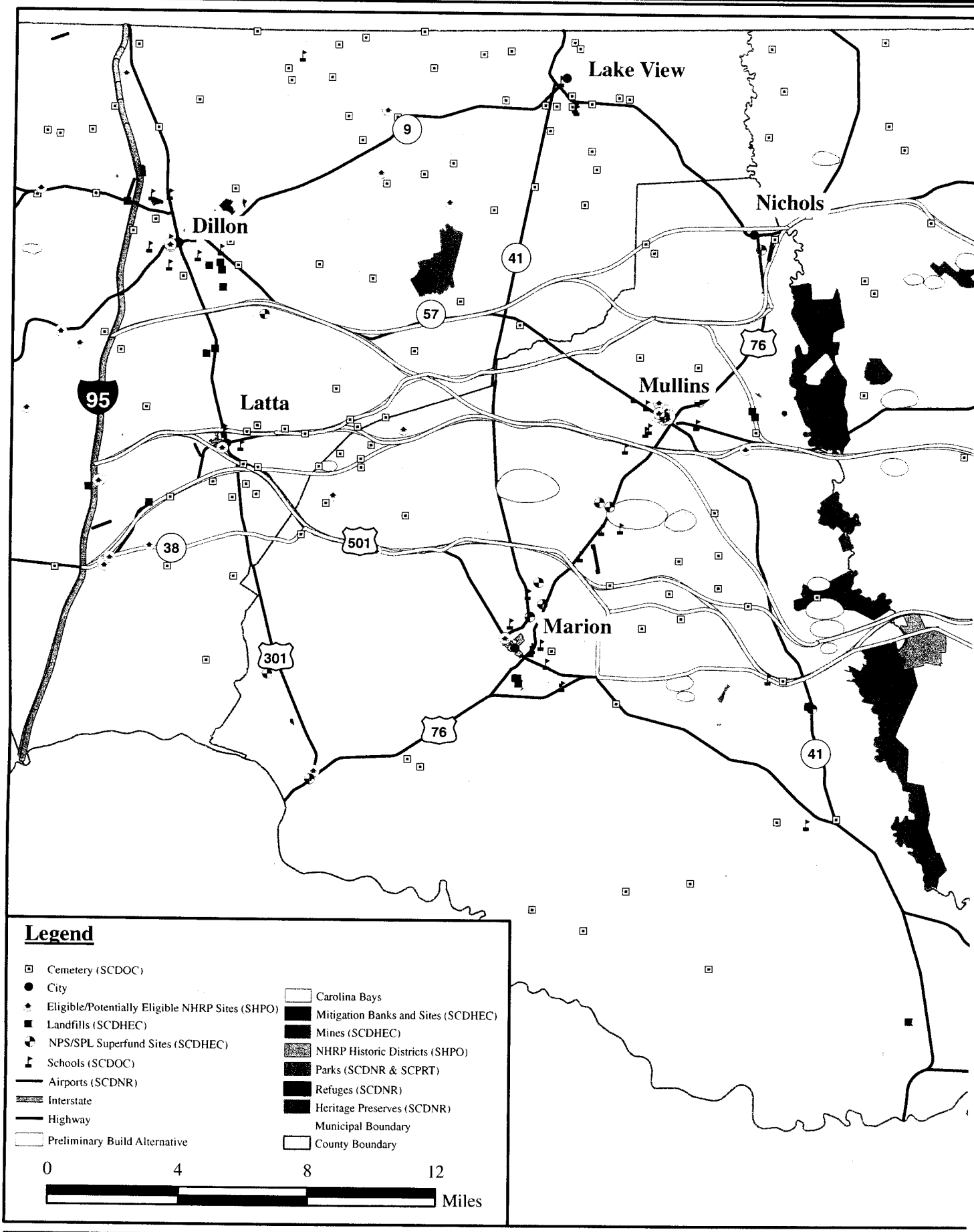
Following the designation of the seven Reasonable Alternatives by the ACT, the corridors were presented to the public for review and comment. Four public information meetings were held to present the Reasonable Alternatives. A public information meeting was held in each of the three counties within the project study area, with two held in Horry County (please refer to Chapter 4, Section 4.1.3, page 4-2, for a detailed discussion). Overall, approximately 1,259 people attended the public information meetings, and approximately 1,023 comments were received as a result of the four public information meetings. Each written comment was reviewed, and the written and the verbal comments heard at each of the public involvement meetings were used to re-evaluate the proposed alternatives. Modifications were made to the presented Reasonable Alternatives that reflect many of the comments. Some additional alternatives were also developed and evaluated as a result of comments received.

In addition to the public information meetings, community presentations were made to reach out to interested citizens from the study area. These meetings served to disseminate information about the project and gather input at the local and community level as to what was important about the project. Approximately 17 community presentations were made to 267 people.

2.3.2 What modifications were made to the Reasonable Alternatives based on input?

Public and agency input resulted in the modification of alternatives to move away from communities such as Aynor, Cool Spring, Floydale, Galivants Ferry, Ketchuptown, Temperance Hill, and Zion. The alternatives were also modified to avoid two neighborhoods in the vicinity of Mullins and to minimize potential impacts to Aynor.

As a result of the public comments, and as part of the effort to continue to improve the alternatives to minimize impacts, the Reasonable Alternatives were again evaluated. The alternatives were once again divided into segments to study potential impacts and to be used to "assemble" the least impact alternatives.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Eligible/Potentially Eligible NHRP Sites (SHPO)
Landfills (SCDHEC)
NPS/SPL Superfund Sites (SCDHEC)
Schools (SCDOC)
Airports (SCDNR)
Interstate
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Preliminary Build Alternative
Carolina Bays
Mitigation Banks and Sites (SCDHEC)
Mines (SCDHEC)
NHRP Historic Districts (SHPO)
Parks (SCDNR & SCPRT)
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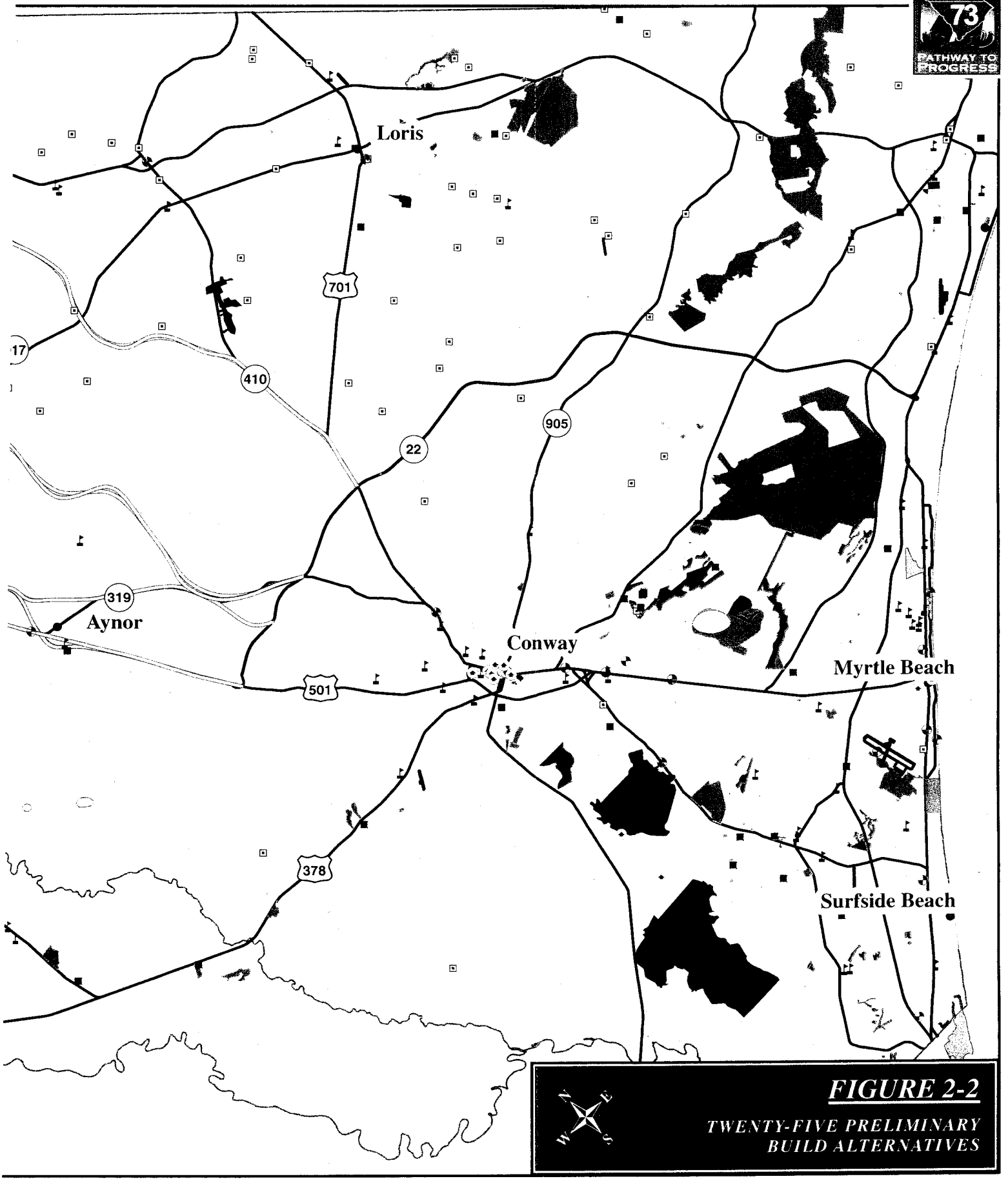


FIGURE 2-2

TWENTY-FIVE PRELIMINARY BUILD ALTERNATIVES

Information regarding the wetland types, constraints, other layers evaluated by the CAT, existing communities, and public input was used to modify the segments to minimize impacts.

During the ACT coordination process, one concern expressed was that while the CAT designated alternatives represent the "best fit" corridor, there were several other wider corridors called suitability layers that could have similar impacts. The suitability grid illustrates the areas that were within 99.0 to 99.9 percent of the "best fit" corridor and those within 98.0 to 98.9 percent of the "best fit" corridor. Therefore, the suitability grids for each of the reasonable alternatives previously discussed were evaluated (refer to Figure 2-3, page 2-13).

Overall, approximately 108 individual segments were created or modified based on the suitability layers and public input (refer to Figure 2-4, page 2-14). The segments were compared using the Alternative Evaluation Criteria and the segments that had the highest impact were eliminated in favor of those with lower impacts. As explained previously, the Purpose and Need and then potential impacts were used to determine the best route for each portion of each overall alternative. The following impacts were quantified by the CAT and were taken into consideration to compare the segments:

- Wetland acreage (classified by previously impacted or not impacted);
- Wetland value (determined by ACT-assigned valuation and acreage impacted);
- Uplands;
- Species of concern;
- Infrastructure (i.e. churches or fire stations);
- Corridor length (used to estimate potential cost); and,
- Residential and business relocations.

The result was the development of segments that would avoid areas of concern (refer to Figure 2-4, page 2-14), for example, segments that would be farther west of Aynor (BG and AG1), farther east of Cool Spring (AT, AM2, AM3, and AM Mod1), farther west of Floydale (B2 and B4), farther north of Temperance Hill (J1, J2, and U2).

2.3.3 Were any new segments developed based on public comments?

Approximately 12 new segments were developed that modified the corridor to cross the Little Pee Dee River southwest of U.S. Route 501, and two new segments were evaluated that followed the school district attendance zone boundary between Loris and Aynor (refer to Figure 2-5, page 2-15). In addition, Horry County, by resolution (refer to Resolution R-40-05, dated April 5, 2005, in Appendix C) had rejected "the Galivants Ferry crossing as a proposed route and asks South Carolina Department of Transportation to eliminate this route and replace it with this new southern route."

The 12 new segments would be an average of 10 miles longer and would have an average of 235 acres of additional wetland impact than the corresponding segments in the seven Reasonable Alternatives designated by the ACT. The two alternatives that were designed to follow the school district attendance

zone boundary would be an average of four miles longer, with 124 acres of additional wetland impacts than the equivalent segments in the seven Reasonable Alternatives. These 14 segments were eliminated from further evaluation due to the high potential for environmental impacts and increase costs associated with them.

2.3.4 How were preliminary interchange locations designated?

Initial criteria for developing preliminary interchange locations were proposed as follows:

- To provide access to primary roadway routes, i.e. Interstates, U.S. Routes, and S.C. Routes;
- Provide a minimum spacing of two miles between interchanges;
- Cost (ensure a reasonable expenditure of public funds);
- Provide a maximum spacing of eight miles between interchanges to provide system linkage, ease of maintenance, increased safety, and opportunities for economic development;
- Provide interchanges where higher traffic volumes warrant; and,
- Minimize impacts.

Preliminary locations of interchanges were taken into consideration to fully evaluate potential impacts to the categories listed previously, as well as potential impacts to communities and relocations. The Marion, Dillon, and Horry County planning and economic development agencies were contacted to solicit their preferences for potential interchanges. As an example, some interchanges in Horry County were placed at or near S.C. Route 23 (Nichols Highway) at the request of Horry County to improve the access to the Cool Spring Industrial Park.

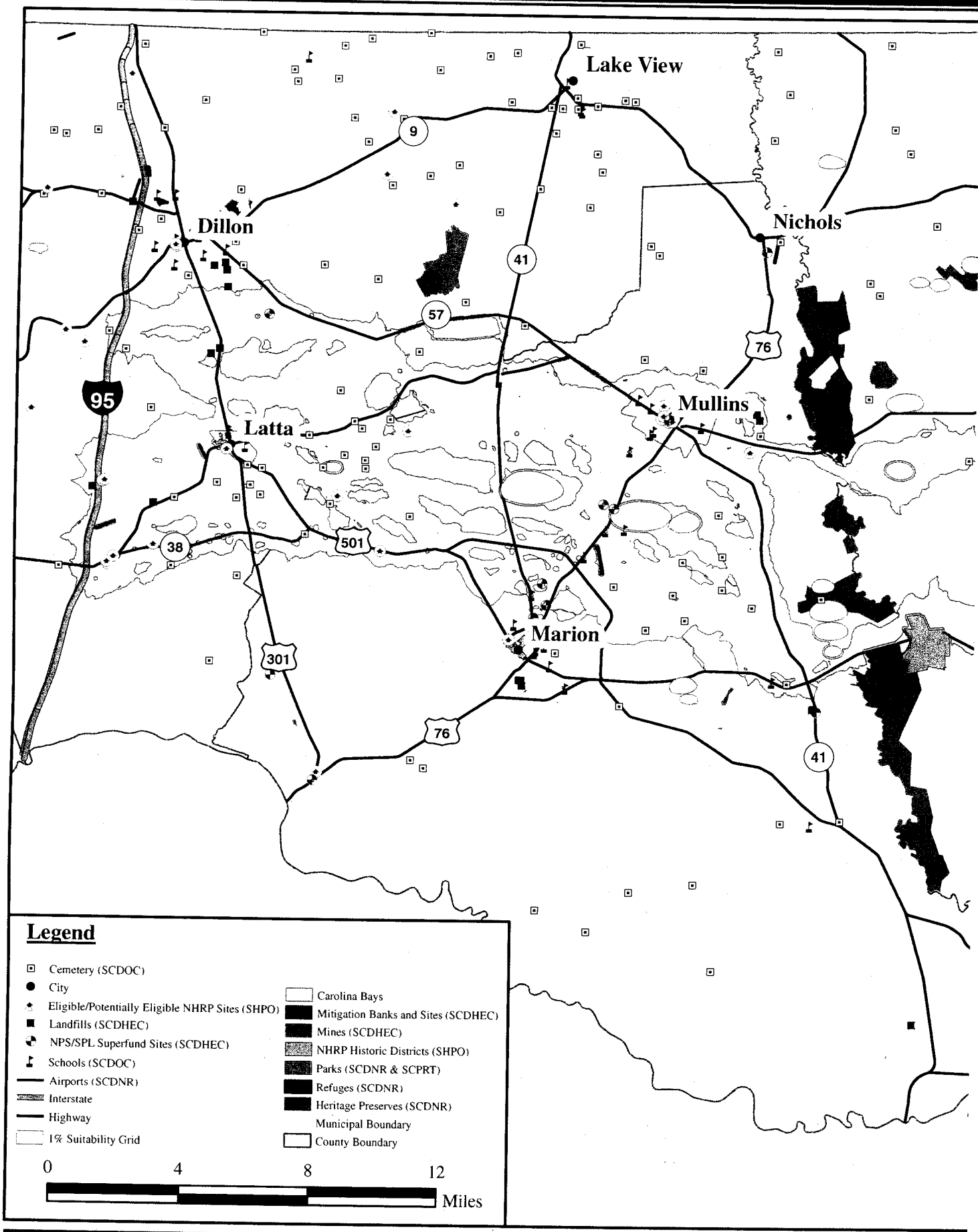
2.3.5 How were the modifications of the Reasonable Alternatives evaluated?

Segments that connected common ending points were compared against one another. Where the difference between the segments was clear cut, the segment that minimized overall impacts was chosen. The remaining segments were taken to the ACT for review. Following a detailed comparison of the segments, the ACT eliminated 36 segments from further evaluation based on potential community and environmental impacts. For additional information refer to the *Alternative Development Technical Memorandum*. Thirty-three individual segments remained that balanced environmental concerns and potential impacts to the public.

The 33 segments could be combined to form a total of 10 alternatives (refer to Figure 2-6, page 2-16). These 10 alternatives were evaluated and the results presented to the ACT for their consideration. The ACT reached a consensus on eliminating four of the 10 alternatives (September 7, 2005 ACT Meeting). Table 2.3, (page 2-17), presents the 10 alternatives and the reason for the elimination of four. This left six of the 10 alternatives to be evaluated further.

2.4 How were the six Reasonable Alternatives evaluated further?

At this point, the Reasonable Alternatives were established. These were to be given greater scrutiny in the environmental evaluation. The evaluation was expanded to include the comprehensive list of categories. In addition, more specific data about each alternative, including preliminary construction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Landfills (SCDHEC)
NPS/SPL Superfund Sites (SCDHEC)
Schools (SCDOC)
Airports (SCDNR)
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1% Suitability Grid
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Mines (SCDHEC)
NHRP Historic Districts (SHPO)
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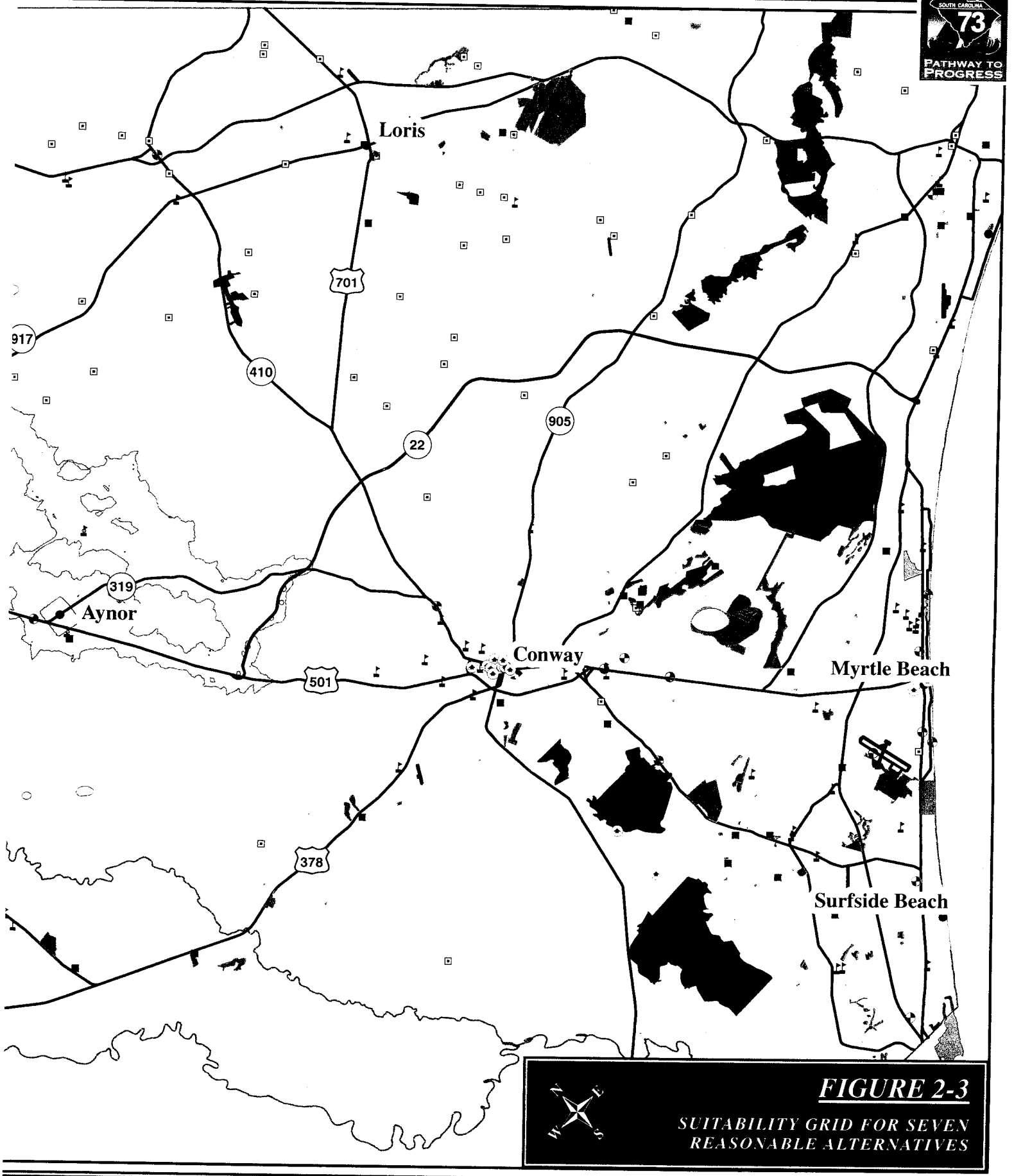
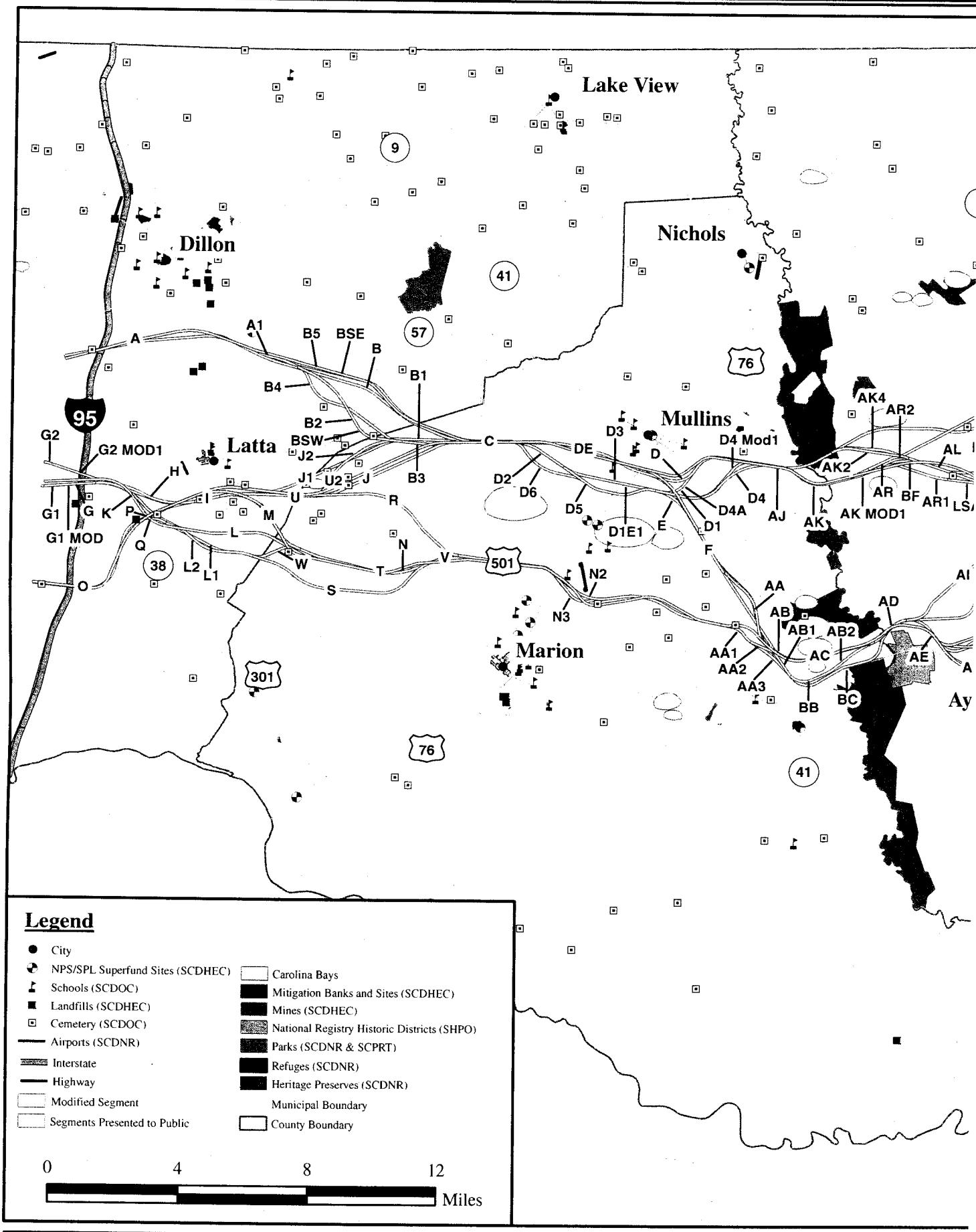


FIGURE 2-3

SUITABILITY GRID FOR SEVEN REASONABLE ALTERNATIVES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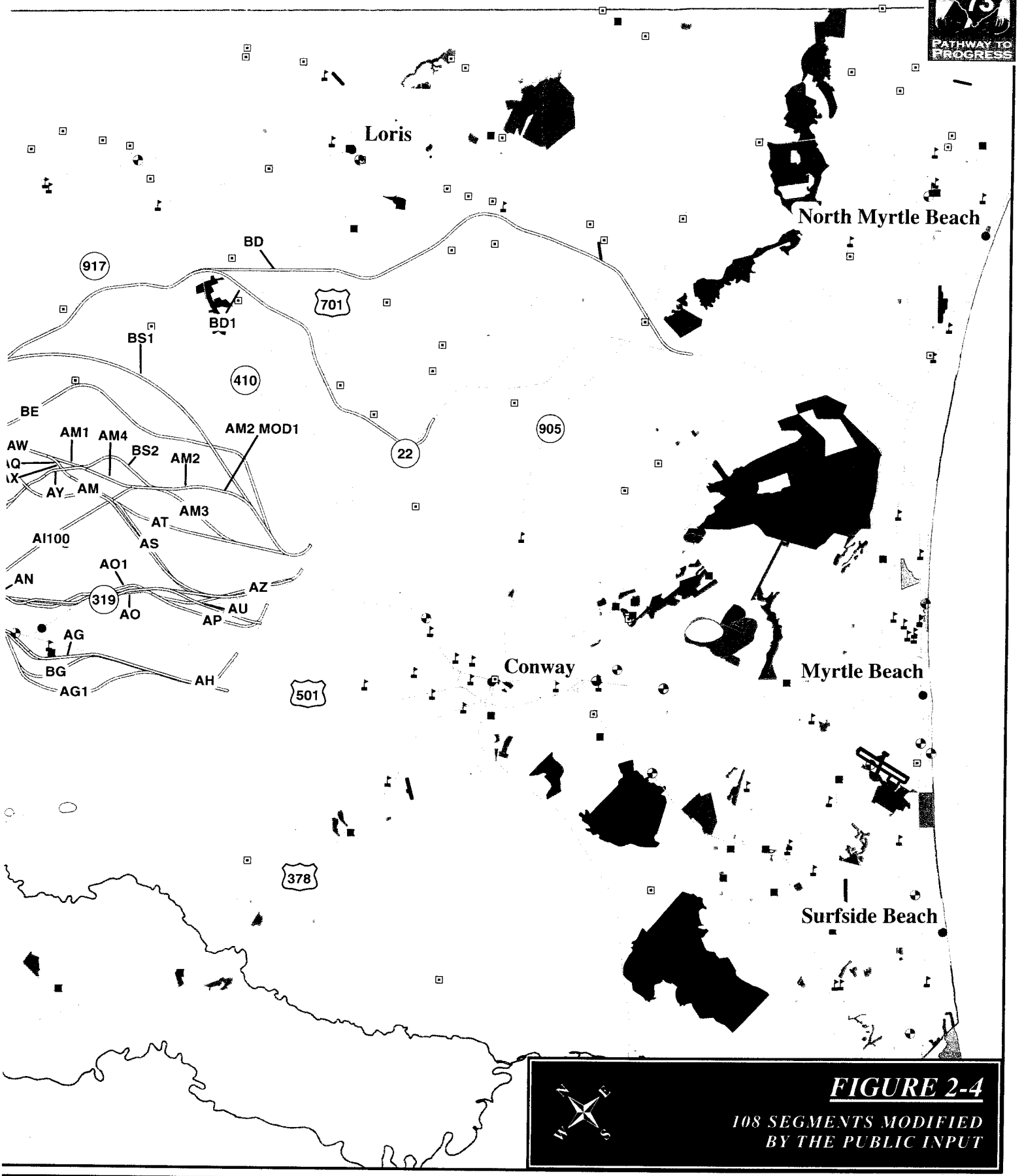
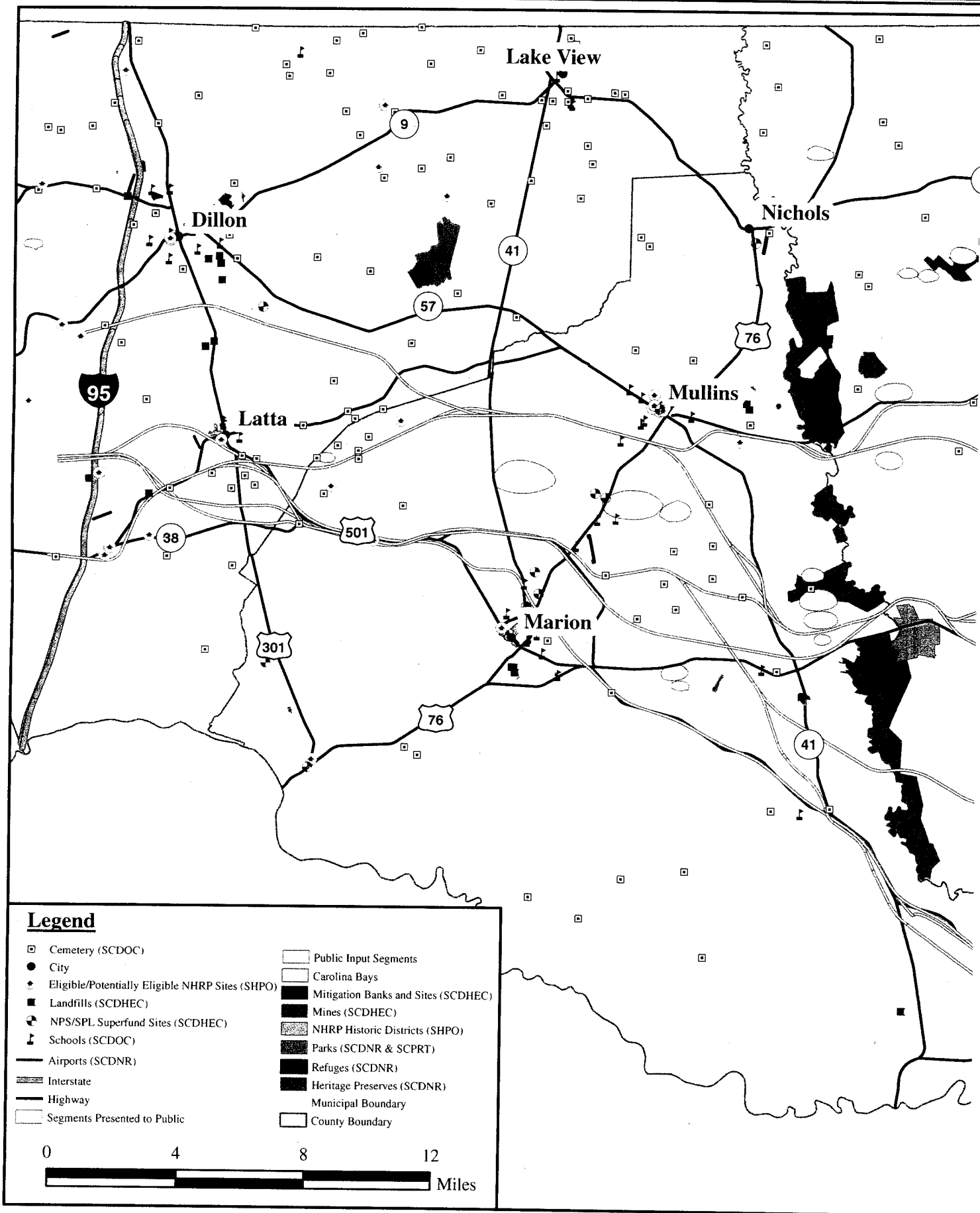


FIGURE 2-4

108 SEGMENTS MODIFIED BY THE PUBLIC INPUT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Mines (SCDHEC)
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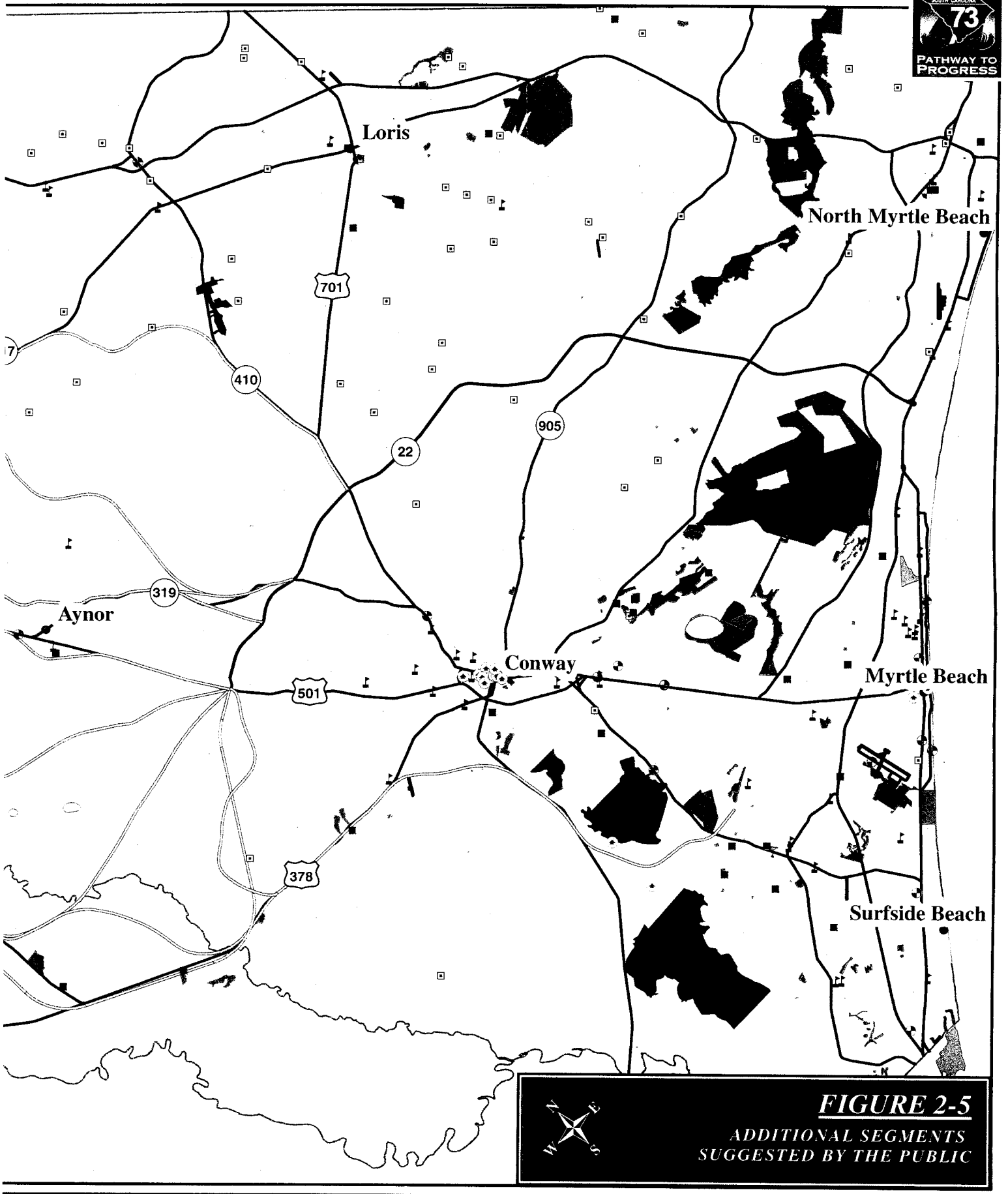
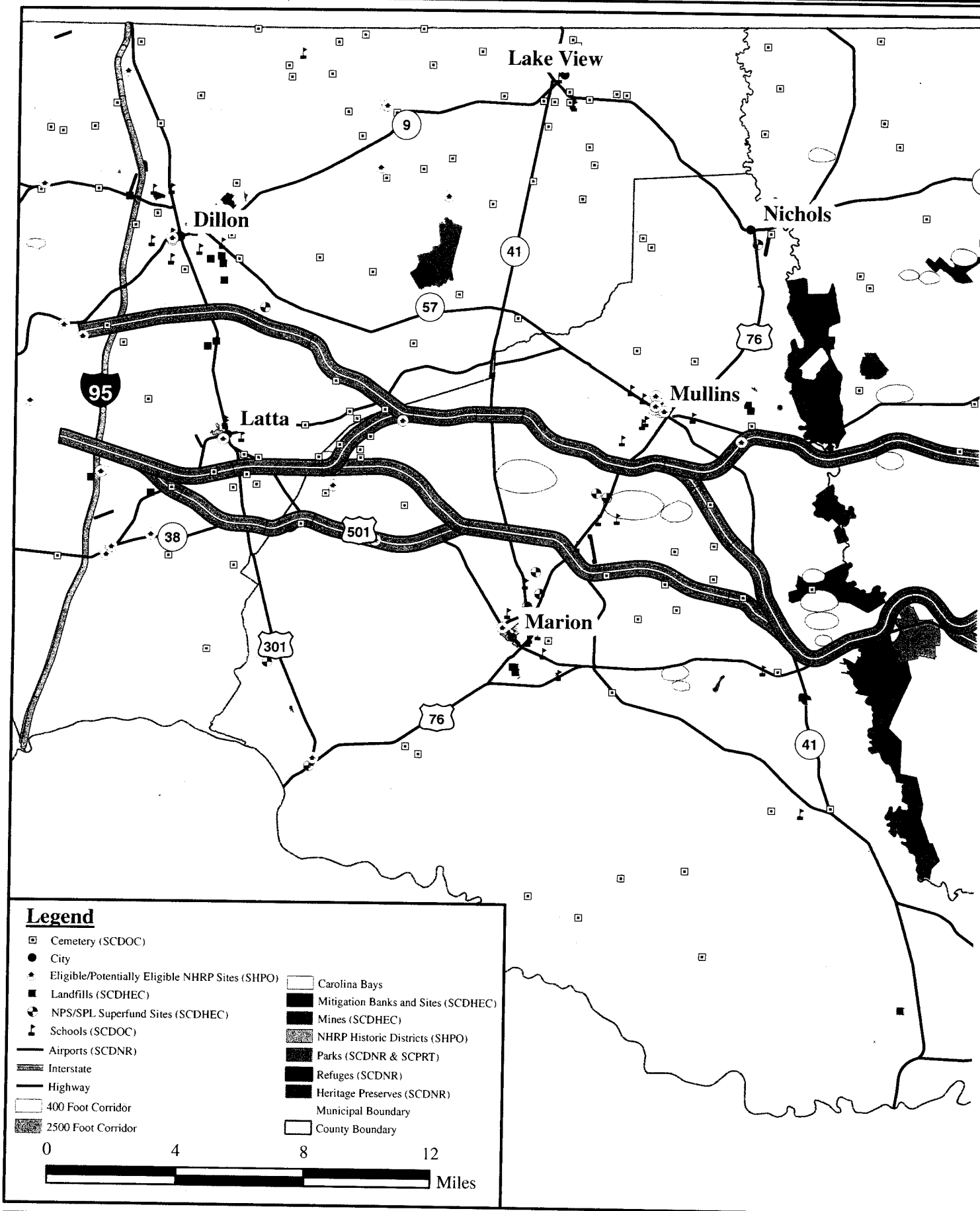


FIGURE 2-5

ADDITIONAL SEGMENTS SUGGESTED BY THE PUBLIC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Airports (SCDNR)
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2500 Foot Corridor
Carolina Bays
Mitigation Banks and Sites (SCDHEC)
Mines (SCDHEC)
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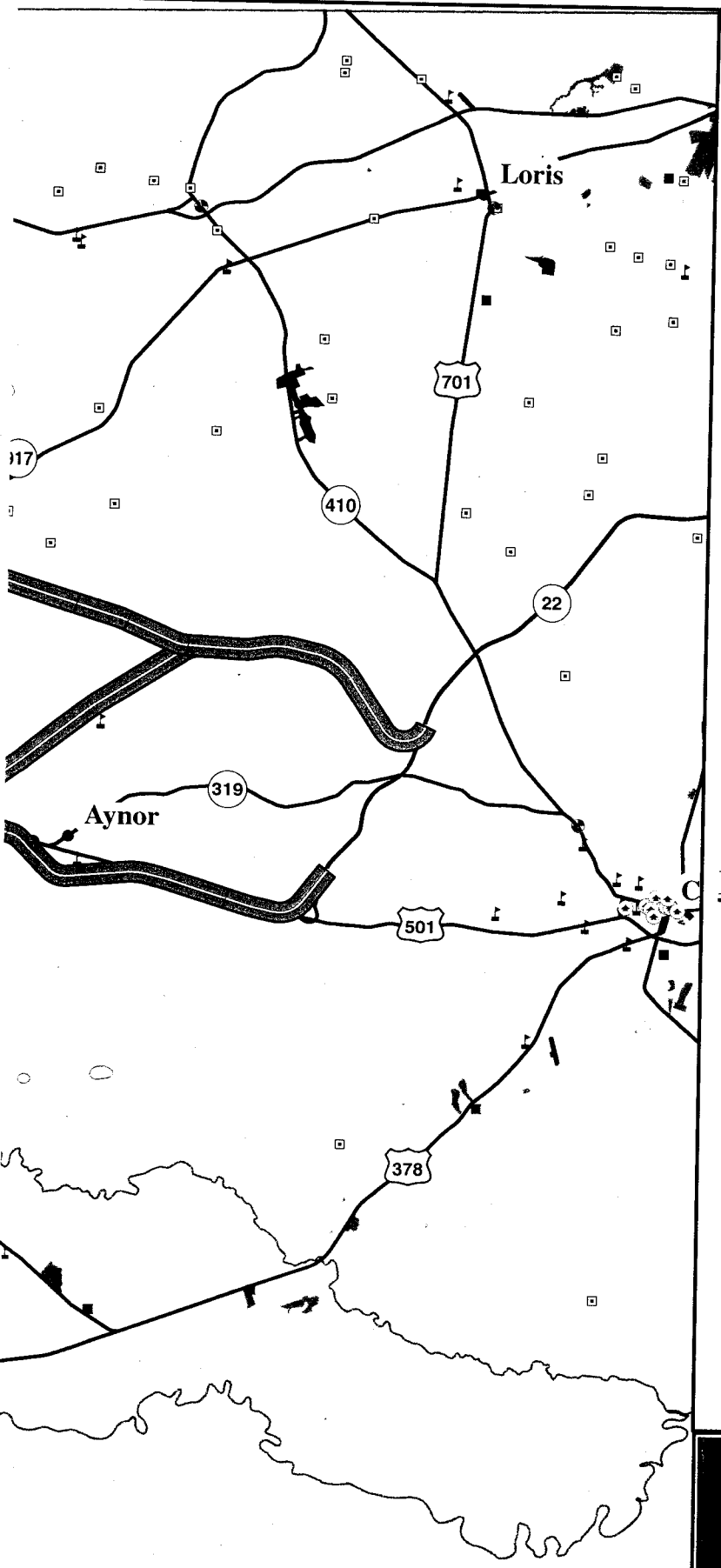
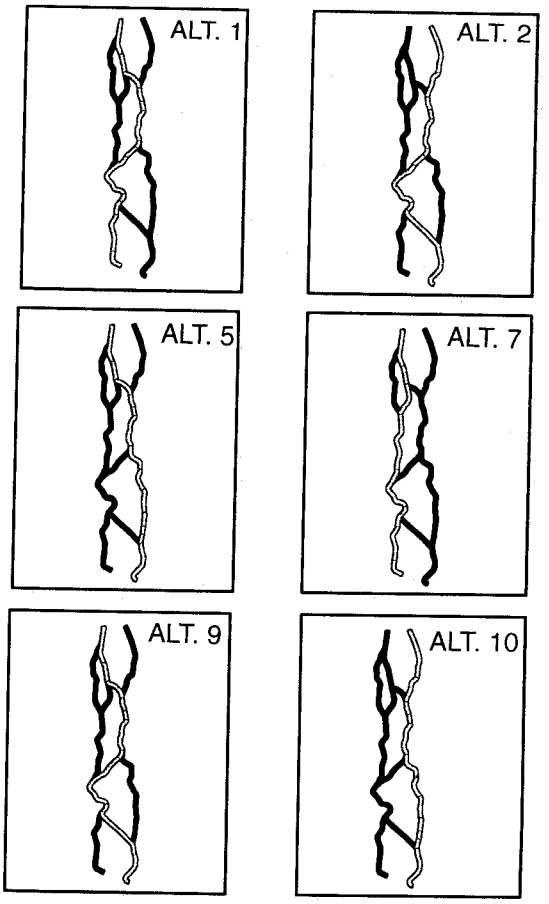
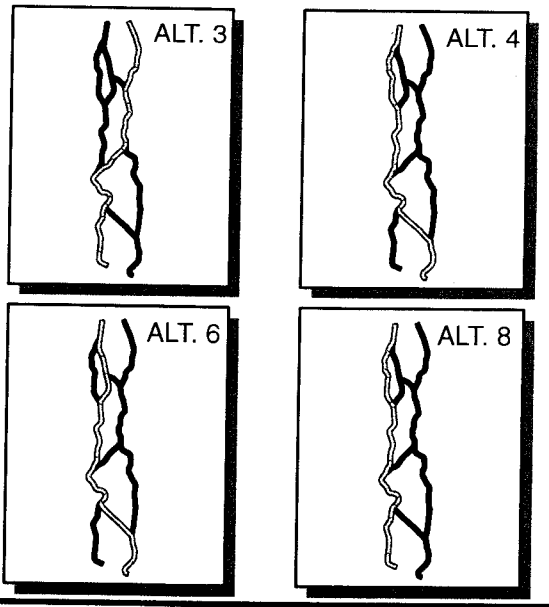


REMAINING ALTERNATIVES



ELIMINATED ALTERNATIVES



N E W S

FIGURE 2-6

10 ALTERNATIVES

Table 2.3
Alternatives Considered by the ACT
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Alternative	Recommendation
1	Recommended for further study
2	Recommended for further study
3	Eliminated due to having high relocations
4	Eliminated due to having high wetland impacts and the second highest relocations
5	Recommended for further study
6	Eliminated due to having the [illegible] wetland impacts
7	Recommended for further study
8	Eliminated due to having [illegible] wetland impacts and the highest relocations
9	Recommended for further study
10	Recommended for further study

limits, interchange boundaries, and bridge lengths were estimated to provide a more accurate representation of potential impacts. The categories discussed previously were utilized, as well as the following resources to evaluate the six alternatives in further detail:

- Streams (total crossings, perennial crossings, and intermittent crossings);
- Water Quality (Outstanding Resource Waters and 303(d) impaired waters);
- Floodplain acreage;
- Hazardous Material sites;
- Parks and Wildlife Refuges;
- Historical Structures;
- Areas with a High Probability for Archaeological sites (acres);
- Community impacts;
- Land Use;
- Economics;
- Noise;
- Uplands;
- Biotic Communities;
- Farmland (Prime, Unique, and Statewide Important);
- Air Quality;
- Indirect Impacts;
- Cumulative Impacts; and,
- Cost.

Recent aerial photography (2005) was used to update the National Wetland Inventory (NWI) mapping for a more accurate representation of potential wetland boundaries. In areas where wetland boundaries could not be readily distinguished on the aerial photography, ground-truthing was performed. Due to the wetland value being dependent on the type and size of the wetland being impacted, these categories

were subsequently updated with the modified wetland information for each alternative. Furthermore, projected impacts to species of concern, infrastructure facilities, and relocations were refined based on the preliminary construction limits.

As a result of the more detailed data, the USEPA and NOAA, through the ACT dispute resolution process, requested that Alternative 6 (refer to Figure 2-6, page 2-16), an alternative that was previously eliminated, be reconsidered as one of the Reasonable Alternatives to be evaluated further (January 19, 2006 ACT Meeting). The USEPA stated that in their opinion Alternative 6 compared favorably to the other alternatives that were to be evaluated in further detail. Concerns were raised by the USEPA that by not further evaluating Alternative 6 potential complications and/or delays in the NEPA and Section 404 processes could arise. Furthermore, USEPA stated that by including Alternative 6, agency and public perception that the alternative evaluation process was prematurely narrowed in scope may be avoided. NOAA requested the reinstatement of Alternative 6 due to lower number of stream crossings, potentially less habitat fragmentation by keeping alternatives closer to existing roadways, potentially lower indirect impacts on wetlands and riparian systems, and to prevent perception that alternatives were prematurely narrowed.

FHWA and SCDOT requested that another alternative that was also previously eliminated, Alternative 3 (refer to Figure 2-6, page 2-16), also be reconsidered as one of the Reasonable Alternatives to be evaluated further. SCDOT expressed concerns about potential future complications and/or delays by only reinstating Alternative 6, which had a high amount of potential wetland impacts, since Alternative 3 had substantially lower wetland impacts. Also, Alternative 3 would be the only combination of the remaining segments not included as one of the Reasonable Alternatives. All combinations of the remaining segments would be represented if both Alternatives 3 and 6 were reinstated (eliminating Alternatives 4 and 8 did away with an entire segment along U.S. Route 501 and S.C. Route 38 at the northern end of the project).

The ACT agreed to reinstate both Alternative 3 and Alternative 6. In addition, the crossing of the Little Pee Dee River in the vicinity of S.C. Route 917 was also revised to minimize impacts to wetlands. The initial alignment corridor traversed the Little Pee Dee River south of the existing S.C. Route 917 crossing to avoid the SCDNR Heritage Trust Preserve Vaughn Tract, which was a constraint. Impacting this property would create a Section 4(f) impact. However, by utilizing the existing crossing, the potential impact to wetlands would be reduced and the fragmentation of habitat would not occur in the Little Pee Dee River crossing. The ACT voted to continue with the alternative crossing the Little Pee Dee River on the existing S.C. Route 917 roadway (January 19, 2006 ACT Meeting). SCDNR stated that although they saw merit in this change, they could not approve this without the approval of the Heritage Trust Advisory Board. This shift resulted in a modification to the Alternative 5 and Alternative 10 alignments. As a result of the addition of two alternatives and the modification of two alternatives, the alternatives were renumbered as represented in Table 2.4 (page 2-19).

Table 2.4
Alternatives
Interstate 73 EIS: I-95 to the Myrtle Beach Region

1	None	[illegible]
2	[illegible]	[illegible]
3	[illegible]	[illegible]
4	[illegible]	[illegible]
5	[illegible]	[illegible]
6	[illegible]	[illegible]
7	[illegible]	[illegible]
8	[illegible]	[illegible]
9	None	[illegible]
10	Modified	[illegible]

Figures 2-7 through 2-14, (pages 2-21 to 2-28), illustrate the eight alternatives that were recommended for further analysis in the Draft Environmental Impact Statement, while Table 2.5, (page 2-29), depicts their respective impacts.

2.5 How were the eight Reasonable Alternatives evaluated to designate the Preferred Alternative?

Based on the information presented in Table 2.5, (page 2-29), each of the eight Reasonable Alternatives was evaluated to determine the Preferred Alternative. The Alternative Evaluation Criteria was used to compare the Reasonable Alternatives against one another. The Reasonable Alternatives were first evaluated against how well they addressed the needs for the project. In that regard, the Reasonable Alternatives, also referred to as the Build Alternatives, were generally very similar, they all provided interstate connectivity, the traffic benefits were relatively similar, they all provided similar economic benefits, the hurricane evacuation benefits would be virtually identical and they each provided for multimodal planning. Next, the Build Alternatives were evaluated based upon public input, agency concerns, and benefits and impacts that would result from each of them. After careful consideration of all of these factors, a Preferred Alternative could be identified.

2.5.1 How would the alternatives meet the primary needs of the project?

There are eight reasonable Build Alternatives and the No-build Alternative. The No-build Alternative does not satisfy the purpose and need for the project, but would not result in some of the impacts that the Build Alternatives would. The purpose of the project is to connect the Myrtle Beach region to the interstate system to improve economic opportunities and tourism in the project study area, help reduce congestion on the existing traffic network, provide multimodal planning, and improve the efficiency of hurricane evacuation. The No-build Alternative would not meet any of these needs. At the same time, it would not result in the changes of land use, impacts to wetlands, noise impacts, for example, that the Build Alternatives would.

How do the alternatives meet the primary need of system linkage?

It is essential that the project improve national and regional connectivity by providing a direct link between I-95 and the Myrtle Beach region. Each of the eight Build Alternatives would provide the direct link stated as one of the project's primary needs. This direct link would reduce the travel time between Myrtle Beach and I-95. As shown in Figures 2-15 to 2-23, (pages 2-30 to 2-38), and Table 2.6, the travel times between U.S. Route 17 and I-95 would

Table 2.6
Minimum Trip Time Between U.S. Route 17 and I-95 in Year 2030
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	No-build	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
Minimum Travel Time (Minutes)	75-80	60-65	60-65	55-60	60-65	55-60	55-60	55-60	60-65

decrease from between 10 to 15 minutes for the approximately 65 miles. This means that with I-73, the trip could take 55-65 minutes, whereas without I-73 the trip would take 75-80 minutes,

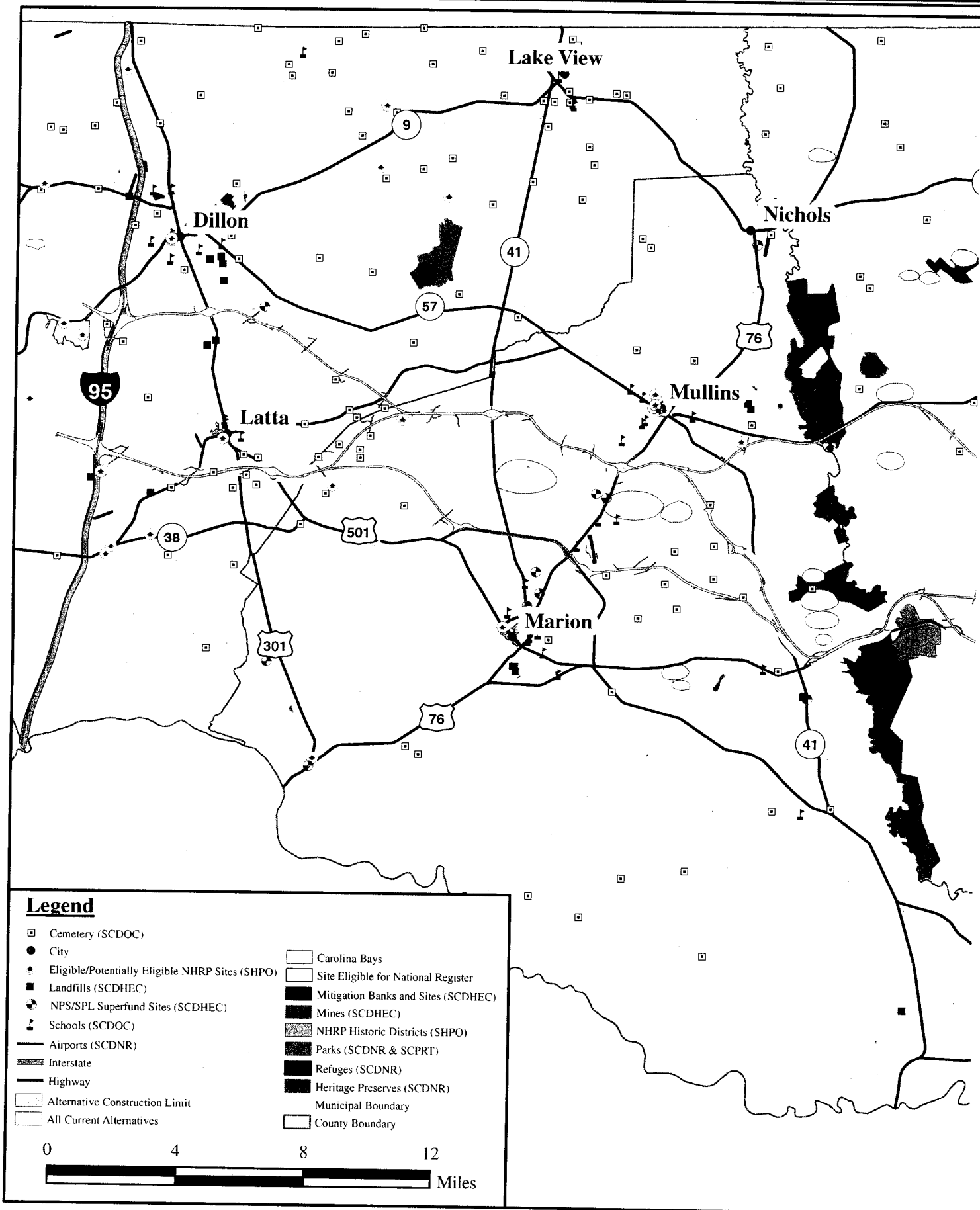
based upon the average annual daily traffic volume. This same trip would result in similar time savings during the peak season.

How do the alternatives meet the primary need of economic development?

The other primary need identified was the ability to enhance economic opportunities and tourism in South Carolina. An analysis was performed that examined two sources of potential economic impacts arising from I-73: travel efficiencies and strategic development benefits. The economic impact evaluation involves the estimation of the nature and magnitude of potential transportation efficiency gains and an assessment of the strategic development economic impact.

In general, there are four categories of benefits that arise from transportation investments including:

- Travel Efficiencies: Benefits that accrue to potential facility users upon project completion. These are measured in terms of travel time savings, vehicle operating cost savings, accident savings and emission benefits.
- Construction Impacts: Impacts that arise as a result of the expenditures on local labor and materials to build the facility.
- Operating and Maintenance Impacts: Benefits that arise from the expenditures on local labor and supplies to operate and maintain the facility upon completion.
- Strategic Development Impacts: The economic development impacts associated with attracting and retaining business activity as a result of increased accessibility, mobility and connectivity.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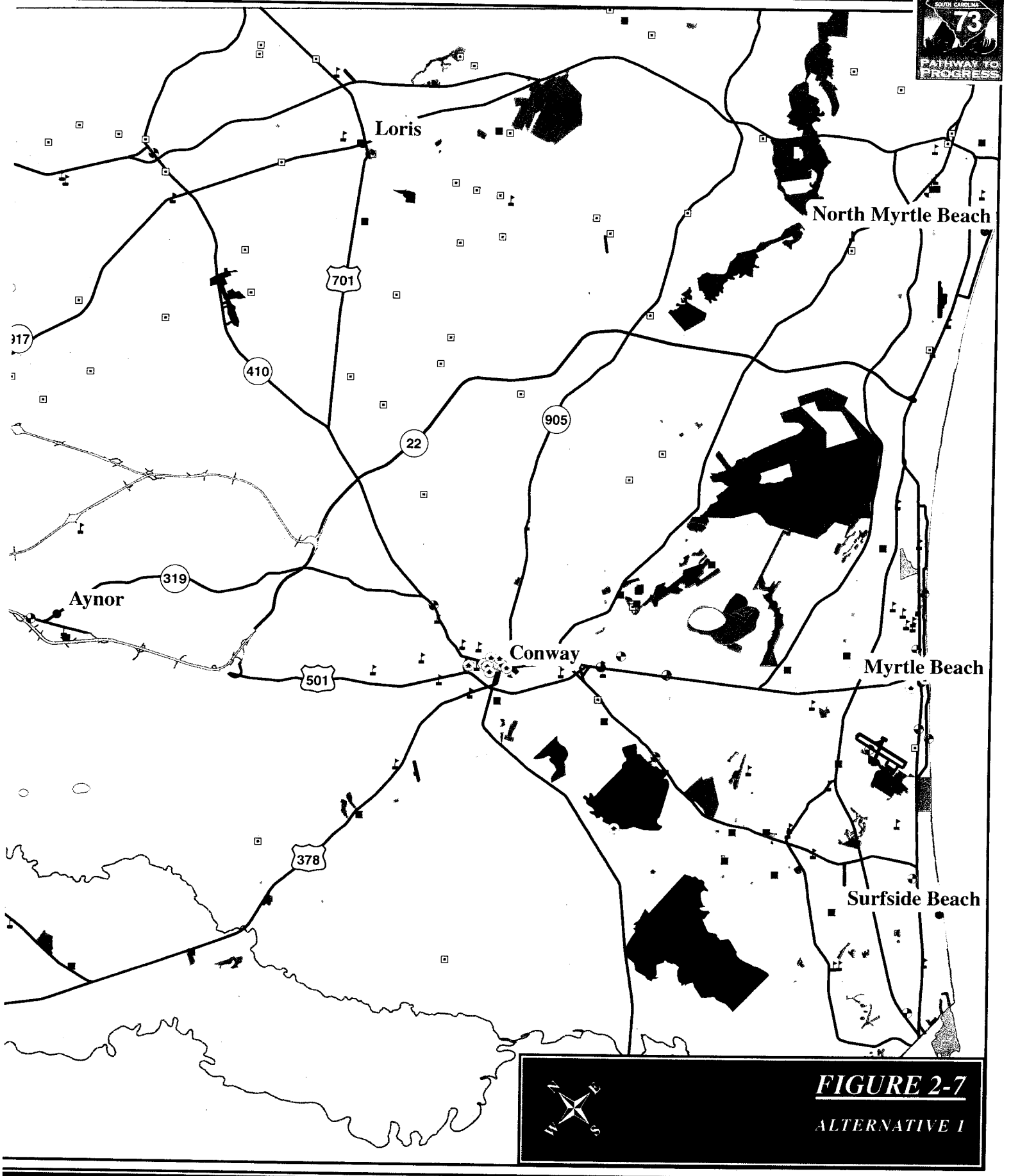
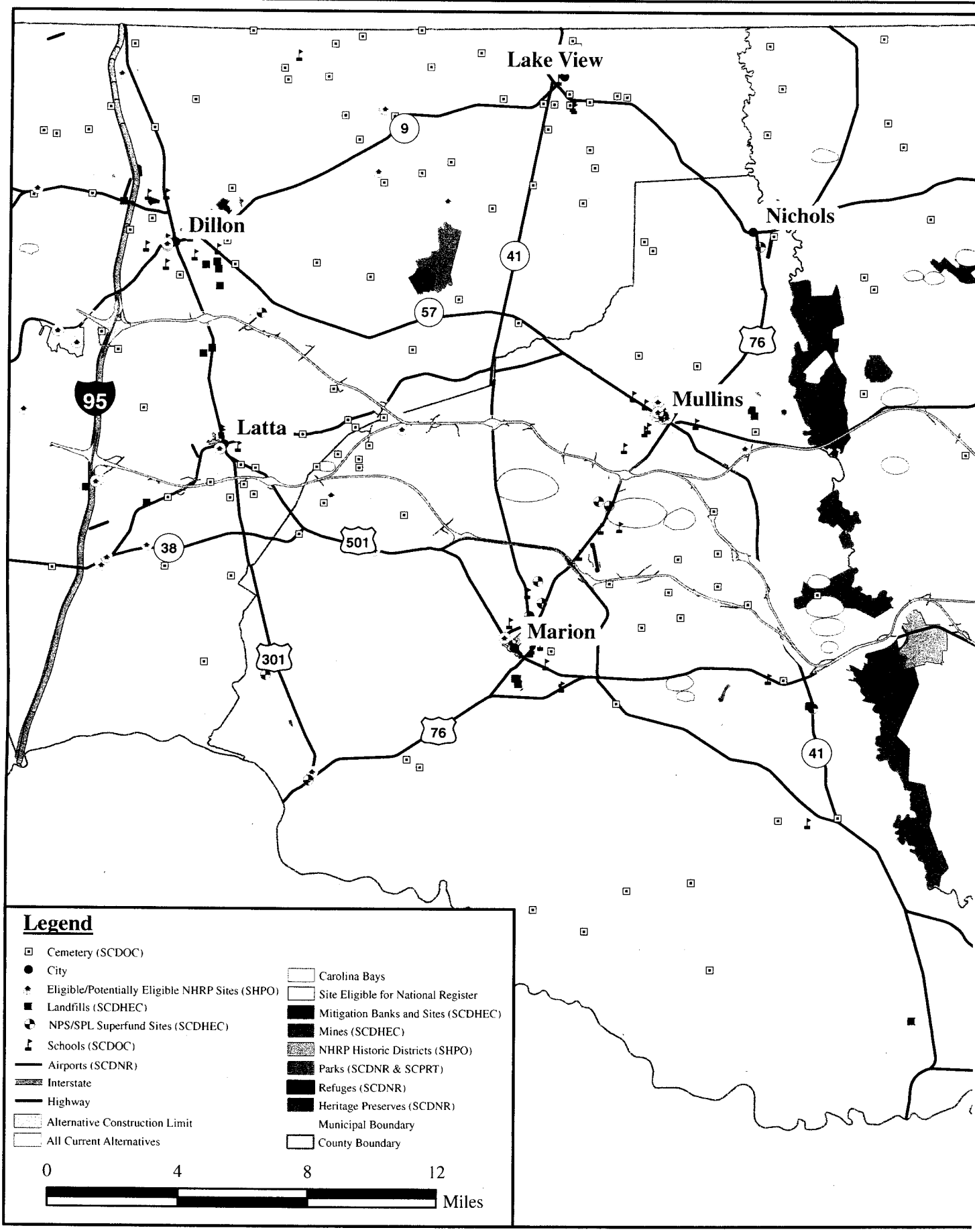


FIGURE 2-7

ALTERNATIVE 1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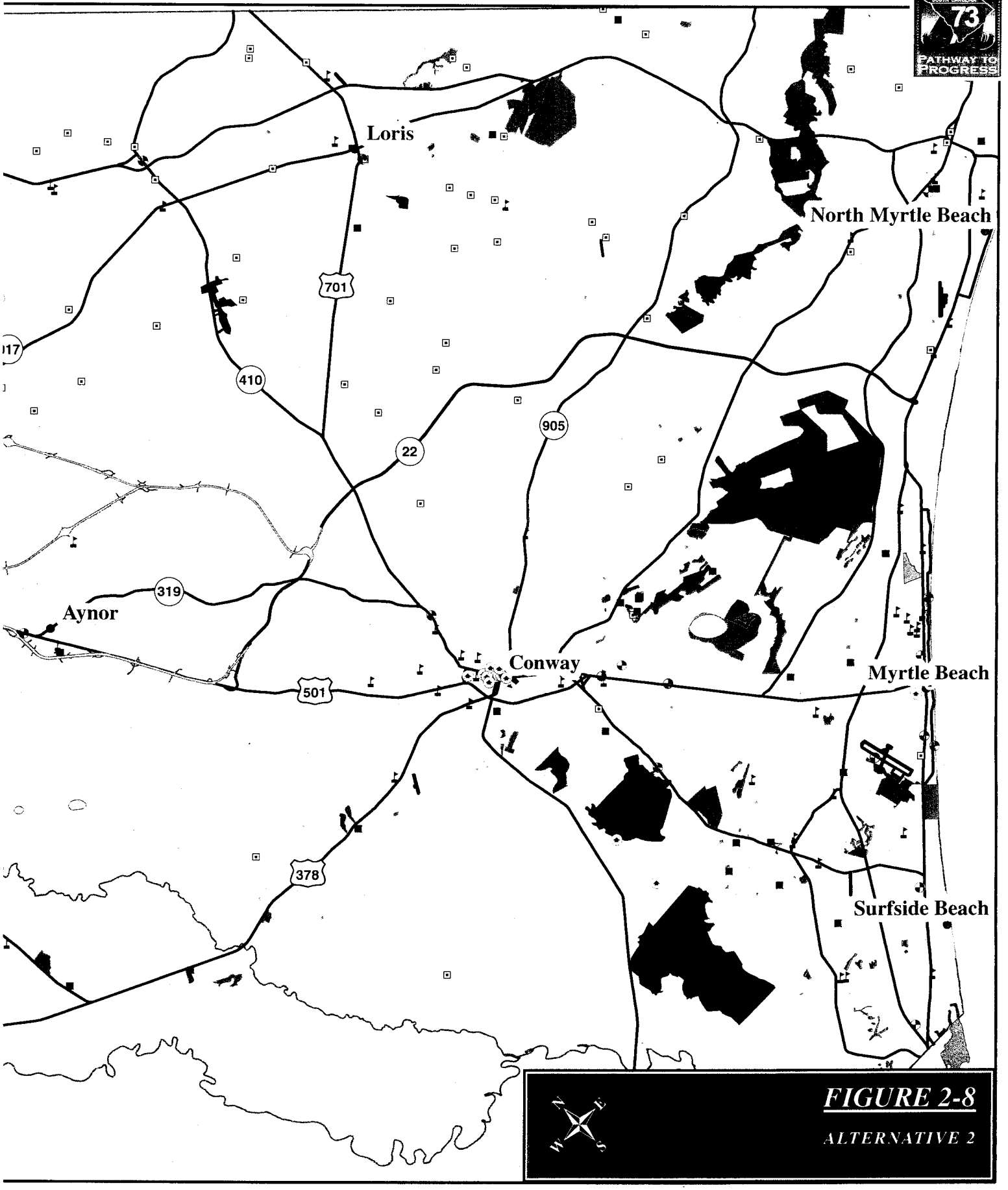
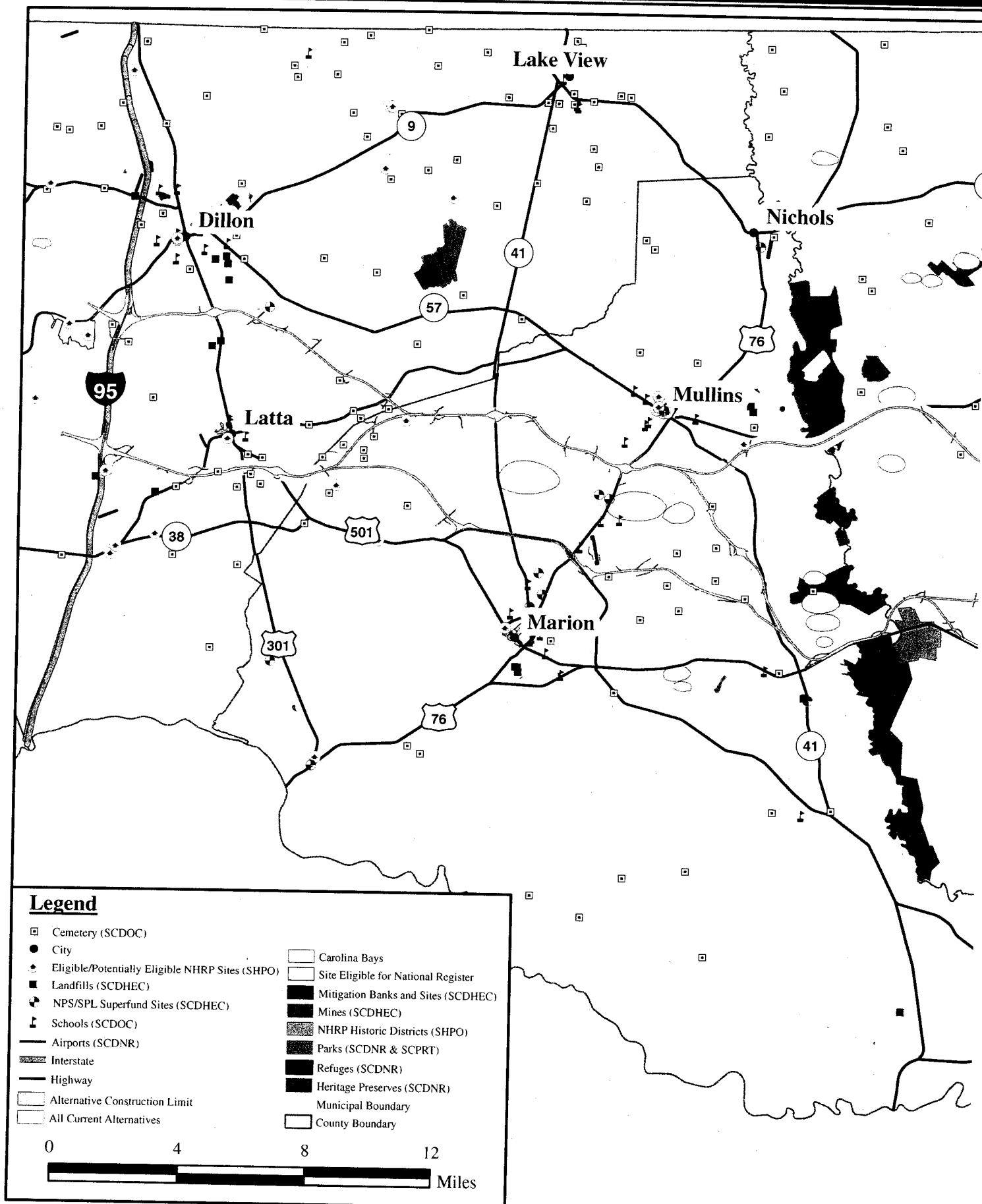


FIGURE 2-8

ALTERNATIVE 2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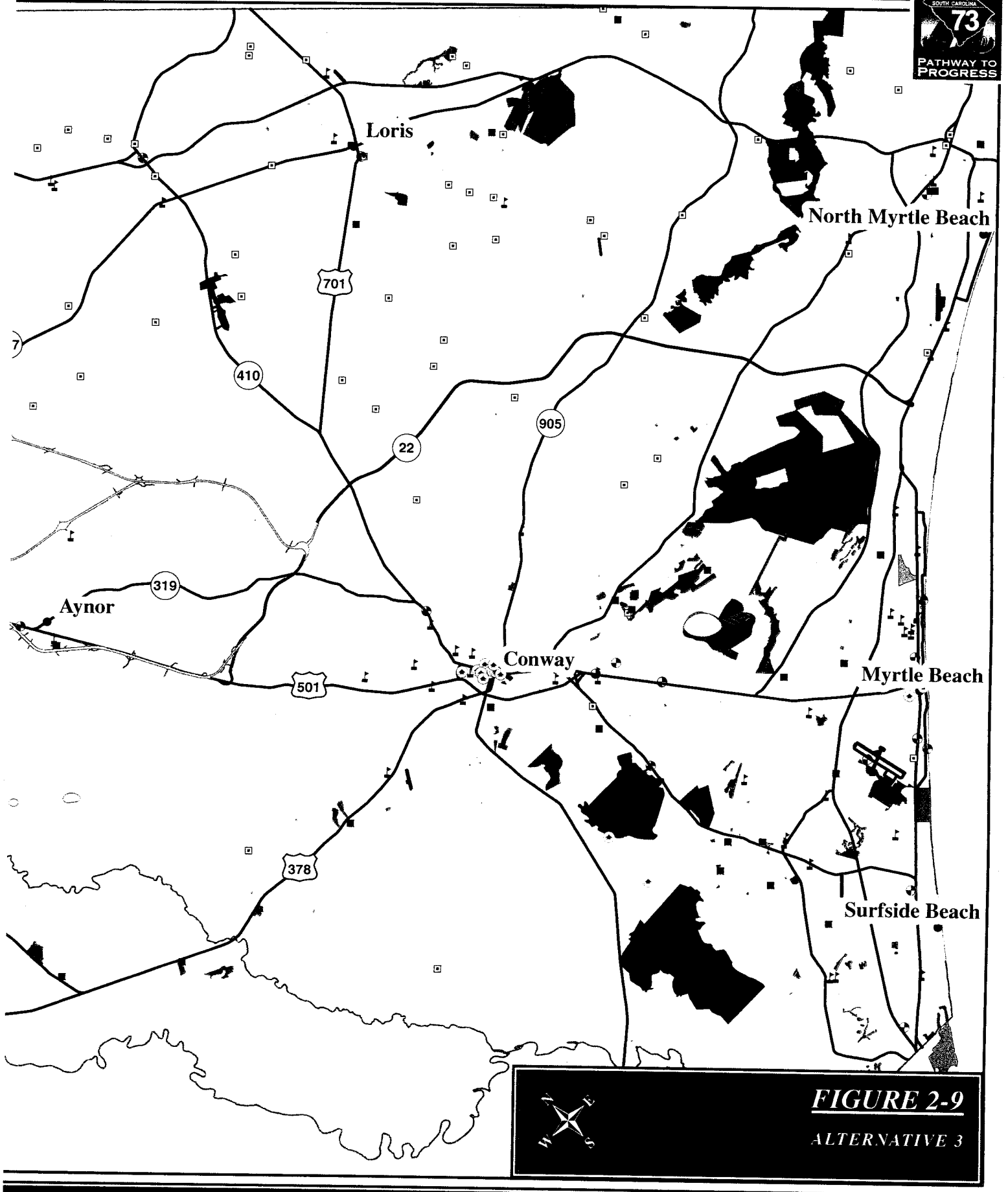
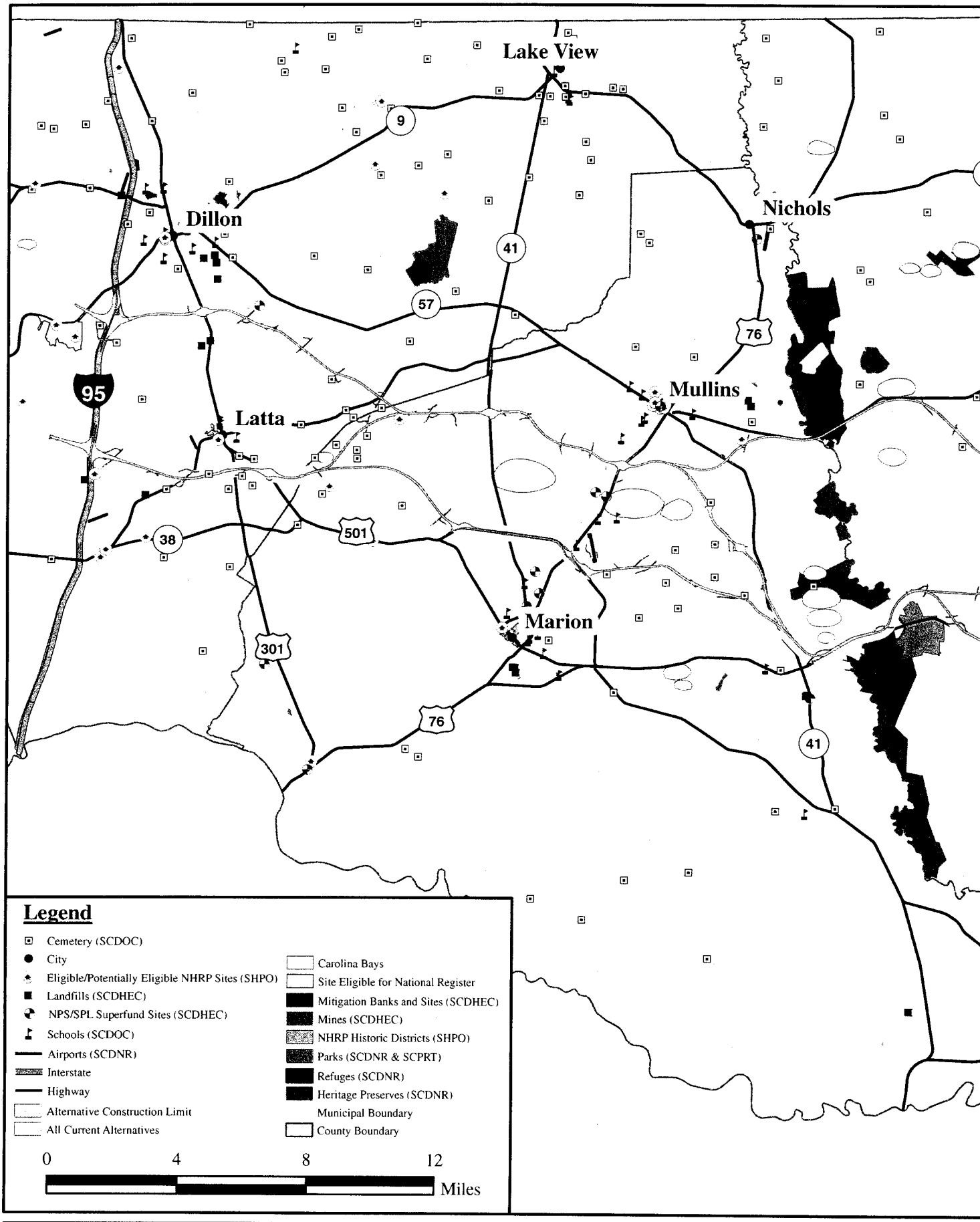


FIGURE 2-9

ALTERNATIVE 3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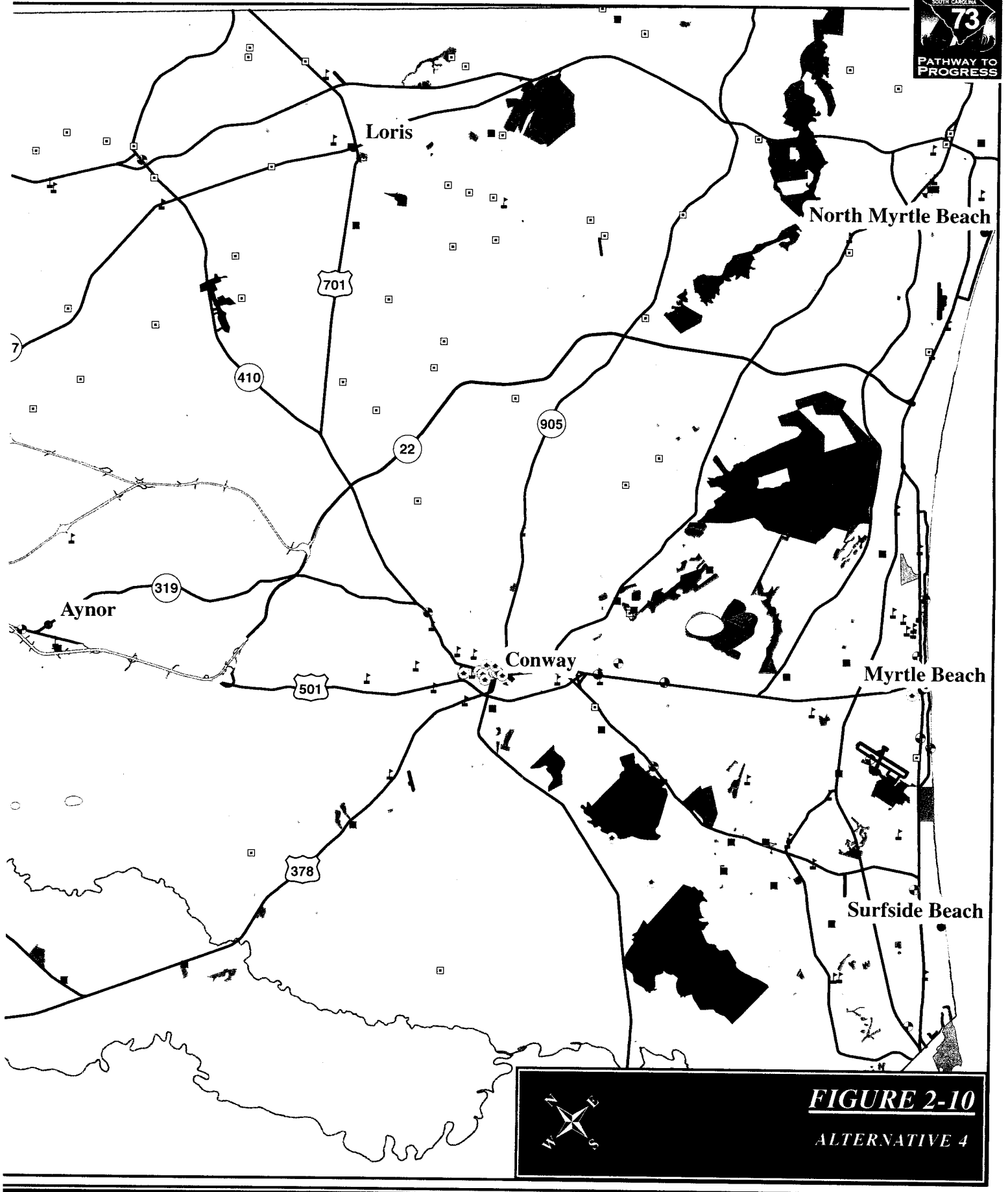
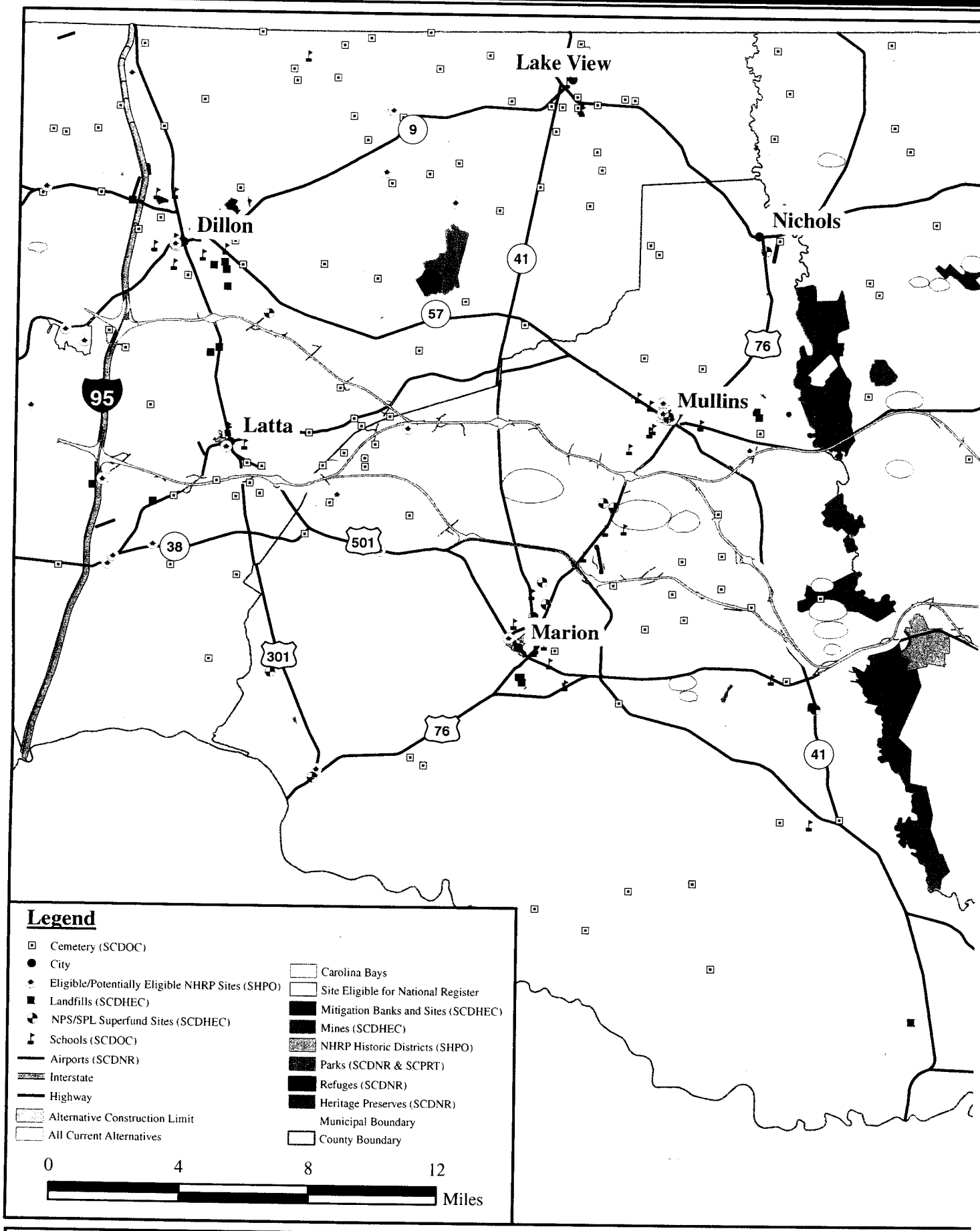


FIGURE 2-10

ALTERNATIVE 4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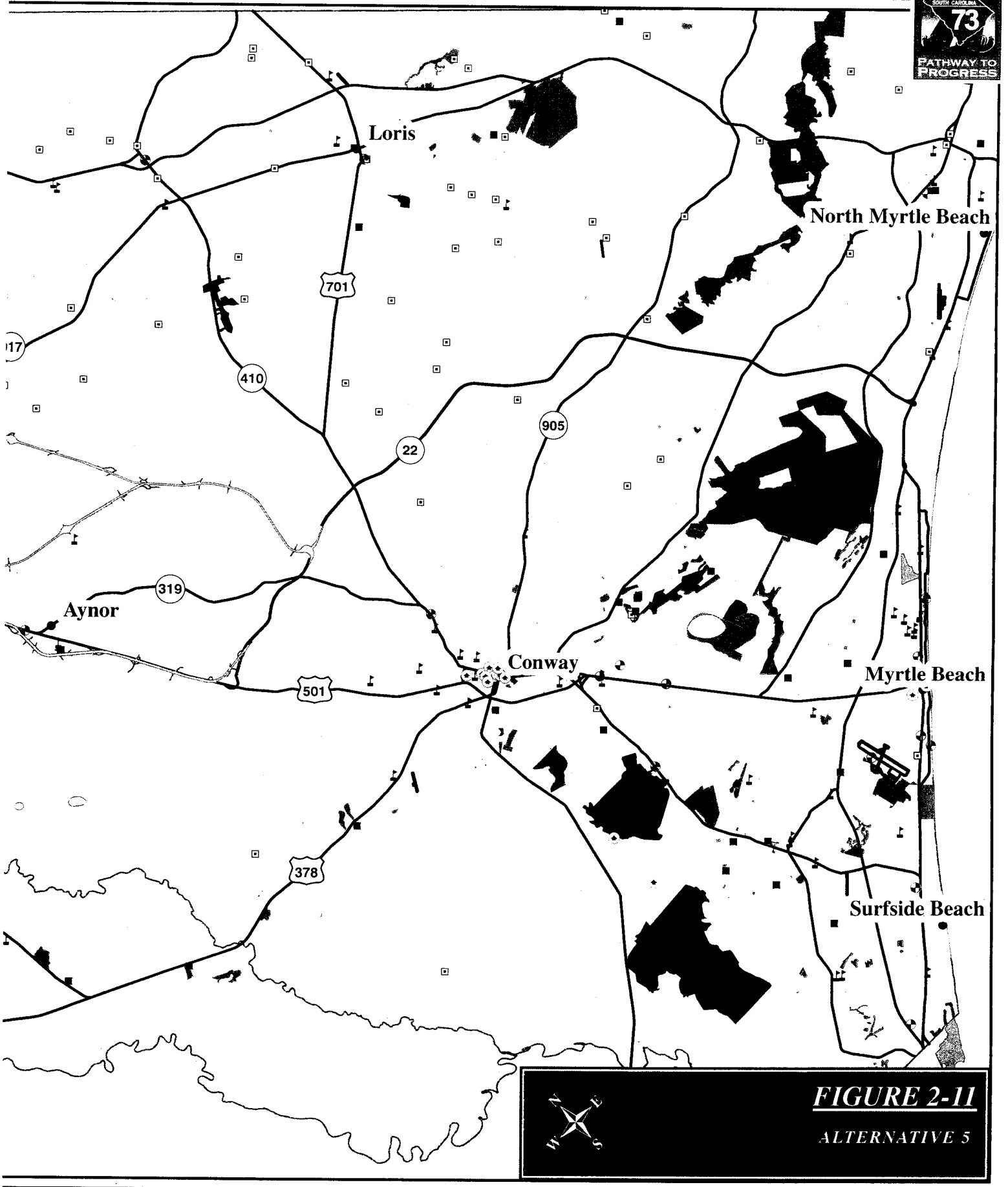
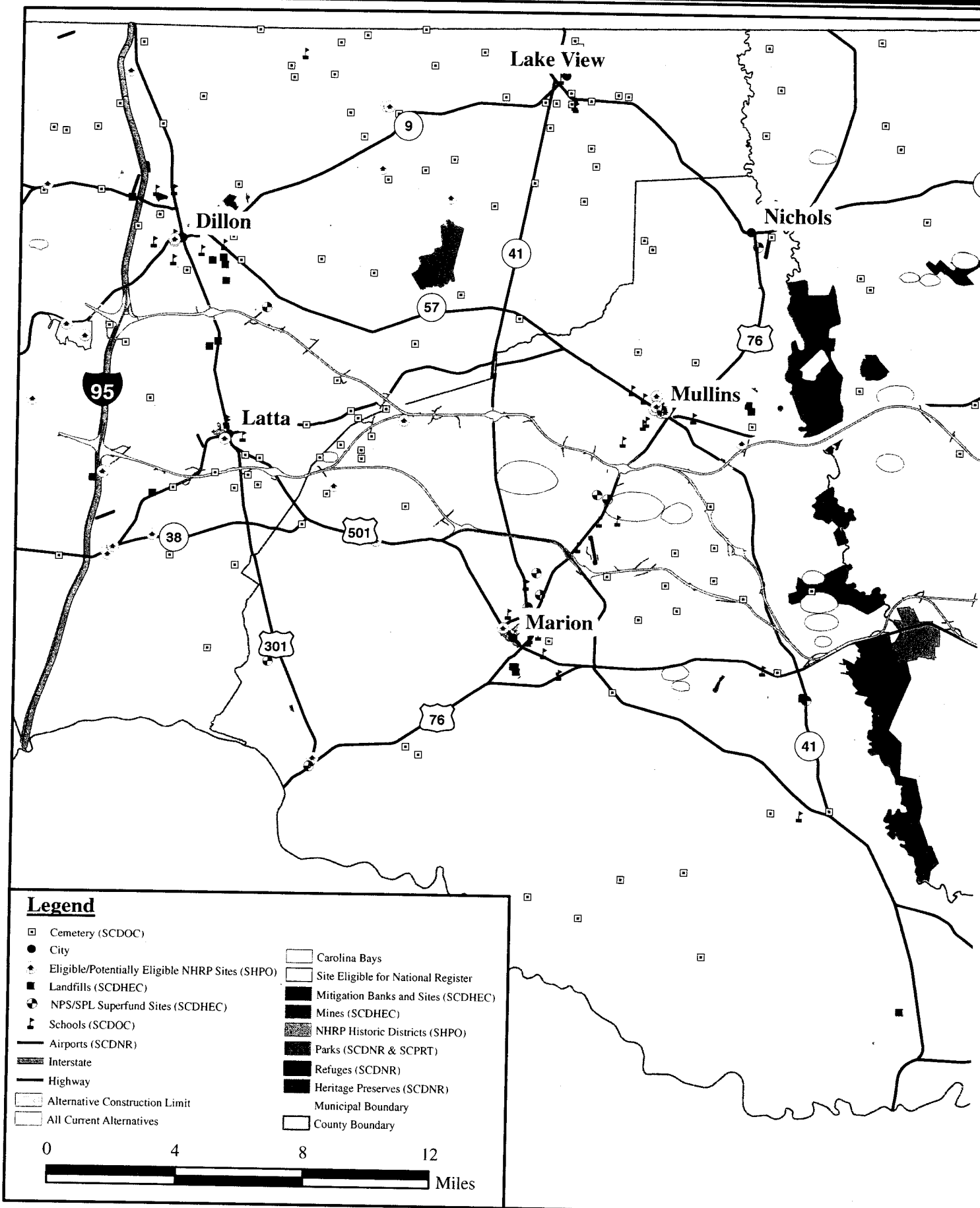


FIGURE 2-11

ALTERNATIVE 5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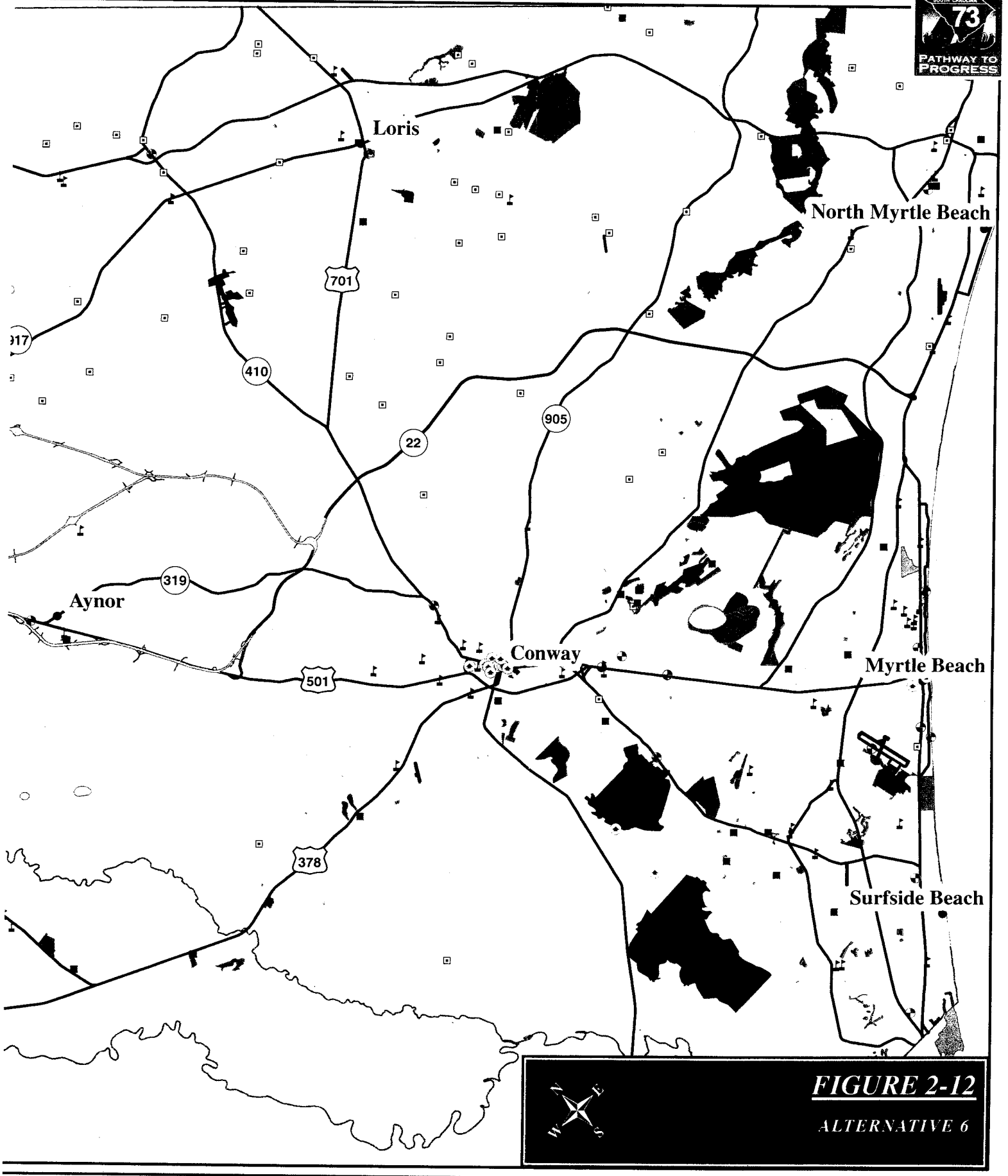
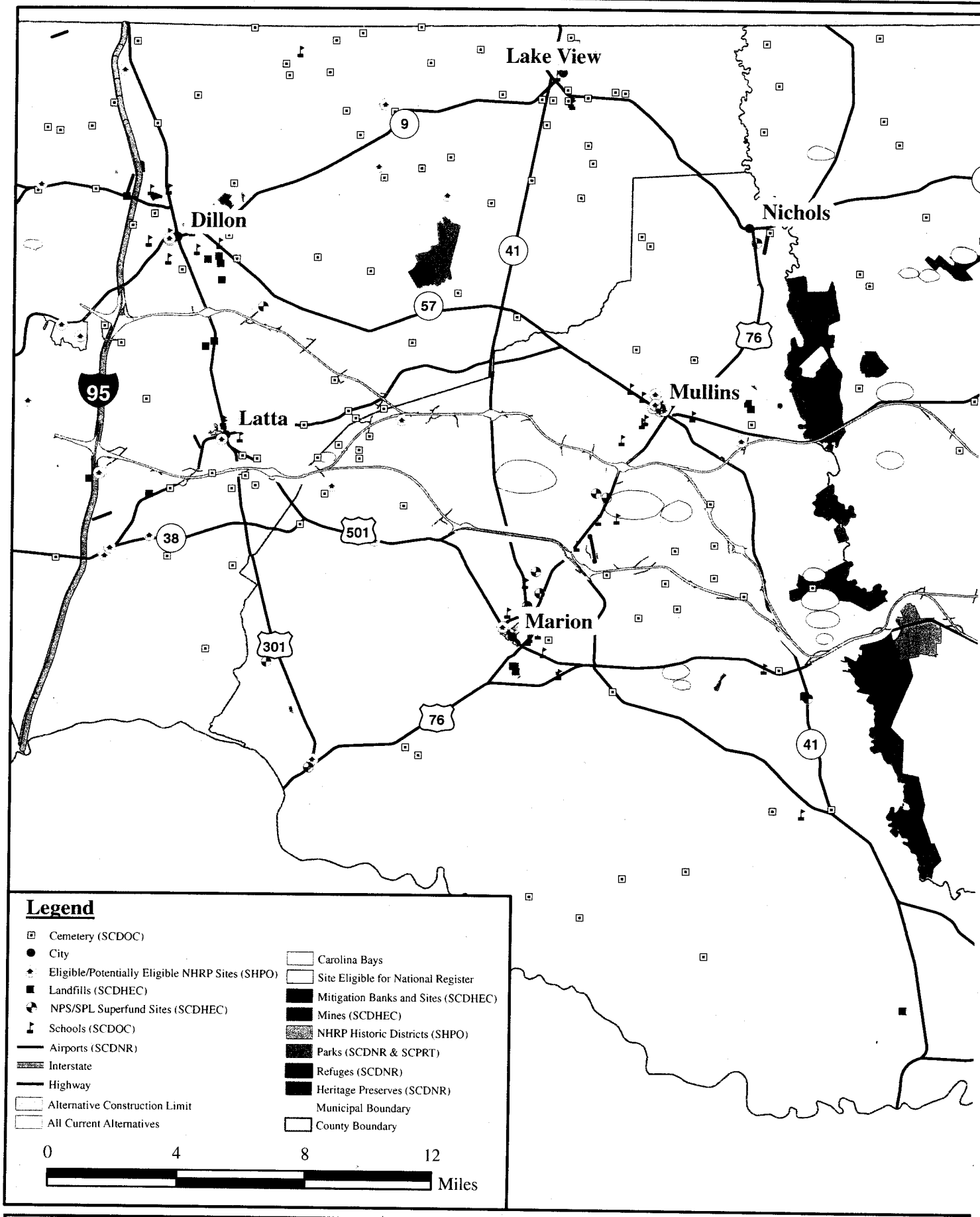


FIGURE 2-12

ALTERNATIVE 6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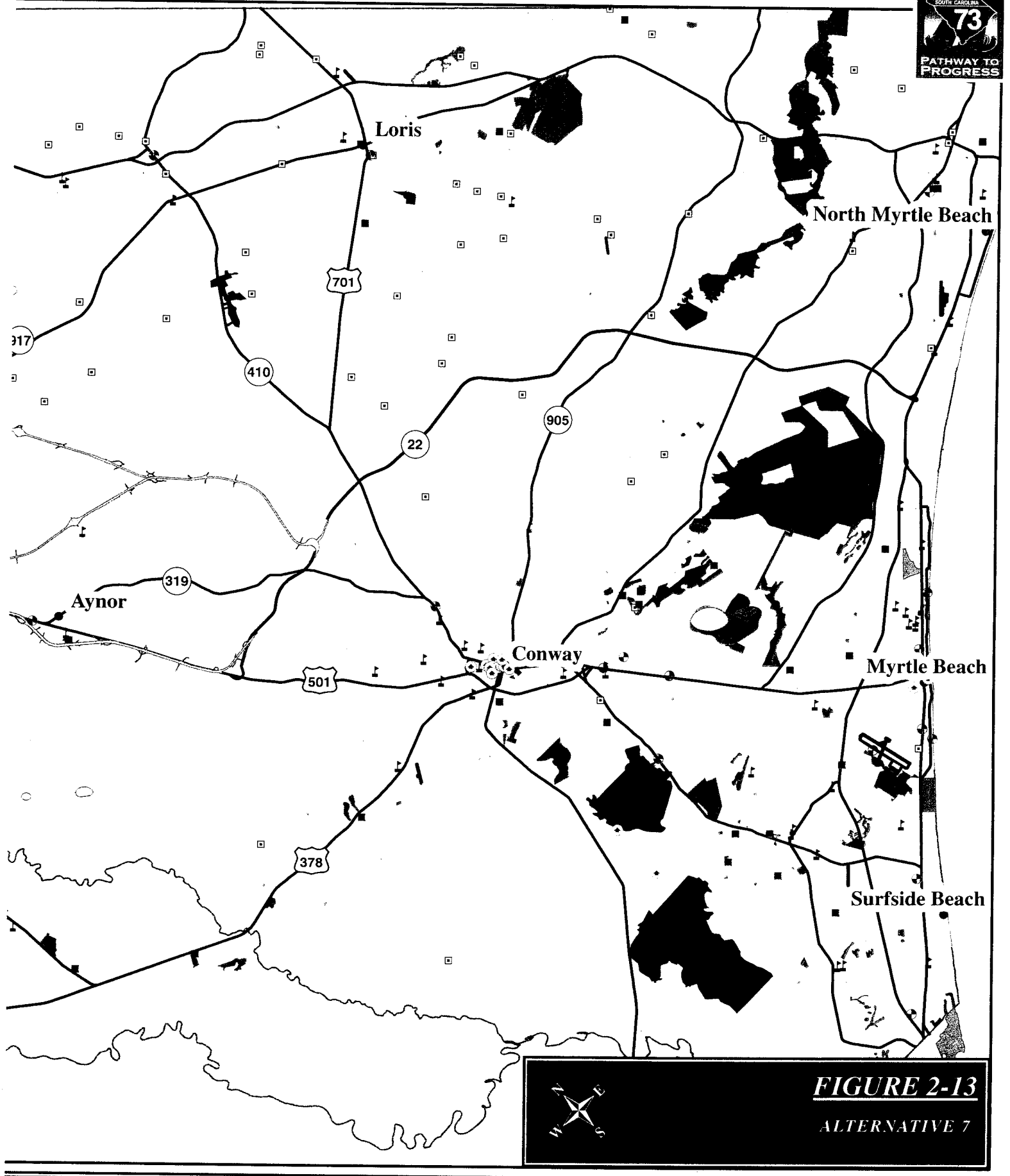
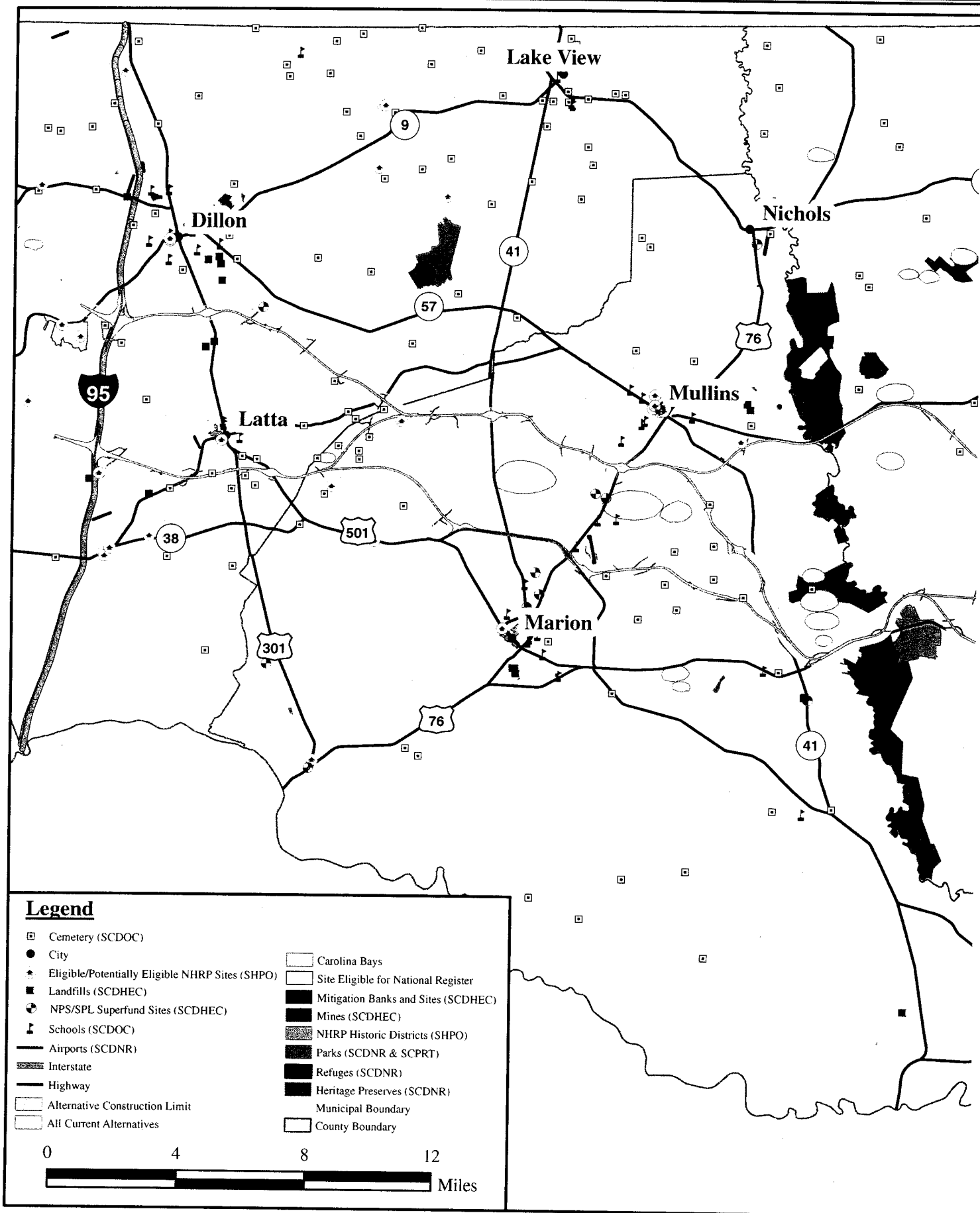


FIGURE 2-13

ALTERNATIVE 7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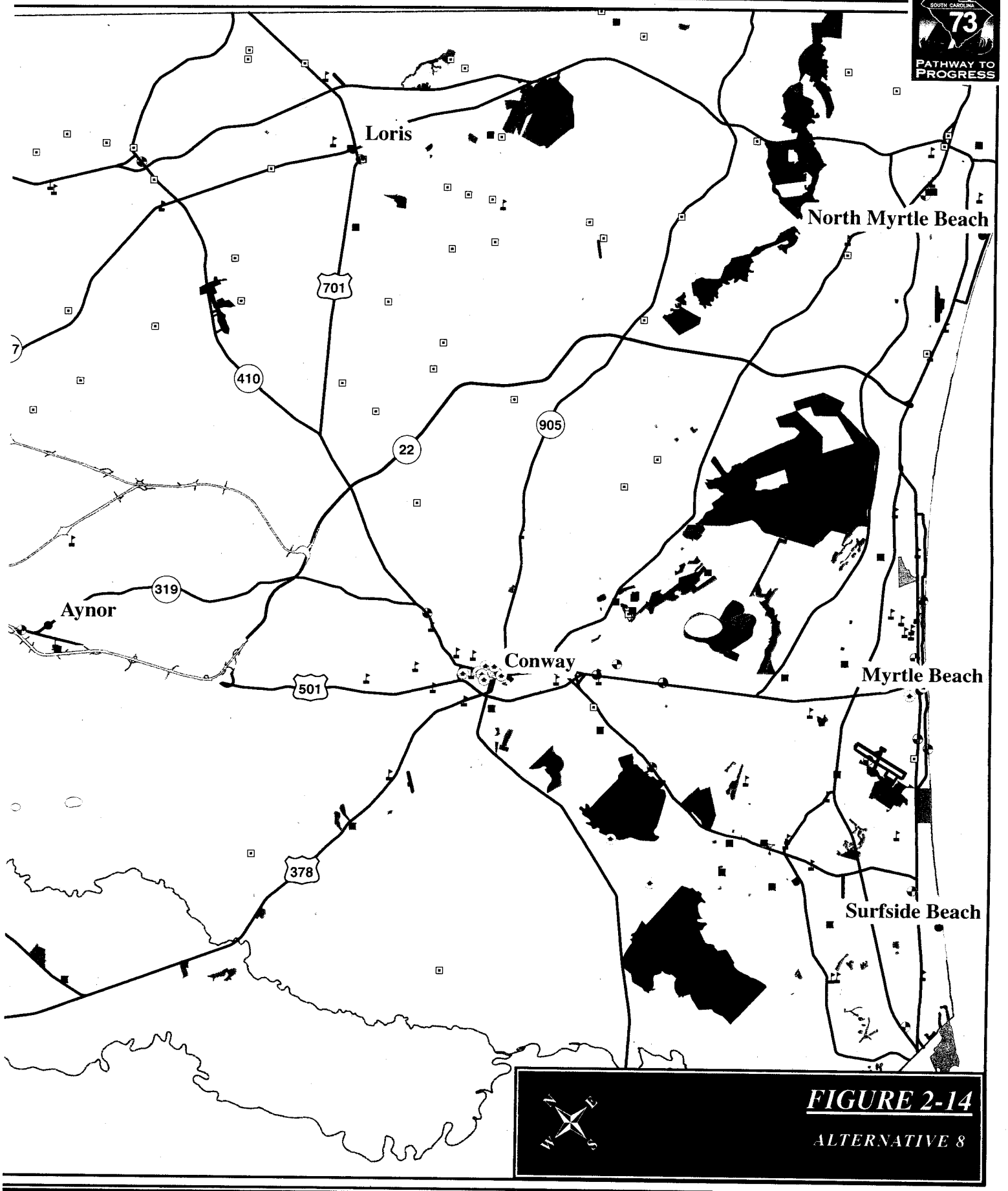

FIGURE 2-14

ALTERNATIVE 8

Table 2.5
REASONABLE ALTERNATIVE MATRIX
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	CATEGORY	UNIT OF MEASURE	ALTERNATIVE 1	2	3	4	5	6	7	8
PURPOSE AND NEED	System Linkage		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Economic Development		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Hurricane Evacuation		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Local Traffic Congestion		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Multimodal Planning		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ENGINEERING CRITERIA	Length	Miles	44.9	47.7	44.2	42.6	48.3	43.6	46.0	44.3
	Design Criteria	Meets/Does Not Meet	Meets	Meets	Meets	Meets	Meets	Meets	Meets	Meets
	Constructability	Scale 1-6 (1 highest)	4	3	1	6	3	1	4	4
	Construction Cost	Year 2011 Dollars (Billions)	1.492	1.547	1.290	1.392	1.430	1.406	1.350	1.595
NATURAL FEATURES	Threatened and Endangered Species	Yes (#) / No	No	No	No	No	No	No	No	No
	Species of Concern	Yes (#) / No	Yes (1)	No	No	Yes (1)	No	No	No	Yes (1)
	Wetlands	Acreage	417.5	443.6	384.1	497.0	412.9	413.1	492.1	448.6
	Fill	Acreage	372.8	386.6	352	453.2	372.9	365	453.0	386.8
	Bridge	Acreage	44.8	57.0	32	43.9	40.1	48	39.2	61.8
	Wetland Quality	Value	2,919.4	2,869.4	2,486.1	3,212.4	2,816.1	2,588.4	3,105.8	2,976.8
	Fill	Value	2,556.0	2,408.5	2,228.5	2,847.0	2,481.4	2,212.5	2,769.3	2,486.1
	Bridge	Value	363.5	460.9	257.6	365.4	334.7	375.9	336.4	490.7
	Streams									
	Total Crossings	# of Crossings	60	62	58	45	56	64	41	66
	Perennial	# (Linear Feet)	52 (18,086)	54 (18,052)	48 (16,243)	35 (12,891)	49(15,878)	53 (18,420)	32 (10,863)	57(20,260)
	Intermittent	# (Linear Feet)	8 (1,968)	8(3,070)	10(3,770)	10 (4,877)	7(3,060)	11 (3,780)	9 (5,969)	9(1,978)

	Outstanding Resource Water	# of Crossings	10	10	5	10	10	5	9	10
	303(d) Impaired	# of Crossings	3	6	3	6	2	7	5	7
	Habitat	Unique	No	No	No	No	No	No	No	No
	Uplands	Acreage	2,139	2,210	1,923	1,884	2,154	1,979	1,899	2,194
	Floodplains	Acreage	173	193	94	321	176	111	323	191
MAN-MADE FEATURES	Hazardous Material Sites	#	2	3	1	2	2	4	2	3
	Parks and Wildlife Refuges	Yes (#) / No	0	0	1	0	0	1	0	0
	Historical Structures	Yes (#) / No	1 Visual	2 Visual	1 Visual	1 Direct	1 Visual	2 Visual	1 Visual, 1 Direct	2 Visual
	High Potential Area for Archaeological Sites	Acreage	1,086	1,144	1,032	991	1,149	1,028	1,057	1,078
	Noise (R= Residential, C= Church)	#	18R, 1C	19R	37R	17R	22R, 1C	41R	20R	15R
	Farmland	Acreage	1,993	2,009	1,708	1,717	2,136	1,835	1,781	2,155
	Prime	Acreage	1,046	1,319	1,094	868	1,344	1,147	1,036	1,159
	Unique	Acreage	0	0	0	0	0	0	0	0
	Statewide Important	Acreage	947	690	614	849	792	688	745	996
SOCIOECONOMIC ISSUES	Community Impacts	Scale 1-6 (1 least impact)	5	3	2	3	2	4	1	5
	Total Relocations	#	121	92	88	74	98	80	51	116
	Residential Relocations	#	109	82	81	61	93	68	45	98
	Commercial Relocations	#	12	10	7	13	5	12	6	18
	Environmental Justice	Yes / No	No	No	No	No	No	No	No	No
INFRASTRUCTURE	Airports	#	0	0	0	0	0	0	0	0
	Fire Stations	#	0	0	0	0	0	0	0	0
	Schools	#	0	0	0	0	0	0	0	0
	Churches	#	0	3	0	0	0	3	0	3
	Cemeteries	#	0	0	0	0	0	0	0	0

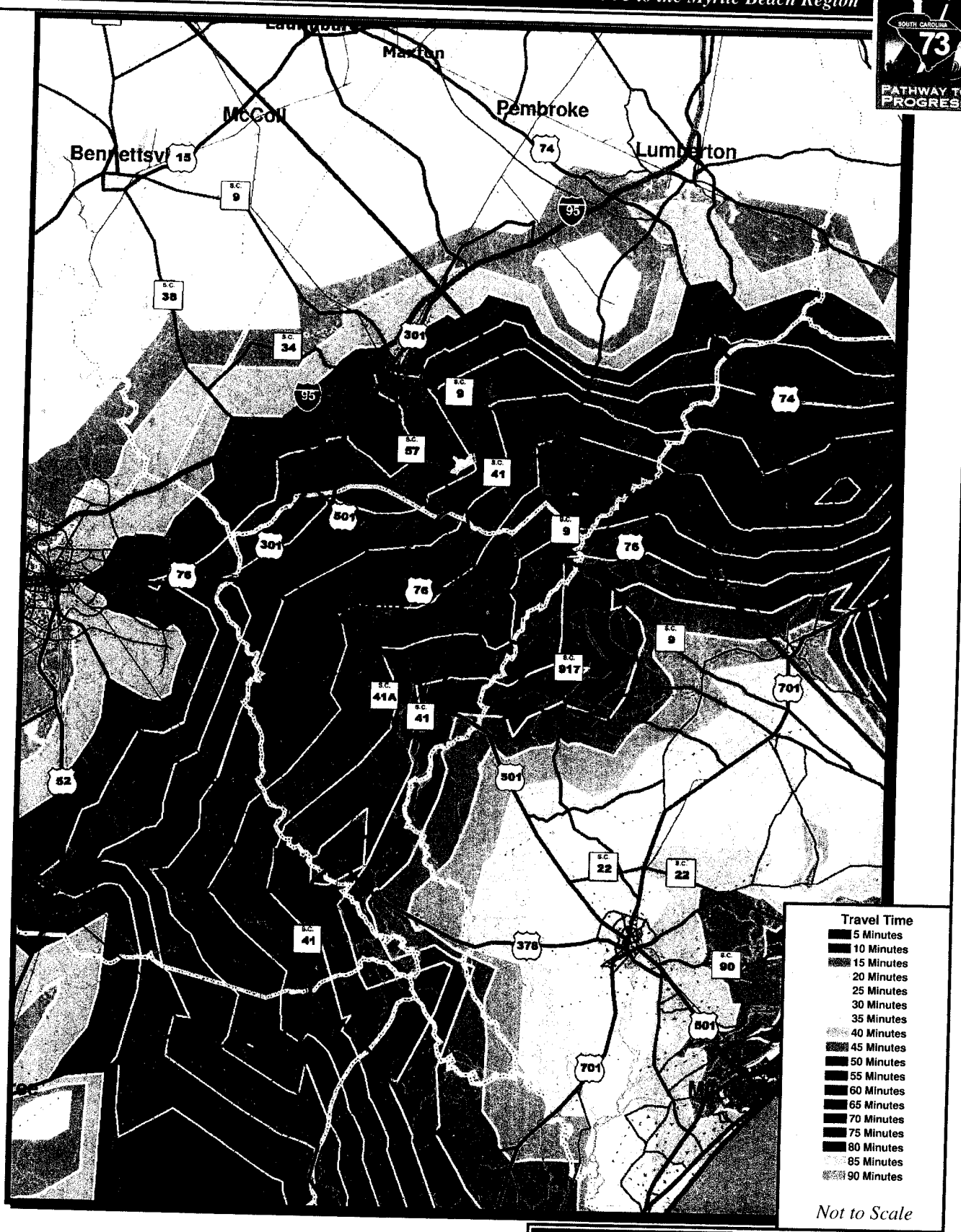

FIGURE 2-15

2030 AADT TRAVEL TIME
NO BUILD

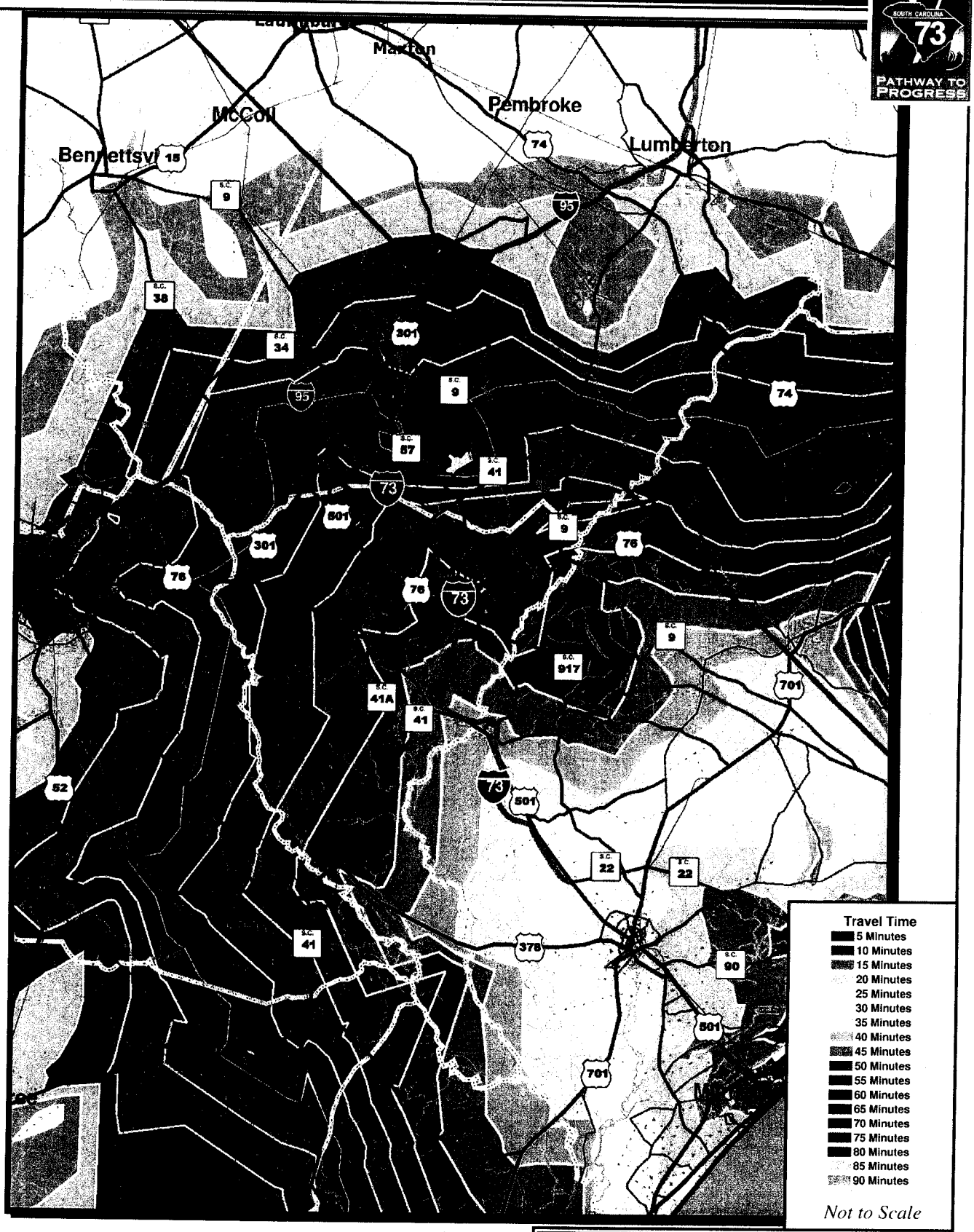

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FIGURE 2-16
2030 AADT TRAVEL TIME
ALTERNATIVE 1

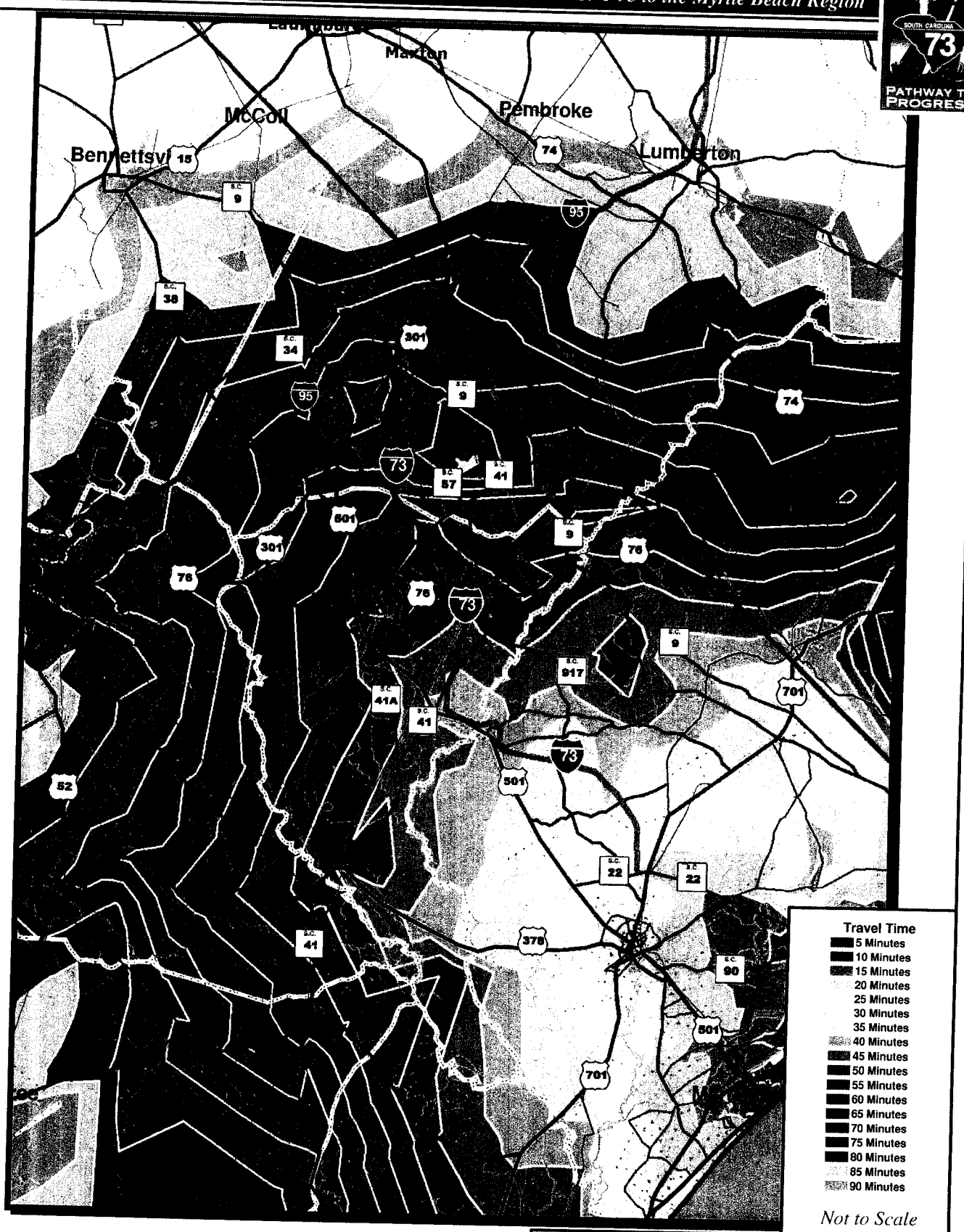

FIGURE 2-17
2030 AADT TRAVEL TIME ALTERNATIVE 2

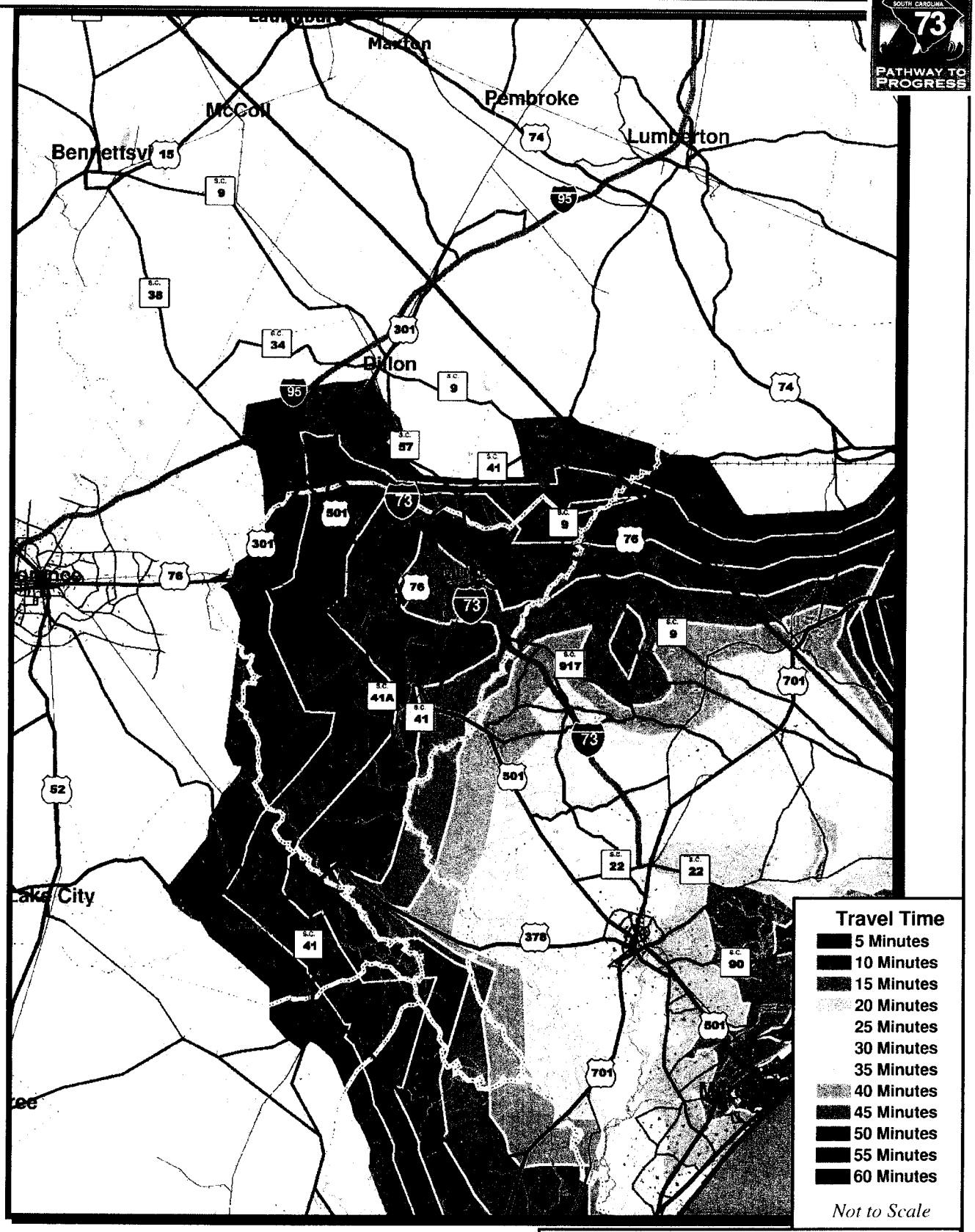

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FIGURE 2-18

2030 AADT TRAVEL TIME
ALTERNATIVE 3

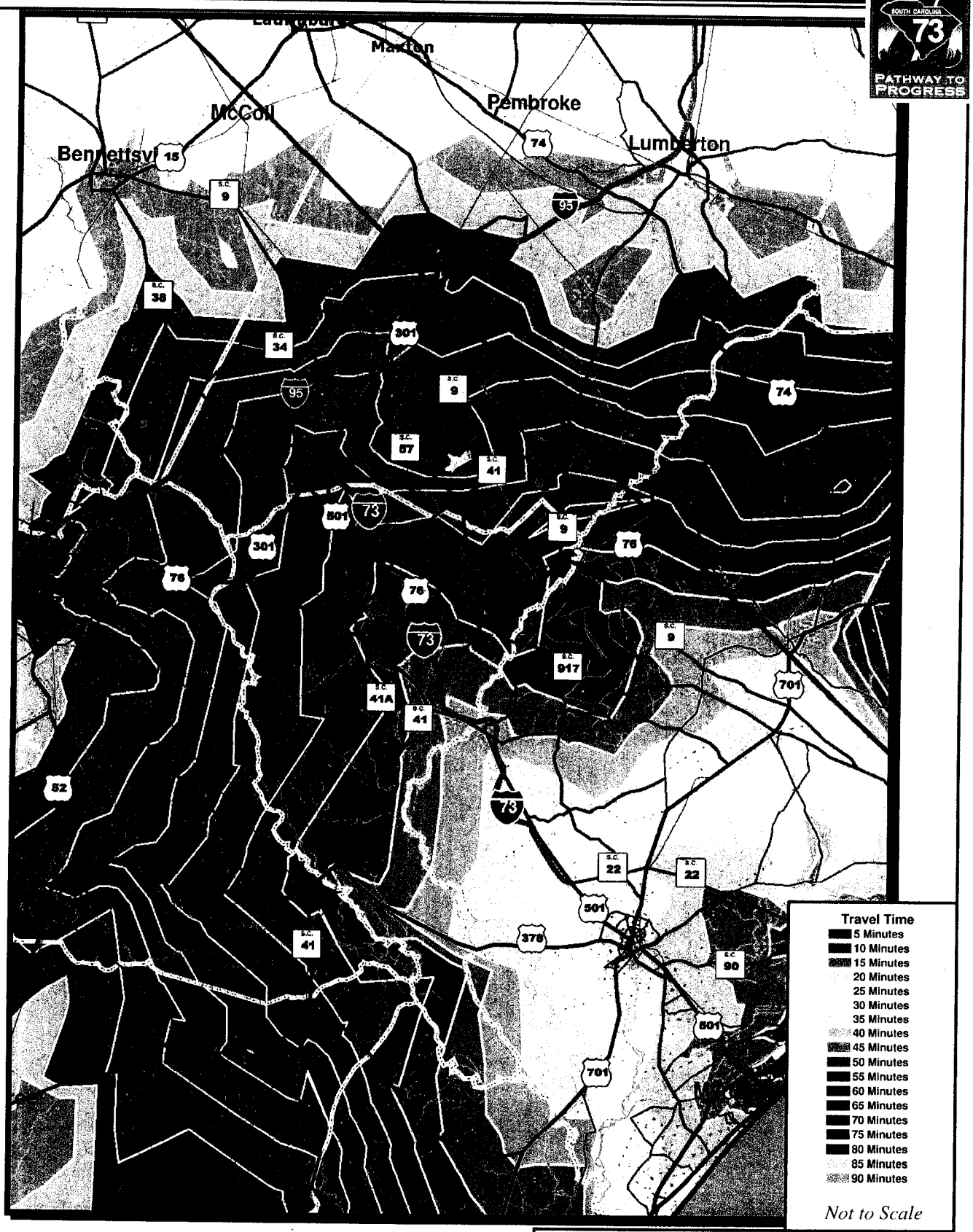

FIGURE 2-19

2030 AADT TRAVEL TIME
ALTERNATIVE 4

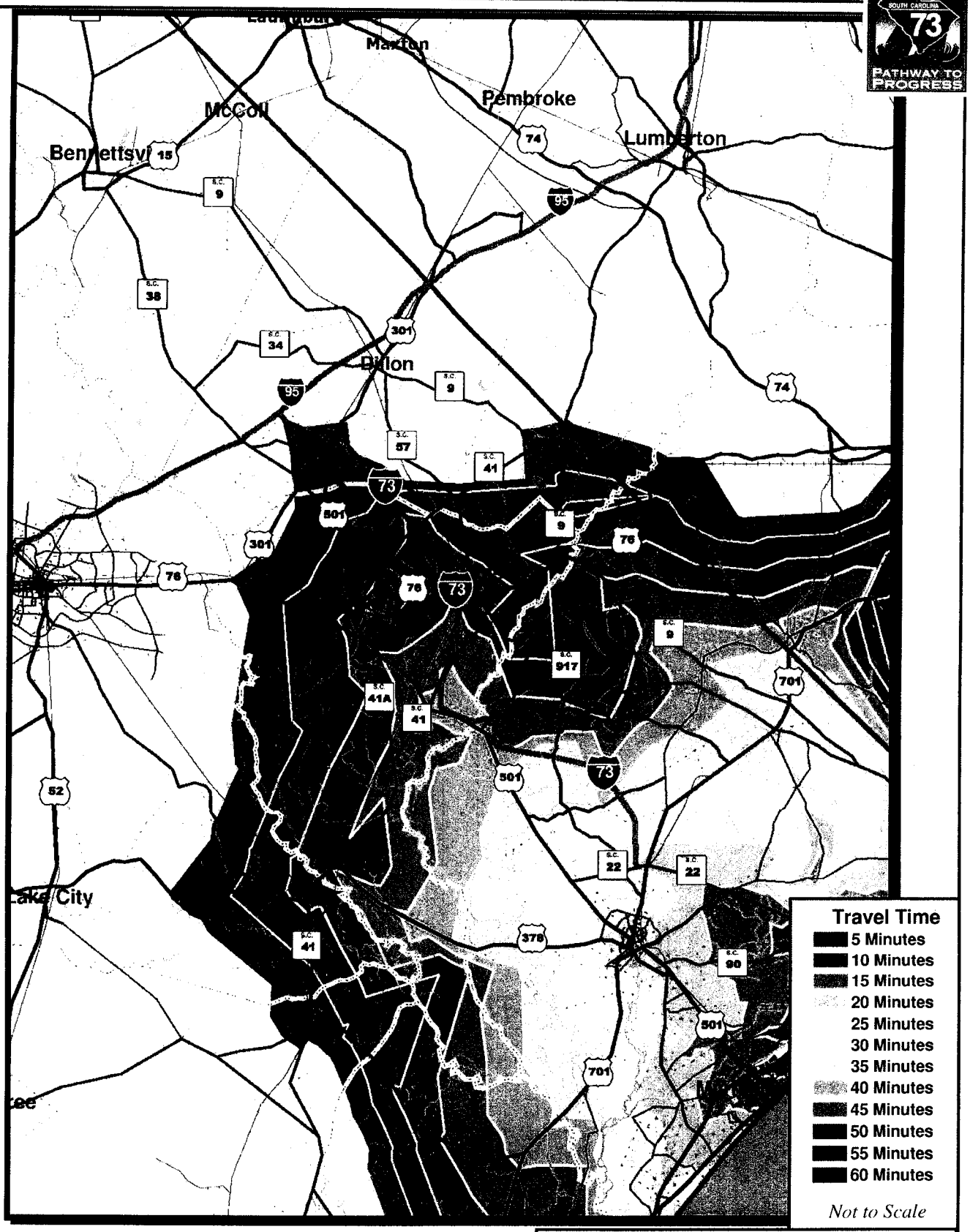

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FIGURE 2-20

2030 AADT TRAVEL TIME
ALTERNATIVE 5

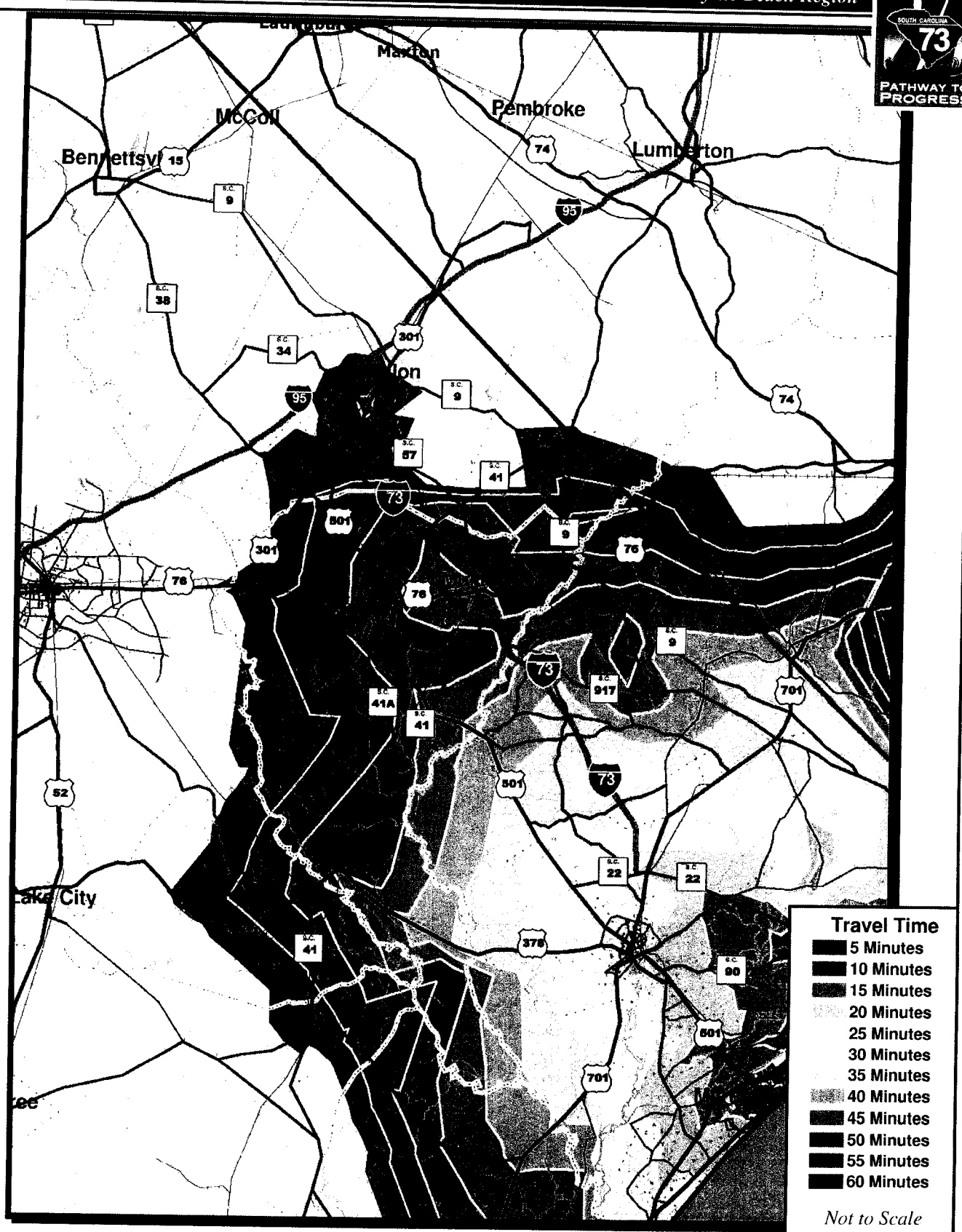

FIGURE 2-21

2030 AADT TRAVEL TIME
ALTERNATIVE 6

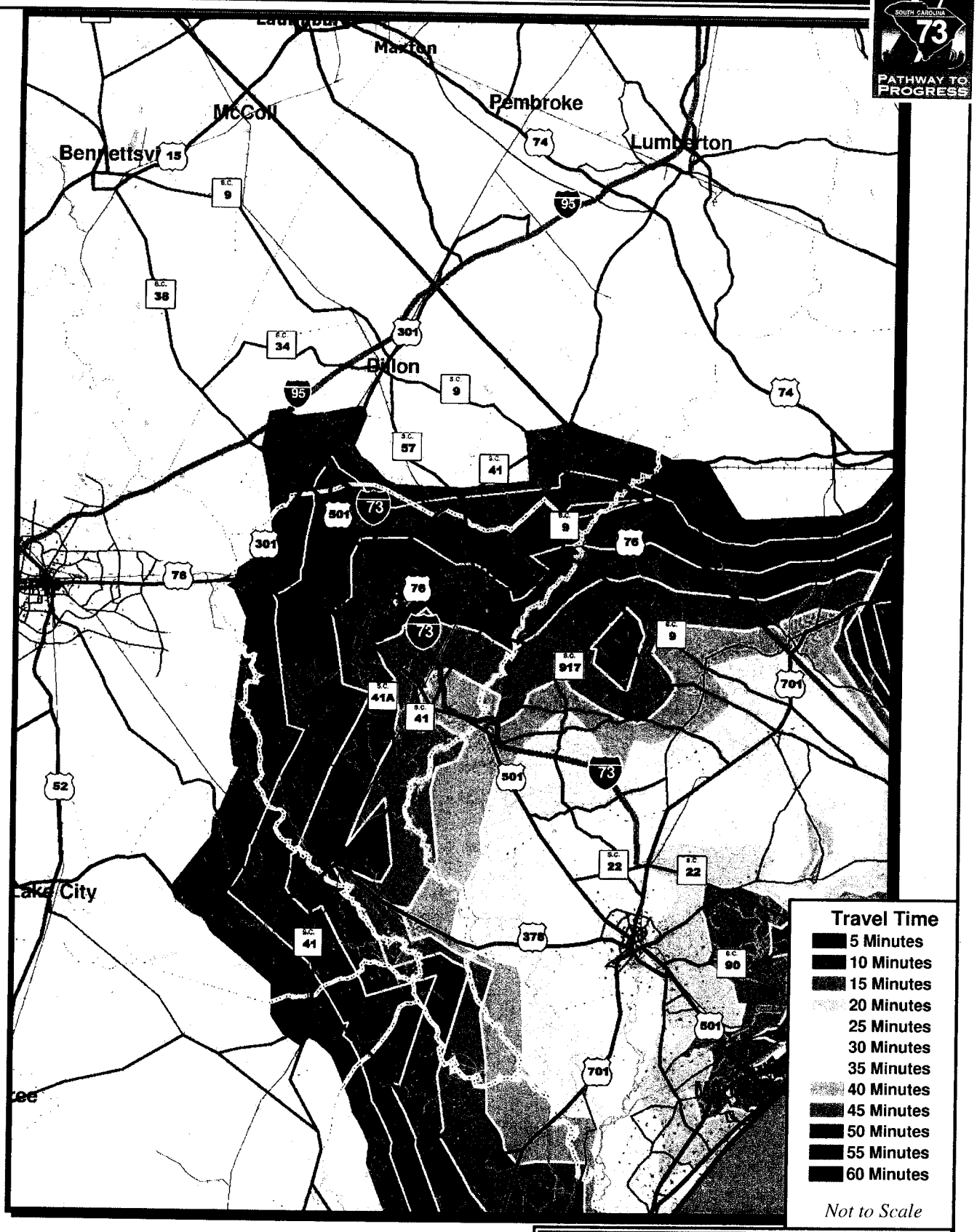

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FIGURE 2-22
2030 AADT TRAVEL TIME
ALTERNATIVE 7

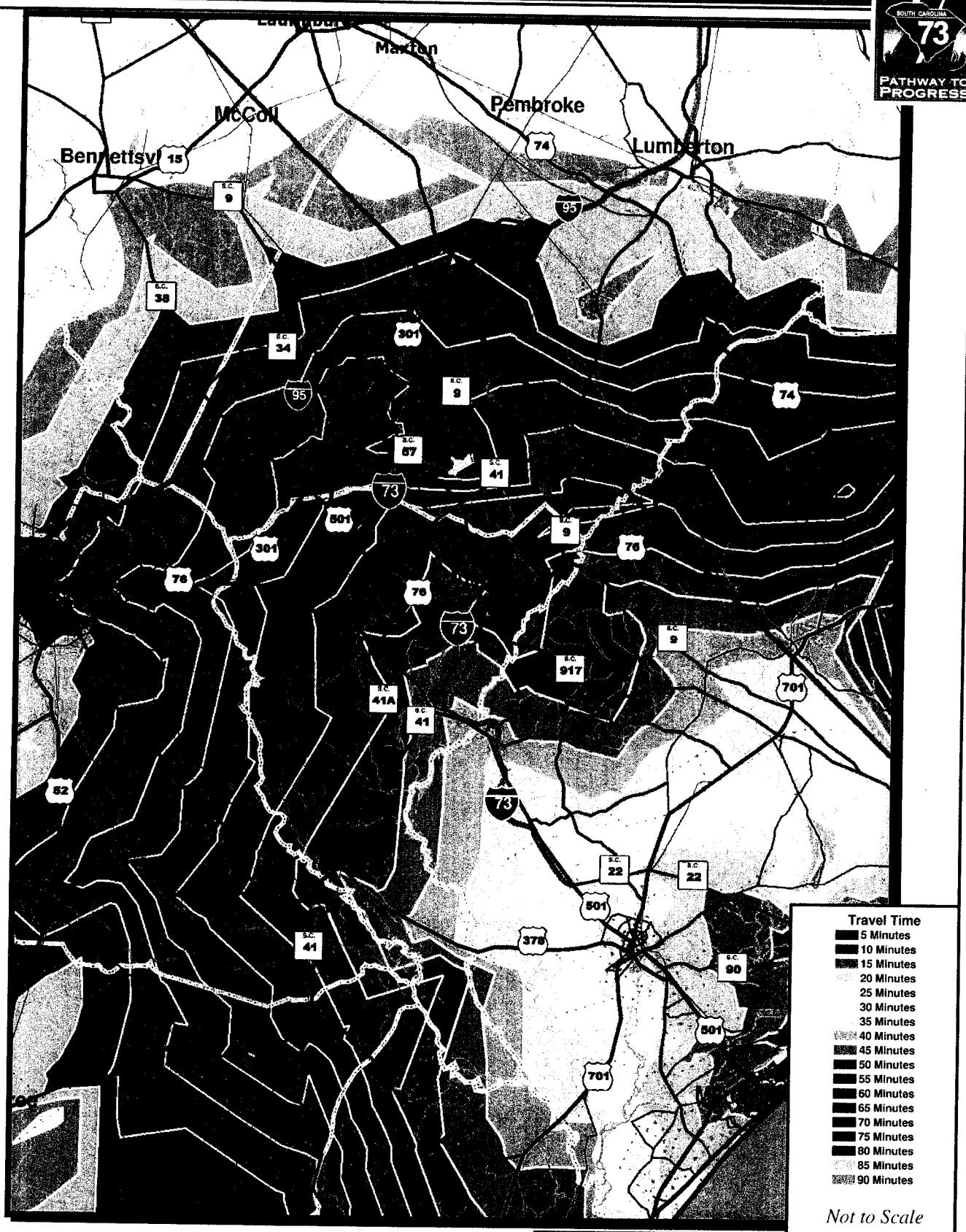


FIGURE 2-23

2030 AADT TRAVEL TIME
ALTERNATIVE 8

The results are based on a forecast period between 2015 and 2030. These estimates represent only the economic impacts arising from travel efficiency savings and strategic development opportunities. They do not include benefits arising from construction and operations and maintenance impacts due to data limitations, as well as the short-term nature of construction benefits and the substitution effects related to operating and maintenance. Because the forecasts presented in this report represent only two categories of the above-listed benefits (travel efficiencies and strategic development impacts), the results of this study should be considered as conservative estimates.

The REMI model is a dynamic forecasting model that combines input-output modeling with economic geography, resulting in a dynamic economic impact forecasting tool. It models the economic impact of transportation by modeling the impacts in five sectors of the economy – output, production and labor supply, labor and capital demand, wages, costs and prices and market share.

The travel efficiency benefits arose as a result of savings accruing to users of the facility such as travel time savings, vehicle operating costs savings and accident savings. The Project Team used output generated by the travel demand model to model the economic impacts of travel changes using a regional economic model developed by Regional Economic Models Incorporated (REMI). This model estimated the economic impacts associated with travel efficiencies, i.e., reduced travel time, vehicle operating costs and other direct user benefits.

In general, Tables 2.7 and 2.8, (page 2-40), reveal that all I-73 Build Alternatives yield substantial economic benefits arising from travel efficiencies. The impacts indicated for each alternative are increases over the No-Build Alternative. While the absolute values vary between alternatives, examination of the relative differences reveal that there is very little difference between the

Table 2.7
I-73 Economic Impact Summary in 2030 - Value Change
(Alternatives compared to No-Build)
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	Alt. 1	Alt. 2	Alt. 3	Alt. 4			Alt. 7
[illegible]	152	182	194	[illegible]	[illegible]	[illegible]	194
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	32	[illegible]	36
[illegible]	[illegible]	2,150	2,240	[illegible]	2,100	[illegible]	2,260
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible] and employment figures are [illegible] to the [illegible]

Table 2.8
I-73 Economic Impact Summary Percentage Increase in 2030
(Alternatives compared to No-Build)
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Variable	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
Gross Regional Product (Millions of Dollars, 2000)	0.85%	1.01%	1.09%	0.98%	1.00%	1.10%	1.09%	1.05%
Personal Income (Millions of Dollars, 2000)	0.56%	0.65%	0.70%	0.64%	0.65%	0.71%	0.70%	0.68%
Total Employment	0.93%	1.09%	1.15%	1.07%	1.08%	1.17%	1.16%	1.13%
Population	0.71%	0.77%	0.85%	0.79%	0.78%	0.87%	0.84%	0.78%

Build Alternatives in terms of the magnitude of economic impacts. Table 2.9 presents the estimated cumulative impact of each of the Build Alternatives on the area's economic output.

Table 2.9
I-73 Cumulative Economic Output Impact from 2015 to 2030
(Alternatives compared to No-Build)
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
Gross Regional Product (Millions of Dollars, 2000)	1.57	1.69	2.00	1.82	1.77	2.02	1.97	1.95

The accumulated economic output (GRP) over the fifteen-year period is forecasted to range between about $1.6 billion (Alternative 1) and $2 billion (Alternative 6).

Based on two (2) point/year historical employment data, EDGE framework evaluates the mix and performance of industries in each county. The model compares a county in the study area with the rest of the State and with national averages. In case of I-73 investment, each of the counties in the study area: Marion, Dillon and Horry, is compared with the rest of the State of South Carolina and with the U.S. as a whole

The estimation of strategic development benefits that arise as a result of improved accessibility and connectivity was assessed using the Economic Development and Growth Evaluation (EDGE) model. Strategic development impacts arise as a result of improving the accessibility and connectivity to regions which may currently be underserved. These impacts really rely on the ability of the new facility to generate more traffic as opposed to moving existing traffic more efficiently. Since access to the proposed interstate would be fully-controlled, interchanges were anticipated to be the main

points of development. Existing water and sewer infrastructure, as well as current development were determined to be features that would attract development. Table 2.10 quantifies the projected employment impact from the Build Alternatives.

Table 2.10
Strategic Development Impacts of I-73,
Employment Increases by Alternative and County (Number of Jobs)
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Alternative	Marion	Dillon	Horry	Total
1	306	87	1,897	2,290
2	290	82	1,802	2,175
3	234	66	1,454	1,755
4	280	79	1,739	2,099
5	275	78	1,707	2,061
6	250	71	1,549	1,870
7	250	71	1,549	1,870
8	321	91	1,992	2,404

The product of the number of jobs and the industrial wage yields an increase in income ranging from $51.8 million to $70.9 million annually (see Table 2.11).

Table 2.11
Annual Income Impacts based on Strategic Development Impacts of I-73,
by Alternative and County (in Millions of Dollars)
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Alternative	Marion	Dillon	Horry	Total
1	[illegible]	2.5	55.2	67.[illegible]
2	[illegible]	2.4	52.4	6[illegible]
3	[illegible]	1.9	42.3	[illegible]
4	9.1	2.3	[illegible]	61.[illegible]
5	8.9	2.2	49.7	60.8
6	[illegible]	2.0	45.1	55.2
7	[illegible]	2.0	45.1	[illegible]
8	[illegible]	2.6	[illegible]	[illegible]

Table 2.12, (page 2-42), displays the combined income and employment impacts for each of the eight Build Alternatives. The impacts indicated for each alternative are increases over the No-Build Alternative. As indicated, all alternatives give rise to substantial economic benefits for the region. Alternatives 2 and 8 appear to have higher total benefits to the area. However, the differences between Build Alternatives are irrelevant given the margin of error inherent in this type of modeling and since the total impact for each alternative represents less than 0.5 percent of the region's total projected future employment. Therefore, while all Build Alternatives are

Table 2.12
Summary Economic Impacts of I-73 in 2030, by Alternative
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Alternative	Trave[illegible]				Total	
	Income (Millions of Dollars)	Employment (Number of Jobs)	[illegible] of [illegible]s)	[illegible]ent ([illegible] of Jobs)	Income (Millions of Dollars)	Employment [illegible]
1	29	1,820	67.5	2,290	[illegible]	[illegible]0
2	34	2,150	64.2	2,175	98.2	4,325
3	36	2,240	51.8	1,755	87.8	3,995
4	33	2,075	[illegible]	2,099	94.9	4,174
5	32	2,100	[illegible]	2,061	92.8	4,161
6	[illegible]	2,280	[illegible]	[illegible]	92.2	4,150
7	36	2,260	[illegible]	[illegible]	91.2	4,130
8	35	2,230	[illegible]	[illegible]	105.9	4,634

projected to have a considerable positive economic impact on the region, the magnitude of that impact between alternatives is too similar for economic development to be the deciding factor in determining which alternative is preferred.

2.5.2 How would the alternatives meet the secondary needs of the project?

How would the alternatives meet the secondary need of hurricane evacuation?

A secondary need of the project is to facilitate a more effective evacuation of the Myrtle Beach region during emergencies. The hurricane evacuation study completed for the proposed project indicated that each of the eight Build Alternatives would provide similar time savings (refer to Chapter 1, Section 1.7 and the *I-73 Hurricane Evacuation Technical Memorandum*).

How would the alternatives relieve local traffic congestion?

Reducing existing traffic congestion on roads accessing the Myrtle Beach region is a secondary need of the project. As a measure of the effectiveness of the proposed facility to relieve local traffic congestion, the vehicle hours traveled (VHT) for the average annual daily traffic (AADT) on the project study area roadway network, minus the Grand Strand Area Transportation Study (GSATS) area, was determined for each alternative (refer to Table 2.6, page 2-20). The GSATS area was removed because of the different roadway capacities and daily traffic criterion used in the GSATS model. The roadway capacities are not set equivalent to the actual roadway capacity, and the daily traffic criterion is for peak daily, not average annual daily traffic. Lower VHT indicates a savings of time and money that can result from the proposed action. The ratio of vehicle miles traveled (VMT) to VHT, shown in Table 2.13, (page 2-43), shows the average speed of each trip in the network within the study area. Although the difference between the highest speed (56.59) and the lowest (55.78) of the Build Alternatives is slight, the difference

Table 2.13
Vehicle Miles Traveled (VMT) and Vehicle Hours Traveled (VHT) in Network For Alternatives Using Average Annual Daily Traffic Volumes (Year 2030)
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Alternative	VMT	VHT	VMT/VHT	VHT Savings Per Year
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	96,500.64	[illegible]	-387,595
[illegible]	[illegible]	96,977.01	56.20	-213,719
[illegible]	5,462,506.35	96,903.01	56.37	-240,735
4	5,422,521.99	96,722.79	56.06	-306,509
5	5,446,095.46	97,593.40	55.80	11,260
6	5,415,238.48	95,687.37	56.59	-684,440
7	5,489,286.56	97,234.29	56.45	-119,812
8	5,434,873.84	96,924.22	56.07	-232,987

between the No-build (51.77) and the lowest of the Build Alternatives (55.78) has meaning, especially when evaluated in light of the number of miles per day traveled on the network.

As shown in Table 2.14, (page 2-44), the relationship between the No-Build and Build Alternatives is the same for the peak season (June, July, and August) speeds and subsequent time savings. This impact on the local road network is even more evident when the I-73 trips are taken out of the calculations. The reduction in VMT and VHT without I-73 shows the amount of traffic taken off the rest of the network (reduction in vehicle hours traveled) because of I-73 (refer to Table 2.15, page 2-44). The influence of I-73 on travel speed (VMT/VHT) is shown in the drop in the average network speeds with the I-73 trips removed.

A graphic portrayal of the congestion reduction is shown in Figures 2-24 through 2-32, (pages 2-45 to 2-53). These show the volume to capacity ratio (V/C) for the AADT volumes that the network would have in 2030 for the No-Build and the eight Build Alternatives. The V/C ratio measures the level of traffic volume against a road segment's capacity for

Level of Service (LOS) indicates the relative operating conditions of a roadway.

LOS A – (V/C<0.50) Free-flowing traffic with relatively high speeds.

LOS B – (0.50<V/C< 0.75) Stable traffic flow, but speeds beginning to be restricted by traffic conditions.

LOS C – (0.75 <V/C<1.00) Stable traffic flow, but most drivers are restricted in freedom to select speed.

LOS D – (1.00<V/C<1.15) Traffic approaches unstable flow, drivers have little room to maneuver.

LOS E – (1.15<V/C<1.35) Traffic flow is unstable and the may be short stoppages.

LOS F – (V/C>1.35) Forced flow with low speeds, congested, stop and go conditions.

Table 2.14
Vehicle Miles Traveled (VMT) and Vehicle Hours Traveled (VHT) in Network For Alternatives using Peak Season Daily Traffic Volumes (Year 2030)
Interstate 73 EIS: I-95 to the Myrtle Beach Region

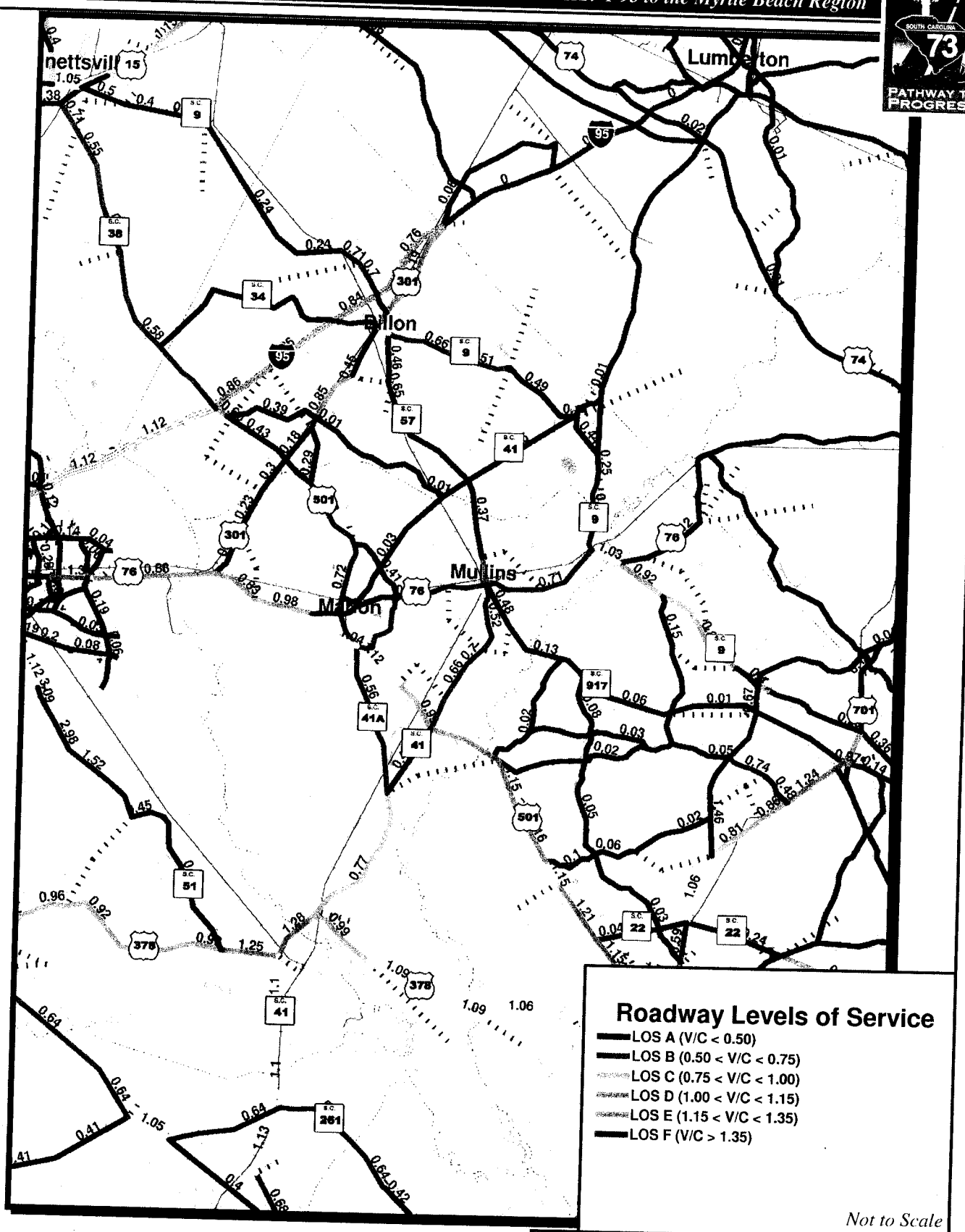
Alternative	VMT	VHT	VMT/VHT	VHT Savings Per Season*
No-build	5,618,781.43	115,522.28	48.64	
1	6,116,754.40	112,704.32	54.27	-253,616.26
2	6,209,121.00	114,475.73	54.24	-94,189.42
3	6,180,929.13	112,022.29	55.18	-314,416.35
4	6,109,841.74	112,064.66	54.52	-311,185.82
5	6,156,181.92	113,153.62	54.41	-213,178.81
6	6,142,503.39	111,718.71	54.98	-342,321.31
7	6,220,248.34	113,396.88	54.85	-191,285.59
8	6,106,759.41	113,341.33	53.88	-196,285.11

*Season length was 90 days.

Table 2.15
Vehicle Miles Traveled (VMT) and Vehicle Hours Traveled (VHT) in Network For Alternatives using Average Annual Daily Traffic Volumes with I-73 Traffic Removed (Year 2030)
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Alternative	VMT	VHT	Difference from No-build VMT	VHT	VMT/VHT
[illegible]	[illegible]	97,56[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	81,849.68	-65[illegible]	[illegible]	[illegible]
3	4,419,831.82	81,908.84	-630,597.86	[illegible]	[illegible]
4	4,295,749.75	80,404.84	-754,679.93	-17,[illegible]	[illegible]
5	4,470,602.50	83,614.56	-579,827.18	-13,947.98	[illegible]
6	4,325,224.13	80,001.84	-725,205.55	-17,560.71	54.06
7	4,395,100.48	81,463.08	-655,329.20	-16,099.46	53.95
8	4,290,856.04	80,414.28	-759,573.64	-17,148.27	53.36

vehicles. The higher the V/C ratio the worse traffic conditions become. A comparison of the Build Alternatives with the No-Build Alternative shows that in the Year 2030 the Level of Service on U.S. Route 501 north of S.C. Route 22 would become E for that alternative, while it would be better for all of the Build Alternatives. The LOS for U.S. Route 501 would not be less than C, while the I-73 LOS stays at B or better for all of the Build Alternatives. This means that the traffic flow would be stable for the Build Alternatives.



Not to Scale

N W E S

FIGURE 2-24

2030 AADT LEVEL OF SERVICE NO BUILD

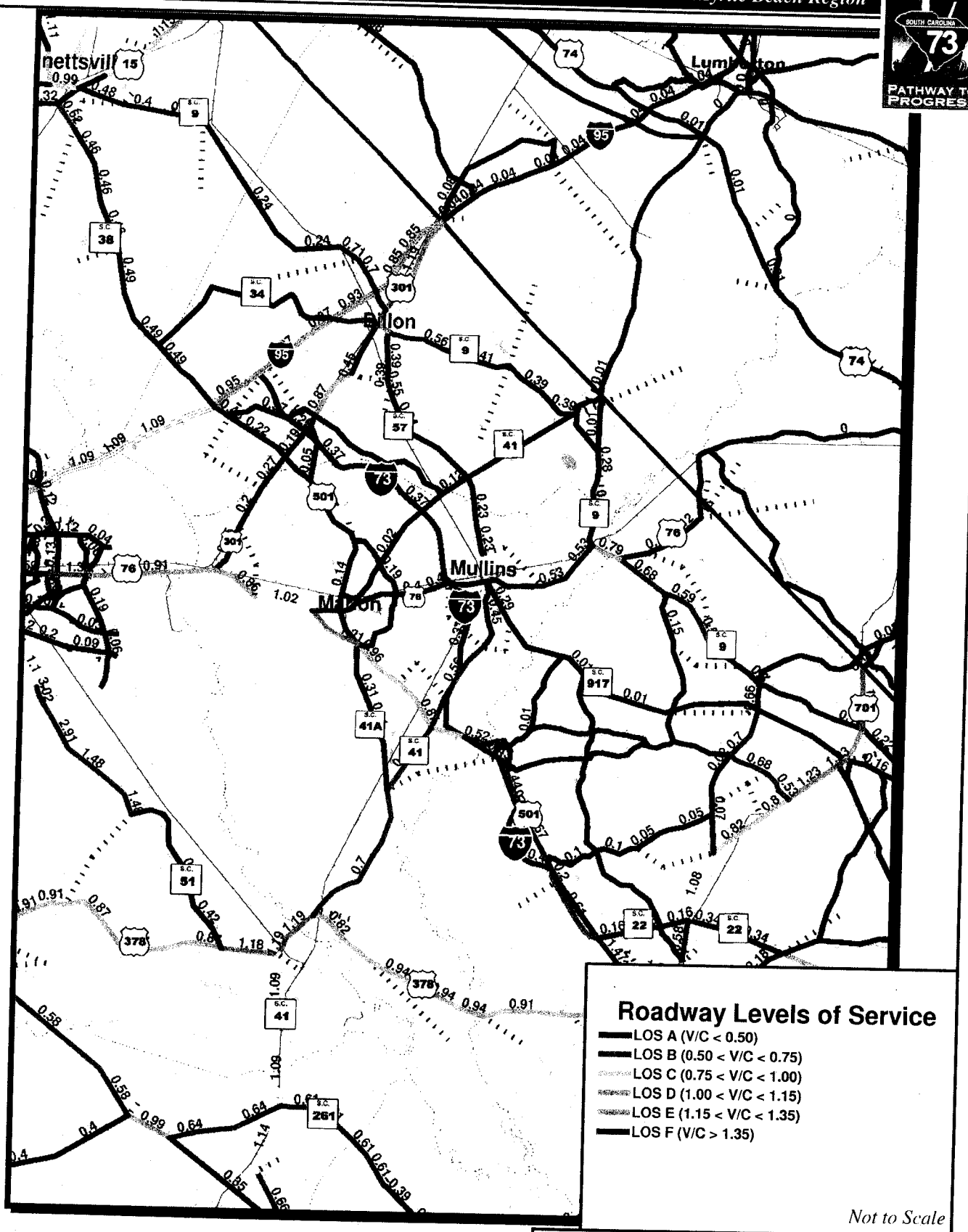


FIGURE 2-25

2030 AADT LEVEL OF SERVICE ALTERNATIVE 1

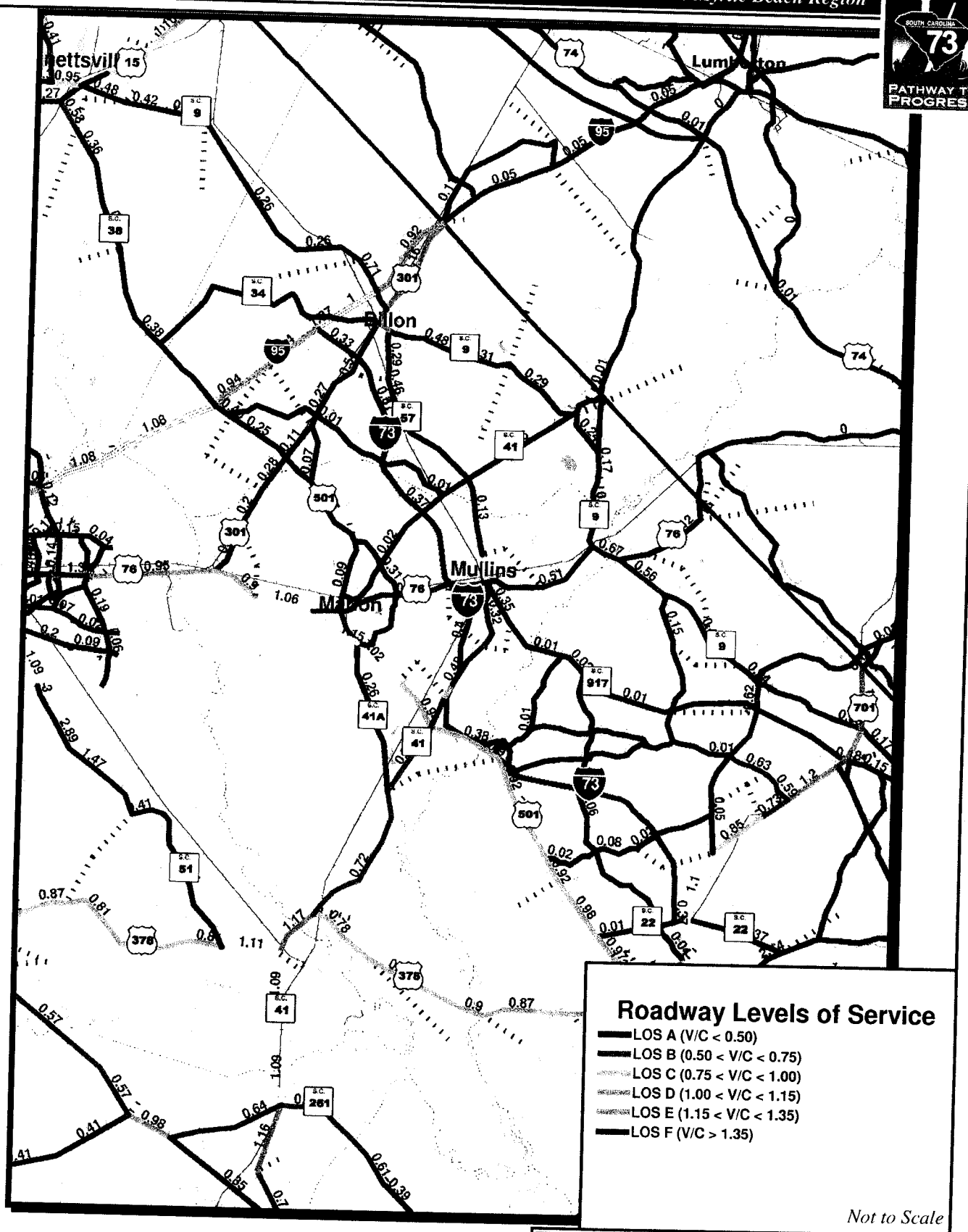


FIGURE 2-26
2030 AADT LEVEL OF SERVICE
ALTERNATIVE 2

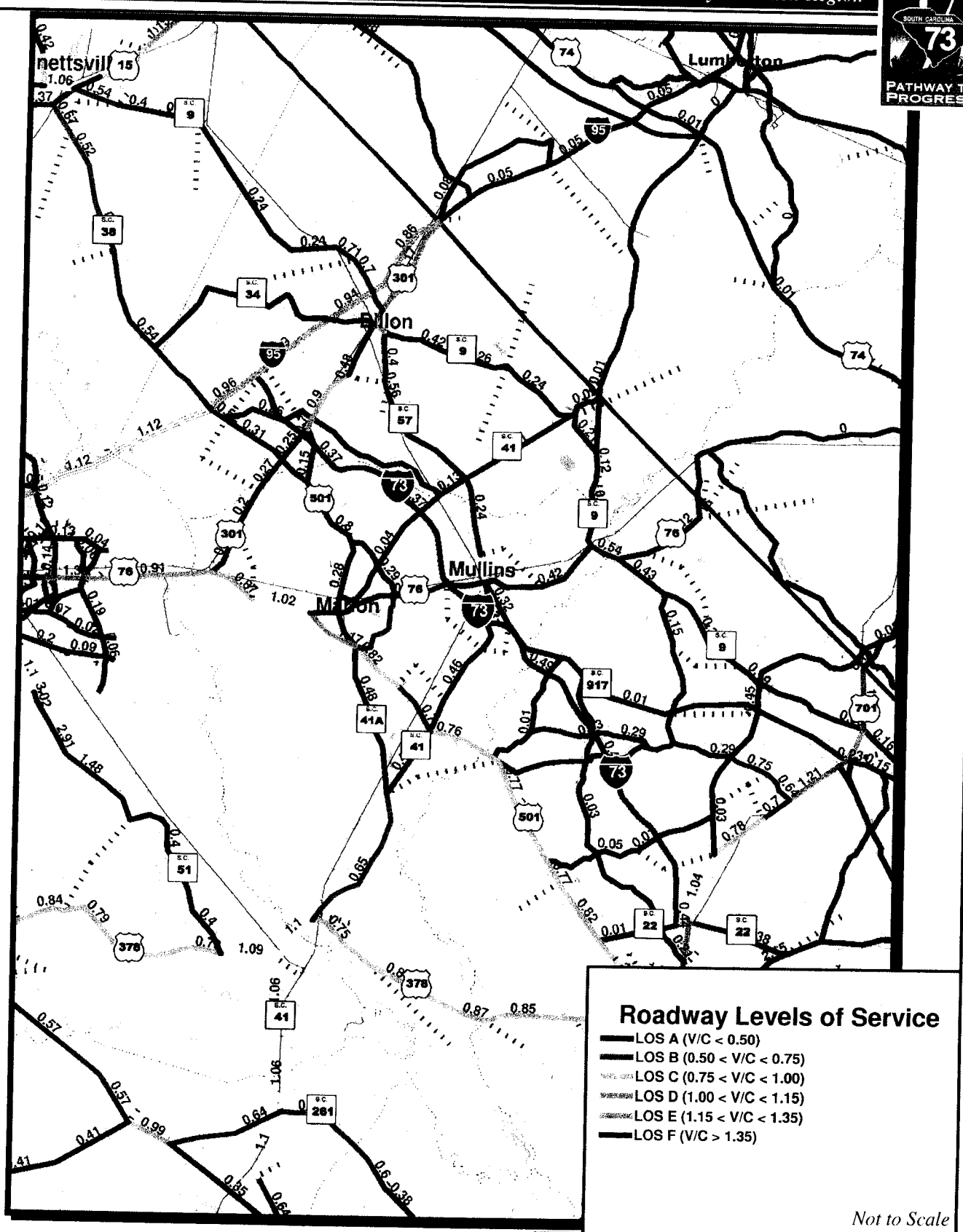


FIGURE 2-27

2030 AADT LEVEL OF SERVICE ALTERNATIVE 3

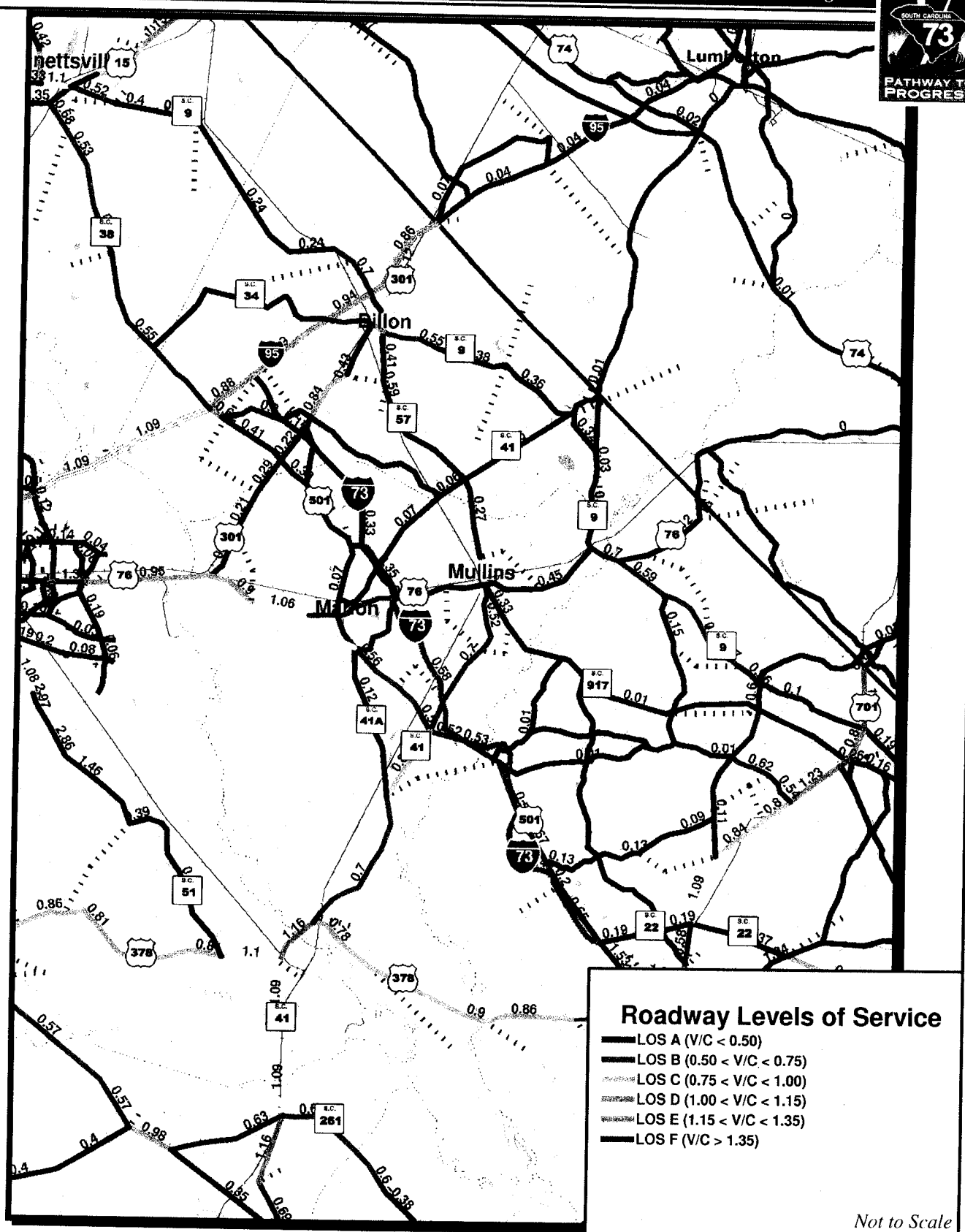


FIGURE 2-28
2030 AADT LEVEL OF SERVICE ALTERNATIVE 4

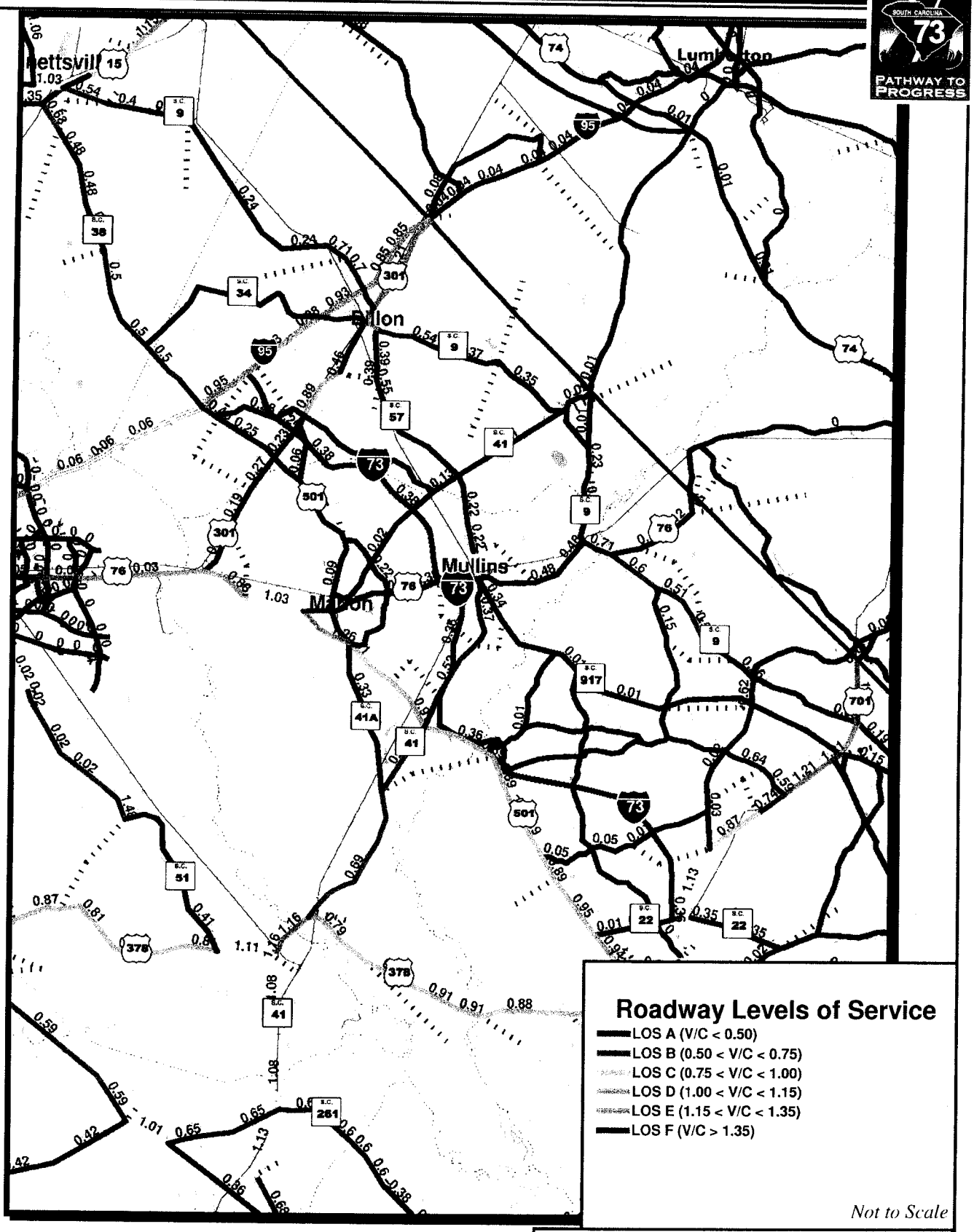


FIGURE 2-29

2030 AADT LEVEL OF SERVICE ALTERNATIVE 5

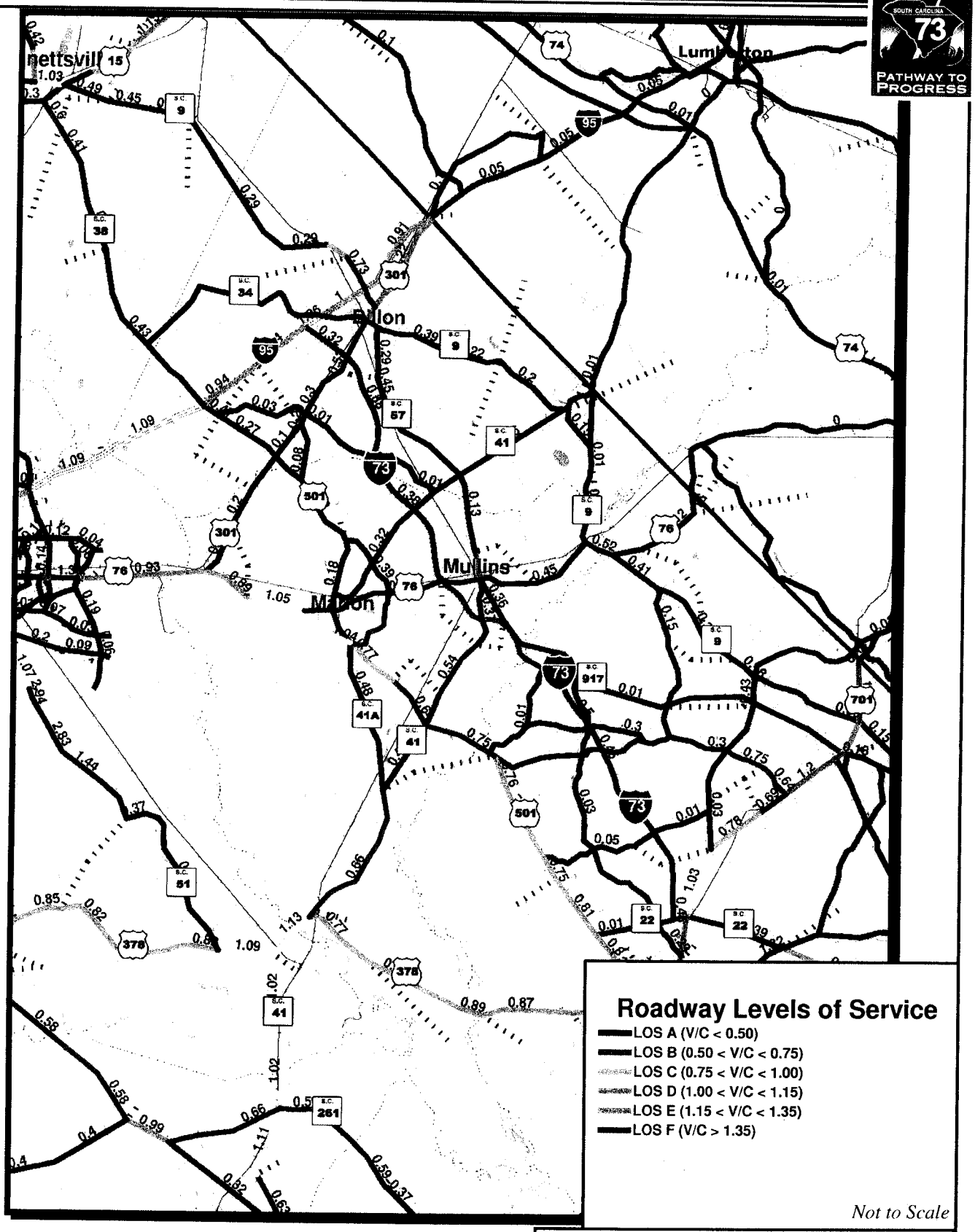


FIGURE 2-30

2030 AADT LEVEL OF SERVICE ALTERNATIVE 6

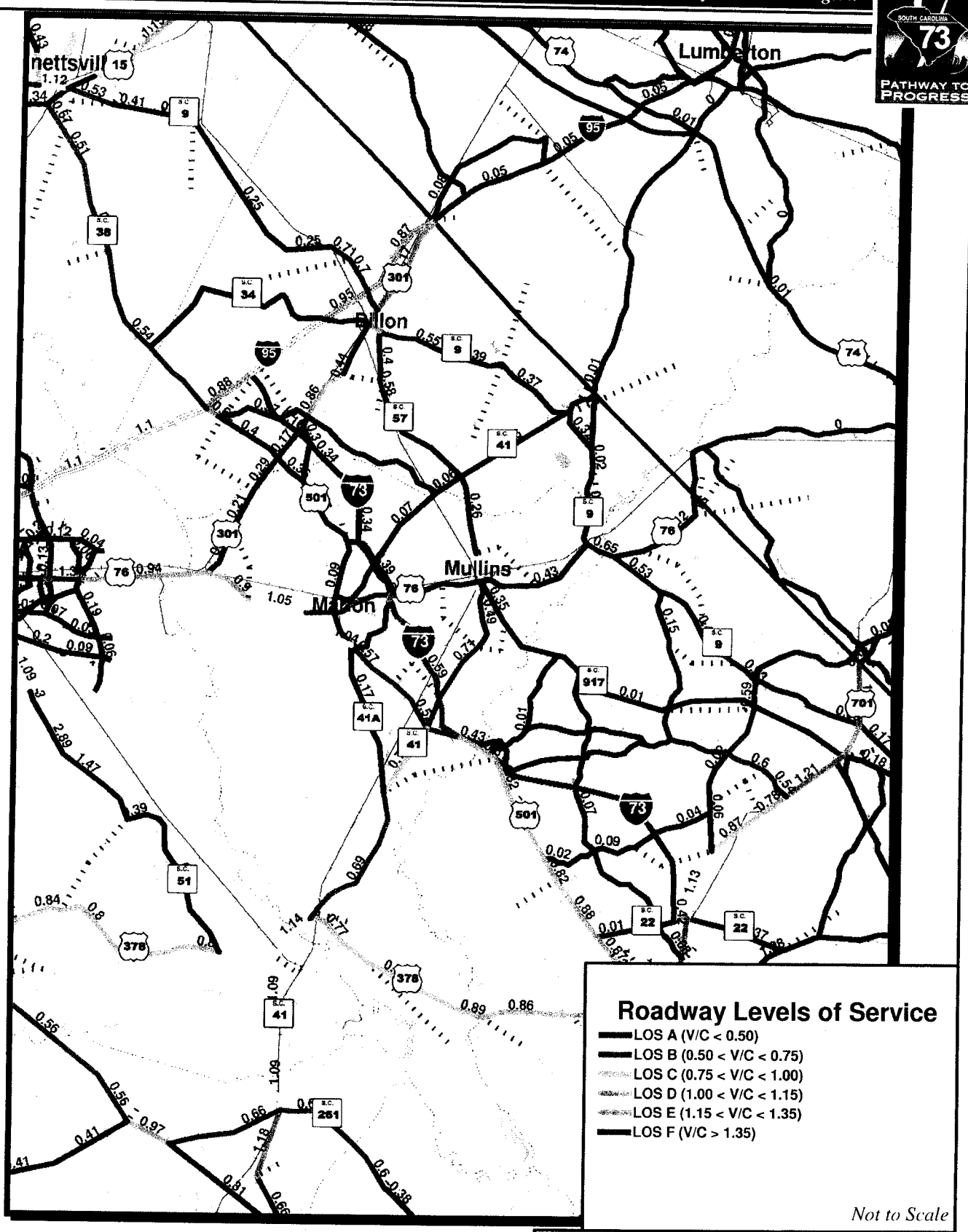


FIGURE 2-31
2030 AADT LEVEL OF SERVICE
ALTERNATIVE 7

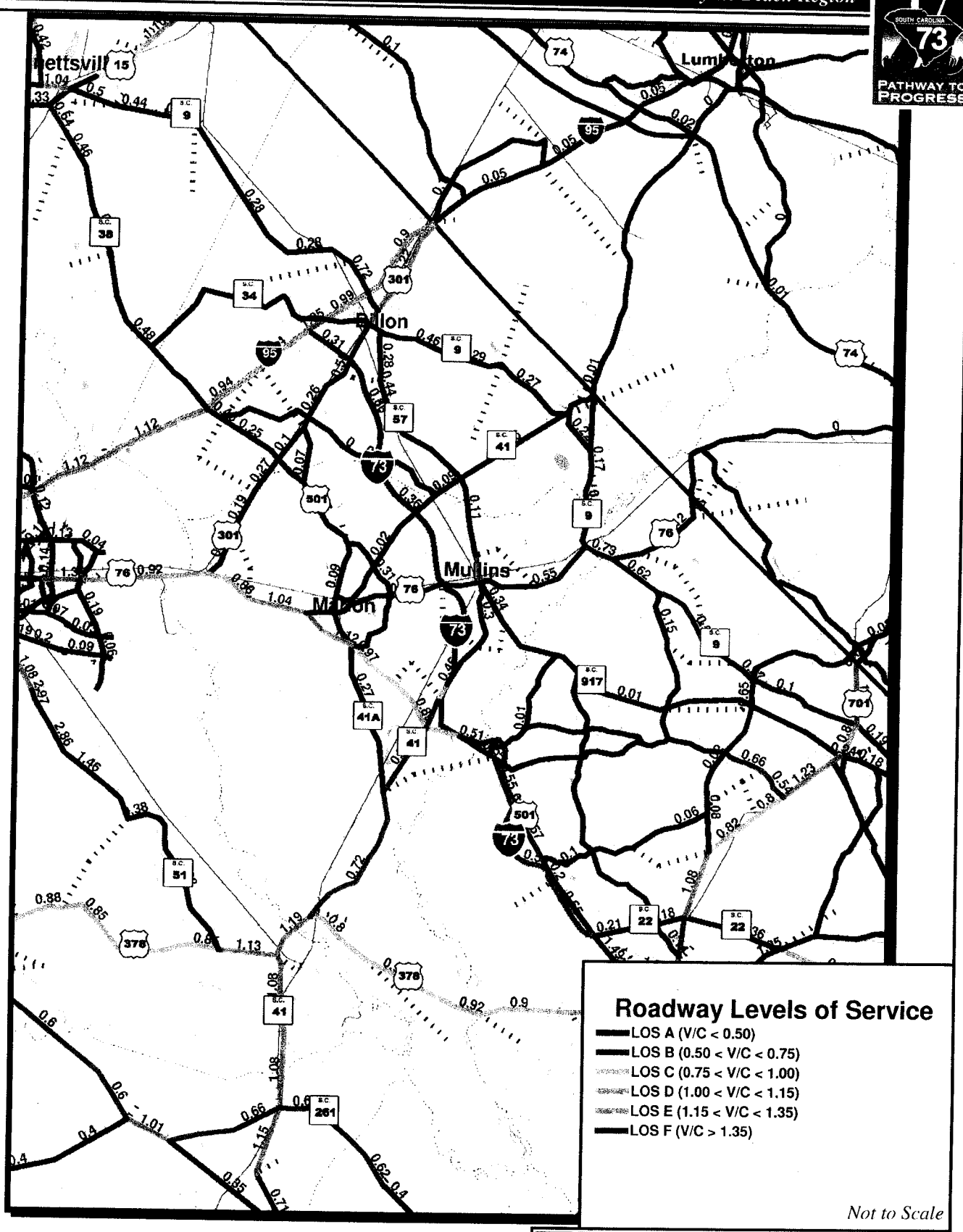


FIGURE 2-32

2030 AADT LEVEL OF SERVICE ALTERNATIVE 8

How would the alternatives incorporate multimodal planning?

Planning for future provision of a multimodal facility within the interstate corridor was identified as a secondary need for the project. An ultimate 400-foot typical section was developed to accommodate the number of lanes needed for the future traffic volumes, as well as, a multi-modal corridor (refer to Figure 1-4, page 1-5). Overpasses, interchanges, and access ramps would require modification when installing a future multimodal facility, such as rail. Bridges and overpasses would be retrofitted to accommodate the increased height and length that would be needed to meet installation criteria for rail, while the railroad would be designed out of the existing right-of-way at the interchanges. Alignment of the rail would pose additional challenges for access ramps and frontage roads.

Alternative 4 was determined to be the most difficult to accommodate rail, due to the extensive use of existing U.S. Route 501. It would be more expensive and require a more complex design due to the frontage roads and access ramps needed to retain access to existing landowners in the vicinity of the corridor. Alternative 1 and Alternative 8 would also be difficult to accommodate a multimodal facility due to their use of existing U.S. Route 501. Alternative 3 and Alternative 6, which are primarily on new location, would provide the most flexible design for installing future multimodal facilities due to the use of conventional interchanges.

2.5.3 How did the alternatives compare in terms of human and environmental impacts?

Each of the Build Alternatives would have different types of impacts and somewhat different benefits. Chapter 3 provides the details for the potential impacts associated with each of the alternatives, including the No-build.

Indirect and cumulative impacts for the Build Alternatives were evaluated as well. They all had similar impacts for each category evaluated (refer to Chapter 3). The only difference was a slight edge for Alternative 3 in terms of less induced farmland impacts and less potential impacts to cultural resources.

No-build Alternative

The No-build Alternative would fail to satisfy the stated purpose and primary and secondary needs for the project. The purpose of the proposed project "is to provide an interstate link between I-95 and the Myrtle Beach region to serve residents, businesses, and tourists while fulfilling congressional intent in an environmentally responsible and community sensitive manner."

The primary needs for the project are to provide system linkage between the interstate system and the Myrtle Beach region and to enhance economic opportunities and tourism in South Carolina. Secondary needs are to relieve local traffic congestion, provide for multimodal planning, and improve hurricane evacuation.

The No-build Alternative would not satisfy the project's purpose and need, since it would not provide:

- A direct link between I-95 and the Myrtle Beach region to improve system linkage;
- Opportunities for economic growth and tourism;
- The facilitation of a more effective evacuation of the Myrtle Beach region during emergencies;
- A reduction in existing traffic congestion on roads accessing the Myrtle Beach region; or,
- A plan for future provision of a multimodal facility.

The No-build Alternative would not provide the interstate link between I-95 and the Myrtle Beach region. Failure to provide this link would lead to the loss of projected economic opportunities, the potential loss of tourism due to in-season congestion for tourists visiting Myrtle Beach, no improvement in local traffic congestion, longer travel times, the loss of the multimodal opportunities provided by the corridor, and no improvement in hurricane evacuation.

The projected economic benefits from constructing I-73 are summarized previously in Chapter 2, Section 2.5.1 (page 2-19). This analysis shows that the study area would benefit in terms of the number of jobs and money flowing into the area from any of the Build Alternatives.

Traffic congestion is currently a problem for this area primarily on "change-over day" when the tourists at the beach leave and new tourists arrive. This causes delays along U.S. Route 501 from Aynor south. By providing an interstate connection from S.C. Route 31 and U.S. Route 17 all the way to I-95, a high-speed alternative route to bypass this congestion would be available. The traffic travel savings between the No-Build and several of the Build Alternatives show savings of as much as 25 percent for the 60 mile trip, based upon the AADT volumes. This difference would be greater for peak season travel, when U.S. Route 501 is heavily congested (refer to the *Traffic Technical Memorandum*).

Hurricane evacuation times would be dramatically reduced with any of the Build Alternatives. Because I-73 is a controlled-access facility, it also would make lane reversal, switching in-bound travel lanes to handle out-bound traffic, simpler. I-73 would allow people leaving the Myrtle Beach area an alternative to the bottleneck on U.S. Route 501 and provide additional capacity for evacuees. The differences in evacuation times between the No-Build Alternative and the Build Alternatives are illustrated in Table 1.9 (page 1-23).

The Build Alternatives

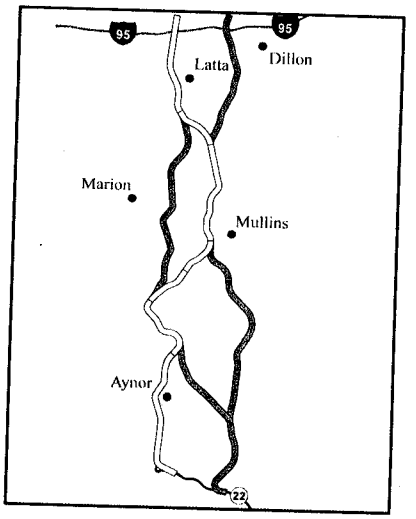
All of the Build Alternatives satisfied the purpose and needs for the project. System linkage and multimodal planning would be provided by any of the Build Alternatives. Hurricane evacuation was essentially the same for all Build Alternatives. There was some variability between the alternatives in terms of different measures of the economic benefits and traffic

benefits. For example, Alternatives 3, 6, and 7 showed the biggest increase to Gross Regional Product, while Alternatives 2 and 8 showed the biggest increase in income and employment. However, this variability was not enough to set any one above the other alternatives.

Induced impacts for several categories were also looked at between the Build Alternatives. Potential land use, wildlife habitat, wetlands, streams, water quality impacts were all areas that showed very little differentiation between the alternatives. In fact, the No-Build Alternative, which served as a baseline for future impacts based upon past and current growth trends, showed substantially more impacts than did any of the Build Alternatives by themselves. The categories that served to separate the alternatives were natural resource related (wetlands, streams, and farmland) and human resource related (communities, public input, traffic maintenance, and cost).

Alternative 1

Alternative 1 starts at the southernmost interchange with I-95, and from there extends southeast on the western side of Latta where it would have an interchange with U.S. Route 501, crosses to the east immediately north of Temperance Hill, then extends southeast where it would interchange with S.C. Route 41A. It continues southeast and would have an interchange with U.S. Route 76 on the western side of Mullins. Once south of Mullins it angles back to the south towards U.S. Route 501. It would have an interchange with S-91 (which would provide access to S.C. Route 41) and then cross the Little Pee Dee River at the existing U.S. Route 501 crossing. It passes on the east side of the Galivants Ferry Historic District and then extends southeast along U.S. Route 501 to an interchange with S.C. Route 22. The interchange with S.C. Route 22 would be designed so that the traffic movement from I-73 to S.C. Route 22 would be the predominant movement through the interchange. There would be access ramps providing access between U.S. Route 501 and I-73 along U.S. Route 501 at the Little Pee Dee River crossing and along 501 just south of Aynor. Like all of the Build Alternatives, it would follow S.C. Route 22 to its terminus with U.S. Route 17 near Briarcliff Acres.



Alternative 1

It would have 418 acres of wetland impacts, over 30 acres more than the Preferred Alternative, and the wetlands potentially impacted have a high value rating (2,919). This alternative would avoid crossing the Buck Swamp and Lake Swamp systems. It would provide better access to the 17,000 acre "inland port" proposed by Marion County (refer to letter dated March 27, 2006, in Appendix C).

Outstanding resource waters are freshwaters or saltwaters which constitute an outstanding recreational or ecological resource, or those freshwaters suitable as a source for drinking water supply purposed, with treatment levels specified by SCDHEC.

This alternative would have the most relocation of residents and businesses (121). It would have one of the highest costs ($1.498 billion, 2011 dollars), over $200 million more than the Preferred Alternative. Alternative 1 would impact 1,993 acres of farmland. It would have 60 stream crossings, 10 of which are designated as outstanding resource waters (ORW). It would impact 19,137 linear feet of stream channel and cross three impaired water bodies. It would impact more floodplains (173 acres) than the Preferred Alternative. It would also impact approximately 950 acres of wildlife habitat, about 120 acres more than the Preferred Alternative.

The Citizens of the Southern Route, comprised of residents of the Latta area, submitted a petition dated March 20, 2006, with 20 signatures (refer to *Public Involvement Technical Memorandum*) requesting that this route, the southern route, not be used and that a northern route for I-73 be chosen.

Alternative 1 would cross from west to east in close proximity to the Temperance Hill community. This community has objected to the alternatives that would come in close proximity to their community (refer to two petitions from Temperance Hill community; one, from Ebenezer Southern Methodist Church, dated March 28, 2005, signed by 43 people and a second, signed by 161 people dated February 27, 2006, in the *Public Involvement Technical Memorandum*). Marion County Council, in a resolution dated March 14, 2006, specifically requested "that the I-73 Committee review any and all possible plans for construction of I-73 which would reduce the impact to the Temperance Hill Community of Marion County." (refer to resolution in Appendix C).

Other comments also were received from local governments with jurisdiction over this area. Dillon County prefers the northwestern segment of the alignment to be the other, most northern alignment (refer to letters from Dillon County Council, dated February 28, 2006, Dillon County Development Board, dated March 1, 2006, and the I-95 Gateway Industrial Park Board, dated March 1, 2006). The South Carolina Department of Commerce equally favored this alternative, along with Alternatives 3, 4, 5, and 7, since they would not impact the Gateway Industrial Park (April 19, 2006 ACT meeting, refer to Section 4.3).

The Marion County Administrator, in two letters dated March 6, 2006, and March 27, 2006, (refer to Appendix C) requested consideration for the County's proposed "inland port" when considering the routing of I-73. The routes that start farther south on I-95, such as Alternatives 1, 3, 4, 5, and 7, are in closer proximity to this proposed project.

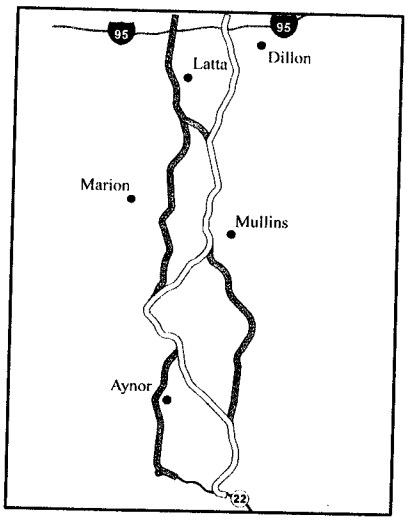
Horry County, in a letter dated March 13, 2006, (refer to letter in Appendix C), reported a unanimous vote against the route that crossed at Galivants Ferry and extended southeast along U.S. Route 501 through Aynor. The Town of Aynor voted unanimously (refer to letter dated March 21, 2006, in Appendix C) to oppose the route that would be constructed along existing U.S. Route 501 at Galivants Ferry and through Aynor. Letters were also received from the Horry County School administration (refer to letters dated April 6, 2005, April 12, 2005 and January 27, 2006, Appendix C) that expressed opposition to the segment that would go through Aynor along U.S. Route 501. Comments received at the public information meetings included those from a large number of people opposing this route. The SCDNR and USFWS also expressed opposition to this segment (April 19, 2006 ACT meeting, refer to Section 4.3).

Alternative 1 would have one-way frontage roads along U.S. Route 501 in Aynor, which, although they are the best way to maintain access to properties on both sides of I-73, would be inconvenient for local residents used to accessing each side of U.S. Route 501. It would pass between the incorporated limits of Aynor and the Aynor Elementary and Middle Schools. Construction of this alternative would also impact the athletic facility associated with Aynor High School, which, because it is also available for public use, would be considered a Section 4(f) impact (refer to Chapter 3 and Appendix D, *Draft Section 4(f) Evaluation,* for information on Section 4(f)).

Based upon coordination with the State Historic Preservation Office (SHPO), this alternative would also be expected to have the potential for negative visual impacts to the Galivants Ferry Historic District (refer to Chapter 3, Section 3.7, page 3-90).

Alternative 2

Alternative 2 starts at the northernmost interchange with I-95, and from there southeast on the western side of Dillon, east of Latta, to an interchange with U.S. Route 501. It continues southeast to an interchange with S.C. Route 41A , then southeast to an interchange with U.S. Route 76 on the western side of Mullins. Once south of Mullins it angles back to the south to U.S. Route 501. It would have an interchange with S-91 (which would provide access to S.C. Route 41) and then cross the Little Pee Dee River at the existing U.S. Route 501 crossing. It passes on the east side of the Galivants Ferry Historic District and then extends east along Winburn Road. There would be an interchange with S-23, then it turns to the southeast to an interchange with S.C. Route 22 near Bakers Chapel, about two miles west of the U.S. Route 701/S.C. Route 22 interchange. The interchange with S.C. Route 22 would be designed so that traffic movement from I-73 to S.C. Route 22 would be the predominant movement through the interchange. Like all of the Build Alternatives, it would follow S.C. Route 22 to its terminus with U.S. Route 17 near Briarcliff Acres.



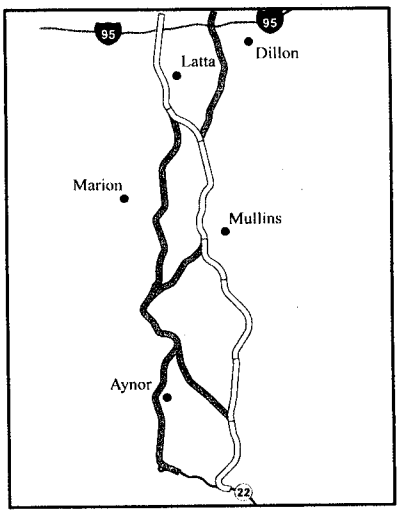
Alternative 2

Alternative 2 would be east of the Temperance Hill community and thus would minimize the impacts to that community. It would also avoid the impacts to Aynor resulting from Alternative 1. There are no Section 4(f) impacts associated with this alternative. This alignment is supported by the letters received from Dillon County Council, Dillon County Development Board, and the Gateway Industrial Park Board, as detailed in the discussion of Alternative 1.

Alternative 2 has one of the highest costs of all the alternatives ($1.548 billion), more than $250 million higher than the Preferred Alternative. It would have approximately 444 acres of wetland impacts, 64 acres more than the Preferred Alternative. These impacts would include a crossing of Buck Swamp. Farmland impacts (2,009 acres) would be higher than most of the other alternatives. It would impact 62 stream channels, with a total of 19,249 linear feet of impact. Ten of the channels are classified as ORW waters and six are impaired. It would impact 193 acres of floodplain, and would impact approximately 960 acres of wildlife habitat.

It would impact the Zion community, located along S.C. Route 41A, north of Mullins. It would potentially have visual impacts to two historic districts, one at Galivants Ferry and the other at the Bethea Property. This alternative would relocate three churches, the Dothan Baptist Church, north of I-95 (this was impacted due to changes in design to avoid the new Bethea Historic District), the New Memorial Temple of Christ, at the interchange of I-73 and U.S. Route 501, and the Spring Grove Baptist Church, just south of where this alignment crosses S.C. Route 917.

A petition signed by 258 people was received from the "residents living in the Northern Potential Corridor of the Southern Project" requesting that I-73 not be routed through the northern corridor from I-95. Despite impacting the Gateway Industrial Park, located just south of I-95, Alternative 2 is supported by the Gateway Industrial Park Board. It would impact residents along Winburn road. Several letters were received from people along Winburn Road objecting to the road being routed through their neighborhood.



Alternative 3

Alternative 3

Alternative 3 starts at the southernmost interchange with I-95, and from there extends southeast on the western side of Latta where it would have an interchange with U.S. Route 501, crosses to the east immediately north of Temperance Hill, then extends southeast where it would interchange with S.C. Route 41A. It continues southeast and would have an interchange with U.S. Route 76 on the western side of Mullins. Once south of Mullins it angles slightly east and crosses the Little Pee Dee River at the existing S.C. Route 917 crossing. It would have an interchange with S-308, then continues southeast on new alignment to an interchange with S.C. Route 22 near Bakers Chapel, about two

miles west of the U.S. Route 701/S.C. Route 22 interchange. The interchange with S.C. Route 22 would be designed so that the traffic movement from I-73 to S.C. Route 22 would be the predominant movement through the interchange. Like all of the Build Alternatives, it would follow S.C. Route 22 to its terminus with U.S. Route 17 near Briarcliff Acres.

This alternative would have the lowest total wetland impacts (384 acres) and would avoid crossing Buck Swamp. It would have a crossing of Lake Swamp, which is located southeast of the Little Pee Dee River and is a tributary to that river. It is the alternative with the lowest cost ($1.296 billion). It would have the lowest farmland impacts (1,708 acres) as well. It would impact 58 stream crossings, with a total of 19,213 linear feet of channel. Four of the streams are classified as ORW and three are impaired. It would impact the least acreage of wildlife habitat (831 acres). The proposed floodplain impacts are also the lowest (94 acres) for this alternative. It is one of three alternatives, with the other two being Alternatives 5 and 7, indicated as potentially preferred by the SCDNR and USFWS. The SHPO has indicated this route is their preferred because of the lack of impacts to cultural resources.

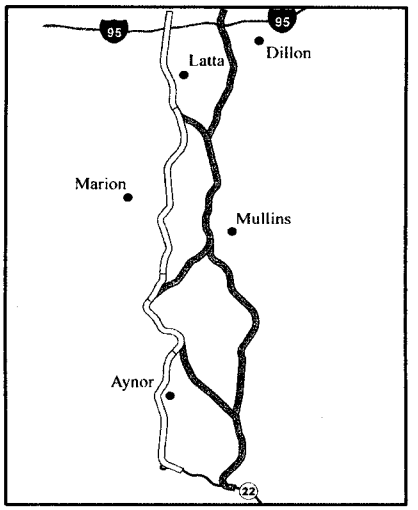
It is in close proximity to the proposed "inland port" designated by Marion County per their letters of March 2006 (refer to Appendix C). It would not impact the Gateway Industrial Park, but it is not the alignment requested by Dillon County. It follows the route preferred by Horry County (refer to letter dated March 13, 2006, in Appendix C).

Alternative 3, as well as Alternative 6, would most closely approximate the school attendance boundary for the Aynor area schools. Consideration of this boundary when designating a corridor for I-73 was requested by the Horry County School District and in a petition signed by over 900 citizens of Horry County (refer to letter dated April 12, 2005, and letter dated January 16, 2006, that came with an attached petition, Appendix C and *Public Involvement Technical Memorandum*).

This alternative, like Alternative 1, would also cross from west to east in proximity to the Temperance Hill community. This community has objected to the alternatives that come in close proximity to their community (refer to petitions from Temperance Hill community, in the *Public Involvement Technical Memorandum*). It would also impact the Zion community, located along S.C. 41A, north of Mullins.

This alternative would impact a Section 4(f) resource, the Vaughn tract, which is part of the Little Pee Dee River Heritage Preserve located around the S.C. Route 917 crossing of the Little Pee Dee River. The project would be built parallel, and to the south of existing S.C. Route 917 where it crosses the Little Pee Dee River. The alignment was moved to this location to avoid creating a new crossing of the Little Pee Dee River, which could lead to fragmentation of wildlife habitat (refer to Appendix D, *Draft Section 4(f) Evaluation*). This alternative would cross the fewest ORW waters and the second fewest Section 303(d) waters of the Build Alternatives (impaired water quality, refer to Chapter 3, Section 3.19).

Alternative 4



Alternative 4

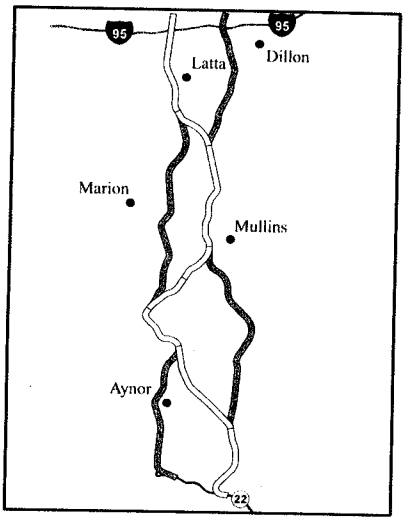
Alternative 4 starts at the southernmost interchange with I-95, and from there extends southeast on the western side of Latta where it would have an interchange with U.S. Route 501, extends southeast on the eastern side of Marion, where it would have an interchange with the U.S. Route 501 Bypass (this would be the access to S.C. Route 41A also). It continues southeast from Marion to the U.S. Route 501 crossing of the Little Pee Dee River. It then passes on the east side of the Galivants Ferry Historic District and then extends southeast along U.S. Route 501 to an interchange with S.C. Route 22. There would be access ramps providing access between U.S. Route 501 and I-73 along U.S. Route 501 at the Little Pee Dee River crossing and along 501 just south of Aynor. The interchange with S.C. Route 22 would be designed so that the traffic movement from I-73 to S.C. Route 22 would be the predominant movement through the interchange. Like all of the Build Alternatives, it would follow S.C. Route 22 to its terminus with U.S. Route 17 near Briarcliff Acres.

This alternative is the shortest alternative at 42.6 miles long. It would avoid the Temperance Hill community. It also would be in close proximity to the proposed Marion County "inland port" (refer to the letters from Marion County Administrator, Appendix C). An undated petition signed by 229 residents was received from the Bluff Road/Penderboro Community opposing Alternatives 4 and 7 (refer to *Public Involvement Technical Memorandum*).

This alternative also would have low farmland impacts (1,717), virtually the same as Alternative 3. The estimated cost for this alternative would be $1.404 billion, more than $200 million more than the Preferred Alternative. This alternative would have the highest wetland impacts at 497 acres, about 113 acres higher than the Preferred Alternative. The only other alternative that would have comparable impacts is Alternative 7. They both share a similar configuration. However, Alternative 4 continues down U.S. Route 501 through Aynor to S.C. Route 22, while Alternative 7 moves east and intersects with S.C. Route 22 near Bakers Chapel.

Much of the wetland impacts for these two alternatives would come from impacted wetlands along the existing U.S. Route 501 bypass east of Marion. It would impact 45 streams, with an estimated 17,068 linear feet of channel. Nine ORW waters would be crossed, as would six impaired waters. It would impact the greatest acreage of floodplain at 321 acres. The Datwyler Rubber facility, located at U.S. Route 76 and U.S. Route 501 Bypass, could be impacted by this alignment.

As mentioned above, this alternative would go through Aynor, similar to Alternative 1. All the concerns raised by Horry County officials and the Town of Aynor and all of the other impacts



Alternative 5

that would result from the segment that follows U.S. Route 501 through Aynor (one-way frontage roads, school access, Section 4(f) impacts) would apply to this alternative as well. The SCDNR and USFWS also expressed opposition to this segment. In addition to the Section 4(f) impact associated with the Aynor High School athletic facilities, there would be another impact to an archaeological site near Marion. There would also be a visual impact to the Galivants Ferry Historic District.

Alternative 5

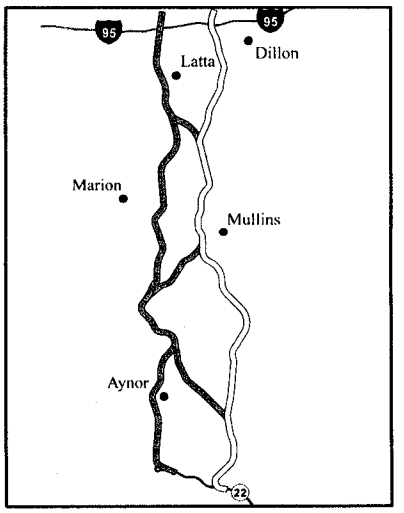
Alternative 5 starts at the southernmost interchange with I-95, and from there extends southeast on the western side of Latta where it would have an interchange with U.S. Route 501, crosses to the east immediately north of Temperance Hill, then extends southeast where it would interchange with S.C. Route 41A. It continues southeast and would have an interchange with U.S. Route 76 on the western side of Mullins. Once south of Mullins it angles back to the south towards U.S. Route 501. It would have an interchange with S-91 (which would provide access to S.C. Route 41) and then cross the Little Pee Dee River at the existing U.S. Route 501 crossing. It passes on the east side of the Galivants Ferry Historic District and then extends east along Winburn Road. There would be an interchange with S-23, then it turns to the southeast to an interchange with S.C. Route 22 near Bakers Chapel, about two miles west of the U.S. Route 701/S.C. Route 22 interchange. The interchange with S.C. Route 22 would be designed so that the traffic movement from I-73 to S.C. Route 22 would be the predominant movement through the interchange. Like all of the Build Alternatives, it would follow S.C. Route 22 to its terminus with U.S. Route 17 near Briarcliff Acres.

This alternative would have 413 acres of wetland impacts, 29 acres more than the Preferred Alternative. It would not cross either Buck Swamp or Lake Swamp. It is one of the three alternatives indicated as potentially preferred by the SCDNR and USFWS (April 19, 2006 ACT meeting, refer to Section 4.3). It would impact 56 streams, with 18,137 linear feet of channel. Ten ORW and two impaired waters would be crossed. It would have about 176 acres of floodplain impacts. It would have 898 acres of wildlife habitat impacts. It is the longest alternative (48.3 miles) and would impact the most farmland (2,136 acres).

Alternative 5 would have no Section 4(f) impacts. The cost for this alternative is $1.436 billion, $140 million more than the Preferred Alternative. It would also be in close proximity to the Marion County proposed "inland port" (refer to letters from Marion County Administrator in Appendix C).

It would be in close proximity to the Temperance Hill community, which had drawn opposition from several residents (refer to petitions in the *Public Involvement Technical Memorandum*). It would impact the Zion community as well as the Winburn community. Alternative 5 has the

potential to have visual impacts to the Galivants Ferry Historic District. It would also result in a relatively high number of relocations (98).



Alternative 6

Alternative 6

Alternative 6 starts at the northernmost interchange with I-95, and from there extends southeast on the western side of Dillon, east of Latta, to an interchange with U.S. Route 501. It continues southeast to an interchange with S.C. Route 41A , then southeast to an interchange with U.S. Route 76 on the western side of Mullins. Once south of Mullins it angles slightly east and crosses the Little Pee Dee River at the existing S.C. Route 917 crossing. It would have an interchange with S-308, then continues southeast on new alignment to an interchange with S.C. Route 22 near Bakers Chapel, about two miles west of the U.S. Route 701/ S.C. Route 22 interchange. The interchange with S.C. Route 22 would be designed so that the traffic movement from I-73 to S.C. Route 22 would be the predominant movement through the interchange. Like all of the Build Alternatives, it would follow S.C. Route 22 to its terminus with U.S. Route 17 near Briarcliff Acres.

This alignment is supported by Dillon County Council, Dillon County Development Board, and the Gateway Industrial Park Board, as detailed in the discussion of Alternative 1 (refer to letters in Appendix C). Alternative 6 would avoid the southern Latta area. It would avoid the Temperance Hill community, which is the desire of Marion County and the local residents (refer to resolution and petitions in the *Public Involvement Technical Memorandum*). It also would avoid Aynor, which is consistent with the Horry County Council and Town of Aynor requests (refer to letters in Appendix C).

Alternative 6, along with Alternative 3, would most closely approximate the school attendance boundary for the Aynor area schools. Consideration of this boundary when designating a corridor for I-73 was requested by the Horry County School District and in a petition signed by over 900 citizens of Horry County (refer to letters in Appendix C and the *Public Involvement Technical Memorandum*).

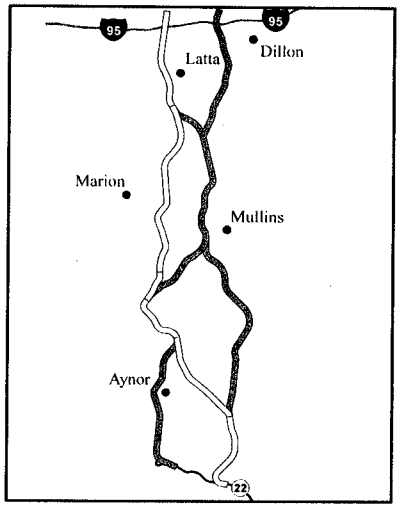
This alternative would cost $1.406 billion, $112 million more than the Preferred Alternative. Alternative 6 would also have 1,835 acres of farmland impacts. This alternative would also have 413 acres of wetland impacts, and would cross Buck Swamp and Lake Swamp. Alternative 6 would cross 64 streams with 20,327 linear feet of channel. There are four ORW waters and seven impaired waters crossed by this alternative. It would have 111 acres of floodplain impacts. This alternative would also have 889 acres of wildlife habitat impacts.

Because of the close proximity of this alternative's I-95 interchange with that of the S.C. Route 34/I-95 interchange that has resulted from moving the interchange to avoid the Bethea Historic District, this interchange would be complex. These roads would increase the cost and impact associated with this interchange. It would be close to the proposed Bethea Historic District which might result in visual impacts to this district. Although Alternative 6 is supported by the Gateway Industrial Park Board, it would impact a portion of the Gateway Industrial Park located immediately south of I-95.

It would impact the Zion community, and would result in the relocation of three churches - the Dothan Baptist Church, the New Memorial Temple of Christ, and the Spring Grove Baptist Church. It would also impact a Section 4(f) site, the Vaughn tract of the Little Pee Dee River Heritage Preserve (refer to Appendix D, *Draft Section 4(f) Evaluation*).

Alternative 7

Alternative 7 starts at the southernmost interchange with I-95, and from there extends southeast on the western side of Latta where it would have an interchange with U.S. Route 501. It then extends southeast on the eastern side of Marion, where it would have an interchange with the U.S. Route 501 Bypass (this would be the access to S.C. Route 41A also). It continues southeast from Marion to the U.S. Route 501 crossing of the Little Pee Dee River. It then passes on the east side of the Galivants Ferry Historic District and then extends east along Winburn Road. There would be an interchange with S-23, then it turns to the southeast to an interchange with S.C. Route 22 near Bakers Chapel, about two miles west of the U.S. Route 701/S.C. Route 22 interchange. The interchange with S.C. Route 22 would be designed so that the traffic movement from I-73 to S.C. Route 22 would be the predominant movement through the interchange. Like all of the Build Alternatives, it would follow S.C. Route 22 to its terminus with U.S. Route 17 near Briarcliff Acres.



Alternative 7

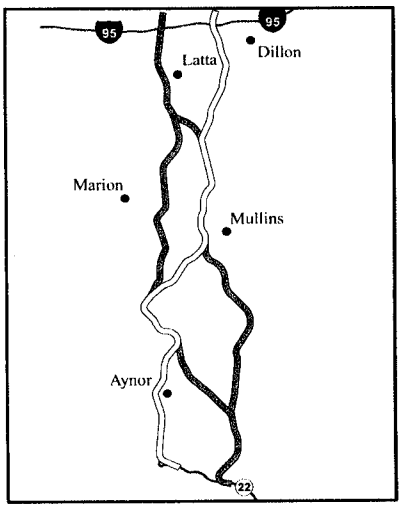
This alternative would not be in accord with the request of the "Citizens of the Southern Route" south of Latta, but would accommodate the concerns of the citizens living along the northern route near I-95. It would pass to the west of the Temperance Hill community. It would be closer to the proposed site of the "inland port" (refer to letters from Marion County Administrator in Appendix C), but would not be the alignment preferred by Dillon County (refer to letters from Dillon County, Appendix C). The residents of the Bluff Road/Penderboro Community is opposed to Alternative 7. This is one of the three routes recommended by SCDNR and USFWS (April 19, 2006 ACT meeting, refer to Section 4.3). The Datwyler Rubber facility, located at U.S. Route 76 and U.S. Route 501 Bypass, could be impacted by this alternative.

Alternative 7 would cost $1.362 billion, $66 million more than the Preferred Alternative. This alternative would have a high number of wetland impacts (492 acres), virtually the same as Alternative 4 (497 acres), and over 100 acres more than the Preferred Alternative. It would also have 1,781 acres of farmland impacts. This alternative would have the fewest stream crossings (41) of all the Build Alternatives. It would have 16,068 linear feet of channel and nine ORW waters in the corridor. Five of the streams crossed are impaired. It would have the most floodplain impacts, at 323 acres. It would impact approximately 932 acres of wildlife habitat.

It would impact a potentially eligible (for listing on the list of National Register of Historic Places) archaeological site near Marion and might have visual impacts on the Galivants Ferry Historic District. The archaeological site would be a Section 4(f) site. It would also impact the Winburn Road community.

Alternative 8

Alternative 8 starts at the northernmost interchange with I-95, and from there extends southeast on the western side of Dillon, east of Latta, to an interchange with U.S. Route 501. It continues southeast to an interchange with S.C. Route 41A, then southeast to an interchange with U.S. Route 76 on the western side of Mullins. Once south of Mullins it angles back to the south to U.S. Route 501 and crosses the Little Pee Dee River at the existing U.S. Route 501 crossing. It would have an interchange with S-91 (which would provide access to S.C. Route 41) and then cross the Little Pee Dee River at the existing U.S. Route 501 crossing. It passes on the east side of the Galivants Ferry Historic District and then extends southeast along U.S. Route 501 to an interchange with S.C. Route 22. There would be access ramps providing access between U.S. Route 501 and I-73 along U.S. Route 501 at the Little Pee Dee River crossing and along 501 just south of Aynor. The interchange with S.C. Route 22 would be designed so that moving from I-73 to S.C. Route 22 would be the predominant movement through the interchange. Like all of the Build Alternatives, it would follow S.C. Route 22 to its terminus with U.S. Route 17 near Briarcliff Acres.



Alternative 8

This alternative would follow the northern route preferred by Dillon County and the "Citizens of the Southern Route" (refer to letters in Appendix C and the *Public Involvement Technical Memorandum*), and would be east of the Temperance Hill community.

Alternative 8 would have the highest cost ($1.596 billion), $300 million more than the Preferred Alternative. This alternative would impact 449 acres of wetland. It would have the highest impact to farmland (2,155 acres). It has the most potential stream crossings (66). Approximately

20,247 linear feet of channel would be crossed, which would include 10 ORW streams and seven impaired streams. An estimated 191 acres of floodplains would be impacted. It would impact the most wildlife habitat with 1,011 acres. There would have to be 3 churches relocated, the same as Alternatives 2 and 6. It would potentially have visual impacts to the potential Bethea Historic District and the Galivants Ferry Historic District.

Although it is supported by the Gateway Industrial Park Board, Alternative 8 would impact the Gateway Industrial Park. It would extend through Aynor. Horry County and the Town of Aynor voted unanimously to oppose the route that would be constructed along existing U.S. Route 501 at Galivants Ferry and through Aynor (refer to letters in Appendix C). Letters that expressed opposition to this segment were also received from the Horry County School District Administration (refer to letters in Appendix C). A large number of people expressed their opposition to this segment at the public information meetings. The SCDNR and USFWS also expressed opposition to this segment.

Alternative 8, like Alternatives 1 and 4, would have one-way frontage roads along U.S. Route 501 in Aynor, which, as previously described, which would be inconvenient for local residents using them to access each side of U.S. Route 501. Alternative 8 also would pass between the incorporated limits of Aynor and the Aynor Elementary and Middle Schools. Construction of this alternative would also impact the athletic facility associated with Aynor High School, which, because it is also available for public use, would be considered a Section 4(f) impact as well (refer to Chapter 3 and Appendix D, *Draft Section 4(f) Evaluation*, for information on Section 4(f)).

2.5.4 Which alternative was designated as the Preferred Alternative?

Alternative 3 would have the least wetland impacts (384 acres), in both acreage and wetland value, lowest cost ($1.296 Billion), least impact to farmland (1,708 acres), least impact to potential historic sites (this alternative was preferred by the SHPO as stated at an ACT meeting), was one of three preferred by the SCDNR and USFWS, and, along with Alternative 6, would be the most constructible. This alternative, along with Alternative 6, would be the least likely to lead to changes in the land use, thus changes to the way of life, in western Horry County. This is in keeping with the opinion expressed by the public at meetings, in letters, and telephone calls, and by the elected officials from Horry County.

When comparing the input from the public and from elected officials, input from the resource and regulatory agencies, the many potential environmental and human resource impacts associated with the Build Alternatives, the constructability, and construction costs, the alternative that would best satisfy the public need while minimizing impacts would be Alternative 3.

All eight of the Build Alternatives have features that are favorable and advantageous. Many of them have one or more flaws, that when compared with the other alternatives make that alternative less suitable. Alternatives 1, 4 and 8 each have a segment that crosses the Little Pee Dee River on U.S.

Route 501, and then extends around the Galivants Ferry Historic District back along U.S. Route 501 through Aynor to intersect S.C. Route 22. Horry County Council and the Town of Aynor voted unanimously to have this route eliminated. The SCDNR and USFWS voiced opposition to the Aynor segment (April 19, 2006 ACT meeting, refer to Section 4.3). At public meetings the people of western Horry County spoke overwhelmingly against this, and any other corridors that came near Aynor and Cool Spring. For these reasons alone, these three alternatives could be eliminated. Adding to this the difficulty of building along and within the U.S. Route 501 corridor, the traffic management problems associated with building there, and the change in travel patterns associated with the one-way frontage roads makes them even less attractive alternatives.

Furthermore, each of these alternatives has other negative issues associated with it. Alternative 1 would have the most relocations (121), one of the highest costs ($1.498 Billion), potential visual impacts to Galivants Ferry Historic District, and a Section 4(f) impact to Aynor High School (athletic facilities used by the public). Alternative 4 would have the highest wetland impacts (497 acres), a cost of approximately $1.404 Billion, and the Section 4(f) impact at Aynor High School. Alternative 8 would have the highest cost ($1.595 Billion), a high amount of relocations (115), the highest impact to farmland (2,155 acres), impact three churches (Dothan Baptist Church, New Memorial Temple of Christ, and Spring Grove Baptist Church), would impact the Gateway Industrial Park, cross Buck Swamp, and potentially impact two historic districts (Bethea and Galivants Ferry). Based upon all of these negative impacts and negative public input, these three alternatives were eliminated.

The five remaining Build Alternatives 2, 3, 5, 6, and 7 were all viable alignments. Alternative 7 was eliminated primarily because it had such high wetland impacts (492 acres), but also because of the constructability issues for the portions at the U.S. Route 501 Bypass and at the Little Pee Dee River crossing. Because the NEPA process is being done at the same time as the Section 404 permitting process, the need to find a least impact alternative was a major consideration. That this alternative had such high wetland impacts as compared to the other Reasonable Alternatives was enough to eliminate it from further consideration as the Preferred Alternative. The differentiation between the other four alternatives, Alternatives 2, 3, 5, and 6, was because Alternative 3 had less impacts or better features than these remaining alternatives.

CHAPTER 3. EXISTING CONDITIONS AND ENVIRONMENTAL CONSEQUENCES

This chapter provides a description of the current conditions in the project study area, an estimation of reasonably foreseeable future changes, an evaluation of past effects, and a description of impacts and benefits that could be expected for the human and natural environment, with and without the proposed project.

Human Environment

The human environment can be defined as a set of natural, social, and cultural values that exist in a given place. The human environment for the proposed project includes at least 23 separate communities that have been identified between I-95 and S.C. Route 22 where new location construction could occur. Evaluation of the human environment includes features such as land use, socioeconomics, and community impacts.

What is the Human Environment?

The CEQ states that "human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment." – 40 CFR §1508.14

3.1 What is the existing land use in the project study area?

The project study area is comprised of roughly 942,000 acres. The land use study area (refer to Figure 3-1) was evaluated, most of which is rural in character, and is dotted with small towns and cities such as Marion, Mullins, and Aynor, as well as small communities such as Zion and Floydale. Agriculture comprises 31.8 percent of the land use, with natural areas comprising 62.0 percent.[40] Uses typically associated with urban or suburban development including residential, commercial, and industrial activity comprise only 5.3 percent of the project study area.

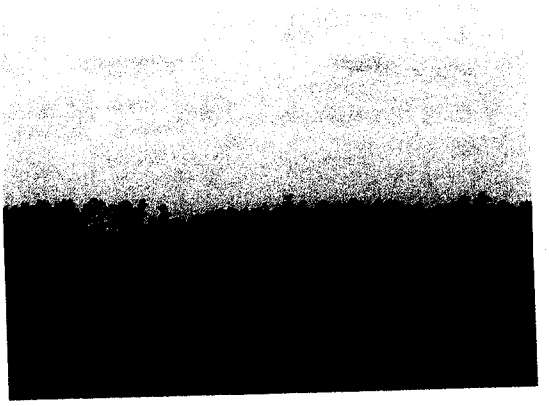
Development activity in the project study area is primarily new construction on single, small lots, mainly taking place near small cities and towns. As the value of land continues to increase, it is expected that additional property owners would take advantage of the opportunity to split parcels and sell land for development, particularly those who are in closer proximity to Myrtle Beach.

Planning and development regulations are limited in the project study area, which is typical for rural municipalities and counties. All three counties completed comprehensive plans between 1999 and 2002. Horry County is in the process of preparing Envision 2025, which will update its comprehensive plan. Marion County is preparing for a series of updates to its plan, while Dillon County has not yet started updating its plan. Marion and Horry Counties have developed zoning, while Dillon County is in the process of establishing zoning.

[40] USFWS. National Wetlands Inventory. http://www.fws.gov/nwi Last accessed April 27, 2006.

3.1.1 What is the agricultural land use in the project study area?

Agricultural land uses, which include farms, ranches, and croplands, comprise a large portion of the project study area. The three-county area has a rich history of agricultural use and is still a vital part to the rural area. More information about farmlands can be found in Section 3.14, page 3-17.



Land use categories used in analysis of existing conditions were extracted from NWI mapping. Natural land areas include:

Deciduous Upland Forest,
Evergreen Upland Forest,
Forested Wetland,
Herbaceous Rangeland,
Mixed Barren Land,
Mixed Upland Forest,
Non-forested Wetland,
Sandy Area,
Shrub/Brush Rangeland,
Transitional Areas,
Upland, and
Upland Planted Pine.

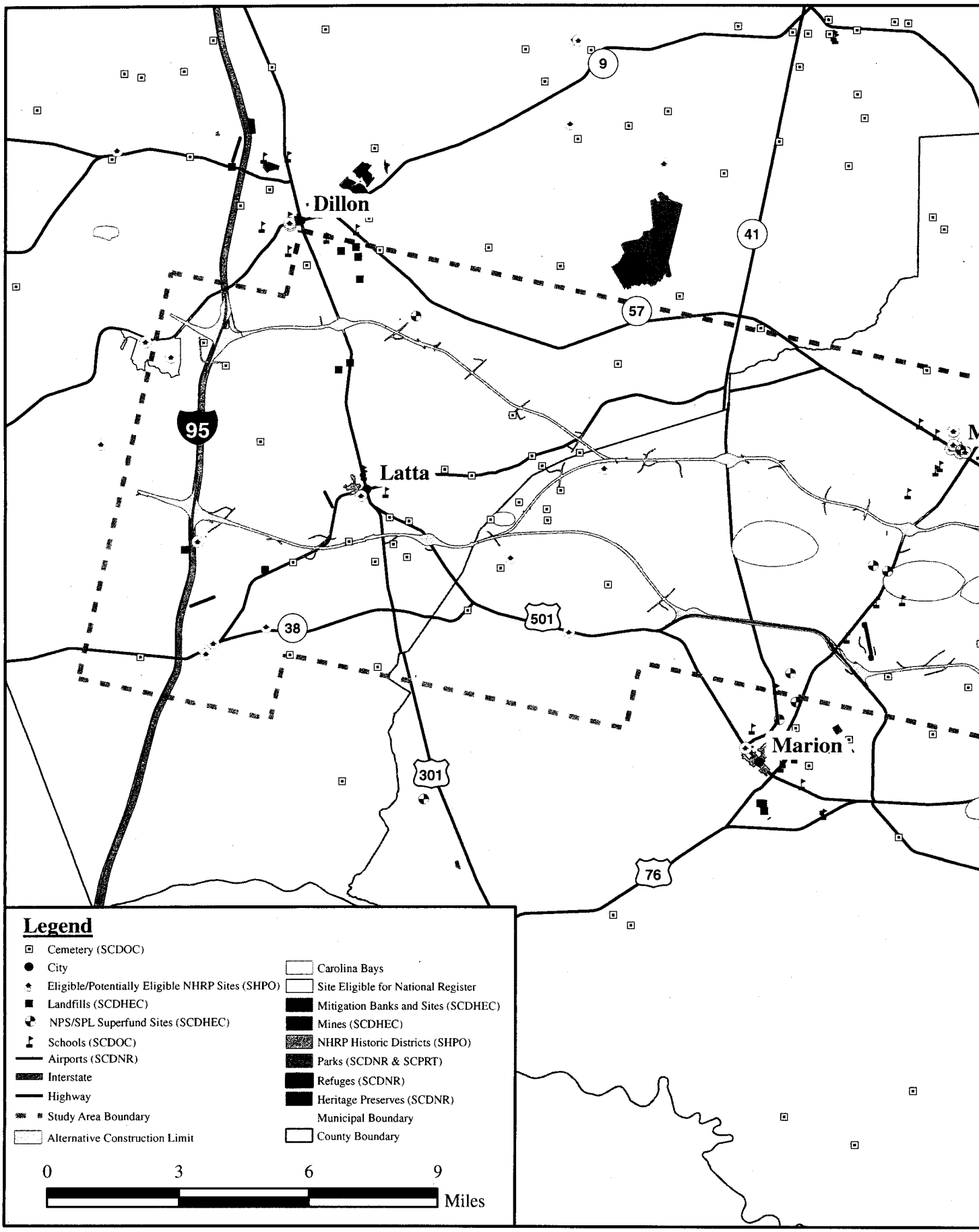
3.1.2 How many natural land areas are in the project study area?

Natural land areas comprise roughly 62 percent of the project study area, 63 percent including open water. In total, approximately 584,000 acres in the project study area are made up of upland forests, wetlands, rangelands, and other natural areas. These areas comprise the majority of the project study area in all three counties, with Horry County having 65.2 percent, Marion County having 61.3 percent, and Dillon County having 55.2 percent as natural areas. Dillon County has a lower percent of natural areas as more land is being used for agricultural and mining activities.

3.1.3 What is the residential land use like in the project study area?

According to the 2000 U.S. Census, 54,850 housing units were located in the project study area. While 9,096 housing units are located in town limits, the majority are located in the surrounding areas or spread throughout the countryside, particularly in Horry County. More than one-third of all units in the Dillon and Marion County portions of the project study area (32.5 and 42.7 percent, respectively) are located in the municipalities of Latta, Dillon, Marion, and Mullins. In the rural, unincorporated portions of the project study area, there are relatively few homes located in subdivisions or neighborhoods. Rather, rural housing appears to be mostly linear development along county or state roadways as farmers choose to sell "strip lots" for development, particularly as the value of property continues to increase.

Of the housing units in the project study area, approximately 59.0 percent are single family homes. Mobile homes or manufactured housing makes up 31.4 percent of housing units, while less than 10


Dillon
Latta
Marion
9
41
57
95
38
501
301
76
Legend
Cemetery (SCDOC)
City
Eligible/Potentially Eligible NHRP Sites (SHPO)
Landfills (SCDHEC)
NPS/SPL Superfund Sites (SCDHEC)
Schools (SCDOC)
Airports (SCDNR)
Interstate
Highway
Study Area Boundary
Alternative Construction Limit
Carolina Bays
Site Eligible for National Register
Mitigation Banks and Sites (SCDHEC)
Mines (SCDHEC)
NHRP Historic Districts (SHPO)
Parks (SCDNR & SCPRT)
Refuges (SCDNR)
Heritage Preserves (SCDNR)
Municipal Boundary
County Boundary
0
3
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9
Miles

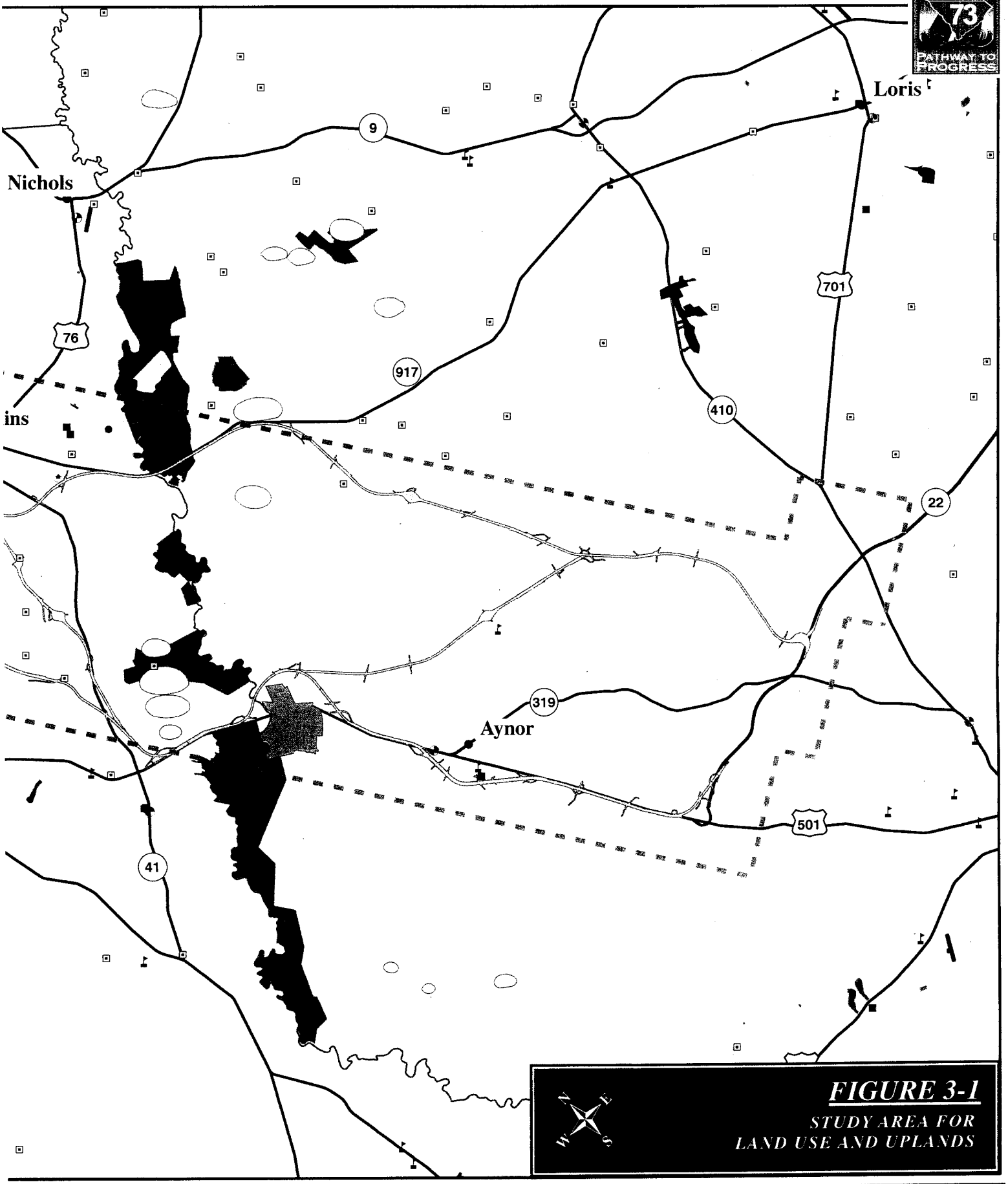


FIGURE 3-1
STUDY AREA FOR LAND USE AND UPLANDS

percent of all housing is multi-family structures such as duplexes or apartments. The breakdown of housing types is fairly similar throughout the project study area. The highest percentage of single family homes and lowest percentage of mobile homes are located in Marion County (63.8 and 28.3 percent, respectively) while the highest percentage of multi-family housing is located in Horry County (10.7 percent).

Approximately 34,783 acres of existing land uses are categorized as residential, which makes up only 3.4 percent of the total land area. Residential activity represents roughly 3.6 percent of the acreage within Horry County, while housing represents 3.4 percent of land use in Marion County. In comparison, only 2.7 percent of the portion of the project study area within Dillon County is comprised of residential development. In all cases, the extremely small percentage of land used for housing is reflective of the rural character of the area.

3.1.4 What is commercial land use like in the project study area?

Approximately 7,638 acres within the project study area are used for commercial activity, including hotel/motel space, industrial, institutional, public, and semi-public uses. Substantial commercial activity occurs within or near the municipalities of Aynor, Dillon, Latta, Marion, and Mullins. Each includes a downtown that accommodates commercial retail, service, and office uses. At the same time, commercial nodes and "strip development" have gradually developed, most noticeably along S.C. Route 9 between downtown Dillon and the interchange with Interstate 95. National hotel and restaurant chains have located along the interchange with the intent to capture clientele from interstate, as well as local traffic. Additional development appears to be gradually occurring along U.S. Route 501, particularly as it passes through Aynor, Latta, Marion, and Dillon. In addition, U.S. Route 76 has become a commercial corridor between Marion and Mullins due to the availability of public water and sewer infrastructure.

Approximately 1,660 commercial establishments occur in the project study area.[41] A majority of uses are "daily service" activities that provide services for area residents and employees rather than tourists or commuters. Among the uses considered commercial, approximately 36 percent would be considered retail activities such as restaurants, department stores, and landscaping nurseries. An additional 20 percent serves as offices for professionals such as dentists, doctors, lawyers, and engineers. The remaining 44 percent is considered to be "general" commercial activity such as an automobile repair shop or a beauty salon.

Hotel/Motel

The land use study area includes 22 establishments dedicated to lodging. Uses range from nationally recognized hotels to parks set aside for recreational vehicles. Of the eight national chain hotels found in the land use study area, seven are located in Dillon along S.C. Route 9 (Radford Boulevard) near the interchange with Interstate 95. The majority of remaining accommodations are located in Mullins and Marion. Two bed and breakfasts are located in the land use study area, one in Latta and the other in Marion.

[41] Claritas Research. http://www.claritas.com/claritas/Default.jsp Last accessed April 27, 2006.

Industrial

Activities in the land use study area related to industry comprise only 1,204 acres, roughly 0.12 percent of the total land area. Of the total industrial area available, approximately 46 percent is located within Marion County. Although Horry County accounts for more than half of the total land within the land use study area, the county accounts for only 273 industrial acres.

As stated on their website, the South Carolina Power Team includes the state's electric cooperatives and Santee Cooper, the state-owned electric & water utility. The Power Team is the only statewide electric utility and the largest electric power system in the state. Information available from the South Carolina Power Team indicates that industrial parks in the area include the I-95 Gateway Industrial Park, a 400-acre park located adjacent to Interstate 95, and Marion County Industrial Park, which is a 276-acre park along U.S. Route 501 outside of Marion.[42] Other parks and sites are sporadically located throughout the land use study area, such as Cool Spring Business Park, a site located near U.S. Route 501 and S.C. Route 319.

The I-95 Gateway Industrial Park is home to Harbor Freight Tools. Four businesses are currently located in the Marion County Industrial Park. Several additional industries are located throughout the land use study area, although the majority are located in proximity of towns such as Mullins and Marion. Industrial development in the Marion area could increase dramatically if plans to complete an inland port in Marion County become a reality. Specifically, the county is seeking to develop an inland port in proximity to an interstate, railroad, and U.S. Route 301 that would offer a staging area for incoming goods. In addition to the industrial facilities, the port is proposed to include an airport that could further enhance the viability of the project. In total, the inland port and airport would be expected to occupy over 17,000 acres.

Institutional

Numerous churches, nonprofit organizations, fraternal organizations, child care services, nursing homes and other institutional organizations, roughly 320 in all, are scattered throughout the land use study area. The majority of institutional establishments, as expected, are located in or near the municipalities, specifically Dillon, Marion, and Mullins. A total of 225 churches and other religious organizations are located throughout the land use study area, as well as 34 child care centers and nine nursing homes and other facilities serving the elderly. Health care facilities include Marion County Medical Center in Mullins and St. Eugene Medical Center in Dillon.

Public & Semi-Public

Land use information indicates 288 establishments in the land use study area that are considered public or semi-public such as schools, government offices, utilities, post offices, libraries, courts, and police stations. The cities of Dillon, Conway, and Marion serve as the county seats of Dillon, Horry, and Marion Counties, respectively, thus each includes numerous county offices and activities.

[42] South Carolina Power Team. "Northeast South Carolina Region Industrial Parks & Buildings" http://www.scpowerteam.com/Region_95_North.asp Last accessed April 27, 2006.

Dillon County is served by three public school districts. District 1 encompasses the Lake View area of Dillon County, while District 2 primarily serves the city of Dillon with District 3 serving Latta and its surrounding communities. A unique public school offering is District 3's Latta Early Childhood Center. In addition, Dillon County has two private schools.

Marion County has three school districts (Districts 1, 2, and 7). District 1 serves the city of Marion, while Districts 2 and 7 encompass the city of Mullins and town of Rains and their surrounding communities, respectively. Marion County also has two private schools.

Horry County has one school district consisting of nine attendance areas that serves Aynor, Conway, Myrtle Beach, North Myrtle Beach and its surrounding communities. Unique public school offerings include the following: The Academy for Technology and Academics, Aynor-Conway Career Center, and the Academy for Arts/Science/Technology. Horry County also has 15 private schools. The project study area has one 4-year college, Coastal Carolina University located in Horry County. This institution offers undergraduate and some graduate-level programs.

3.1.5 Do the affected counties have plans for development and future growth?

As previously mentioned, all three counties in the project study area have comprehensive plans, which were last completed or updated between 1999 and 2002. Although the date of completion, level of detail, and composition differs, each of the plans does the following:

- examines trends and issues;
- recommends goals, objectives or other policies to guide growth; and,
- estimates the population growth and resulting expansion of land uses.

Each discussion below covers the entire county, including areas of the county beyond the project study area.

Dillon County Comprehensive Plan

The Dillon County Comprehensive Plan estimates the historic decline in population will eventually be replaced with limited growth, so that by 2020 the total population of the county will have grown by 2,400 persons. Using an adjusted standard (which can be found in the plan), the plan estimated that 28 acres of new land would be developed for every 100 new residents. Based on population forecasts, this would total 672 acres of new development by 2020. Specifically, the 672 acres would consist of 360 acres of new residential development, 72 acres each of commercial and industrial space, and 168 acres of public and semi-public space.

The Future Land Use Plan for Dillon County forecasts new residential development to occur along major corridors surrounding Latta and Dillon with limited additional "leapfrog" activity. "Leapfrog" development is the process of new development moving away from existing development and into natural or agricultural areas. Commercial and industrial development is expected along U.S. Route 501 and Interstate 95.[43]

Horry County Comprehensive Plan

An update of the comprehensive plan, known as Envision 2025, is currently underway. The current plan proposes an urban service area where the vast majority of new development activity is expected. The urban service area was proposed to surround the City of Conway and extend as a band roughly eight to ten miles inland from the coast. The urban service area encompasses a land area at least five times as large as the land area now included in developed urban areas. All of the land area included in the project study area was designated as a rural service area where no development of substantial size is expected.

In the unincorporated areas of Horry County, the comprehensive plan anticipates an additional 60,304 acres of new development needed to meet 2020 population projections.[44]

Marion County Comprehensive Plan

The Marion County Comprehensive Plan projects an increase of 3,901 persons in the county by 2015. The plan forecasts the need for 34 acres of development for each 100 new residents, which results in the need for 1,330 acres of new development. This new development would consist of 825 acres of residential activity, 40 acres of commercial, 319 acres for industrial or business use, and 146 acres of public space.[45]

The Marion County Comprehensive Plan does not include a Future Land Use Plan, but the county is preparing series of sector plans designed to address land use and update planning issues on a smaller scale. Sector plans are expected to be completed by priority beginning with the section of U.S. Route 501 that bypasses Marion.

Zoning

Dillon County currently has no zoning according to a 2004 survey conducted by the South Carolina Association of Counties, but the county is coordinating with the Pee Dee Regional Council of Governments to create new zoning regulations. A draft ordinance is currently available for review; however, no map has been developed that would locate districts within the project study area. The draft ordinance proposes establishment of 13 districts, four of which function as overlay districts to address special situations such as flood protection, agricultural conservation, and the airport. It is likely that each of the base districts and most of the overlays will be applied within the project study area to some extent.

[43] Dillon County, South Carolina. Dillon County Comprehensive Plan: 2001. p. 41.
[44] Horry County, South Carolina. Horry County Comprehensive Plan: 1999. pp. VII-16.
[45] Marion County, South Carolina. Marion County Comprehensive Plan: 1999. p. 7-6.

In 2001, Horry County applied new zoning districts to rural sites within its jurisdiction, including the rural portions of the county that are located within the project study area. The revised districts for the project study area include Limited Forest Agriculture, Forest Agriculture, and Commercial Forest Agriculture. Of the three, Commercial Forest Agriculture provides the most intense and diverse use, including the incorporation of commercial activities outside of agriculture. In the process of establishing new districts, residents along the U.S. Route 501 corridor requested Commercial Forest Agriculture zoning to reflect the possibility that the area could develop commercially over time.[46]

Since the 2004 Association of Counties' survey, Marion County has established a zoning ordinance that divides the county into five districts: General Development, Industrial Development, Residential Conservation, Residential Multi-use, and Rural Resource. Currently, all land within the county is zoned General Development; however, an effort is expected to begin in the near future to update plans for development in the county that will result in recommendations for potential changes to zoning. The General Development District permits all uses, but utilizes a "performance-based" system designed to alleviate impacts between adjacent uses that may create incompatibility.

What are trends and key indicators?

The following are general trends or other important indicators of future land use within the land use study area. Trends and indicators were compiled from a variety of sources including the comprehensive plans for the three counties within the project study area and examination of historic aerial imagery. Some trends have evolved that were not expected in the comprehensive plans. For example, the plan for Dillon County anticipated a continuing trend of population loss that would only be overcome in the year 2020; however, the most recent projections by the South Carolina Office of Research and Statistics indicate that the county's population has already assumed positive growth.[47] Other information includes:

- Historic aerial photography supports the trend that growth in the project study area occurs in the existing communities, supplemented with slow encroachment of development activity into the natural areas and farmland.
- Examination of aerial photography and site visits indicate a series of locations exhibiting growth and that are most likely to receive additional residential and commercial development including U.S. Route 501, particularly in proximity of Aynor, Marion, Latta, and Dillon; U.S. Route 76 between Marion and Mullins; and the Interstate 95 corridor in proximity to Dillon.

[46] Pers. Comm. James Bischof, Principal Planner, Horry County Planning Department. February 27, 2006.
[47] State of South Carolina, Budget and Control Board, Office of Research & Statistics. South Carolina Populations Reports: "County Population Projections: 2005-2030." http://www.ors2.state.sc.us/population/projections.asp Last accessed April 27, 2006.

- Dillon and Marion counties are not expecting exponential growth through the year 2030. However, Horry County as a whole is expected to grow substantially. The Office of Research and Statistics indicates that the Dillon County population will increase by less than 430 people while Marion County will grow by nearly 1,880. In comparison, Horry County is expected to grow by more than 138,690 (an increase of more than 70 percent).
- "Leapfrog" development is anticipated throughout the project study area according to the various county comprehensive plans. This trend was validated during site visits.
- As noted in the Dillon Comprehensive Plan, the land most attractive to development will be sites that "(1) ha[ve] soils that can easily support development; (2) [are] not subject to flooding; (3) [are] near major transportation routes; (4) [are] served by water and perhaps sewer, or [are] capable of being served; and (5) [are] cleared." As further noted, "this description of prime development land often also describes prime agricultural land and/or existing farmland adjacent to municipalities."
- According to the Dillon Comprehensive Plan, growth in Dillon County has, to a limited degree, shifted toward I-95 to capture interstate traffic in addition to local traffic. This is most notable around Dillon where national chain hotels and restaurants have located near the intersection between S.C. Route 9 and the interstate. The I-95 Gateway Industrial Park is an additional example of the increased intent to take economic advantage of access to a major roadway.
- The Horry County Comprehensive Plan states that the "availability of community facilities and services such as roads, water and sewer, schools, social and cultural institutions, libraries, and fire and police" make a site more attractive for development.

3.1.6 How is land use expected to change in the project study area?

In regards to land development, change is anticipated. Even in areas where no population growth is anticipated, new homes and businesses appear as part of the continuing evolution of communities. Growth is expected in Dillon, Horry, and Marion Counties, so it is certain that land in the three counties will develop, regardless of a new interstate. The population in the three counties is projected to grow by nearly 54 percent between 2000 and 2030[48] (Table 3.1, page 3-10), with the vast majority of population growth (138,700 of 141,000 persons) expected to occur in Horry County. The addition of a new interstate is very likely to increase and alter the growth patterns expected in the three-county area.

3.1.7 How would the No-build Alternative affect land development?

The No-build Alternative considers the amount of land to be developed as well as the location of development if existing conditions prevail and population increases to the extent projected by the Office of Research and Statistics for the State of South Carolina. Both the amount of new development and its location are important in establishing a baseline upon which to consider the impact of the proposed project. The affect of the No-build Alternative on land development was established by:

[48] State of South Carolina, Budget and Control Board, Office of Research & Statistics, "County Population Projections: 2005-2030", South Carolina Population Reports http://www.ors2.state.sc.us/population/proj2030.asp.

Table 3.1
Projected Population Growth by County, 2000 to 2030
Interstate 73: I-95 to the Myrtle Beach Region

County	Population		Change, 2000 to 2030	
	2000	2030	Number	Percentage
Dillon	30,722	31,150	428	1.39%
Marion	35,466	37,340	1,874	5.28%
Horry	196,629	335,320	138,691	70.53%
Total	**262,817**	**403,810**	**140,993**	**53.65%**
State	4,012,012	5,371,150	1,359,138	33.88%

1. Dividing the projected population for each county into smaller Traffic Analysis Zones (TAZs);
2. Projecting population growth to 2030 by TAZ;
3. Projecting housing and employment growth by TAZ at a rate similar to population growth; and,
4. Projecting land use requirements based upon anticipated population, housing, and employment growth.

Traffic Analysis Zones (TAZ) define geographic areas (similar to Census block group) which are used to relate travel demand to socioeconomic characteristics.

Population growth in the three-county area of approximately 140,993 persons is projected to result in approximately 30,800 acres of new development including new homes, businesses, industries, and civic facilities such as schools and government buildings (Table 3.2). As expected, the majority of new development will likely occur in Horry County where the majority of population is expected to reside.

Table 3.2
No-build Alternative, Summary of Land Use Requirements, by Acres
Interstate 73: I-95 to the Myrtle Beach Region

County	Residential			Commercial				Public & Semi Public	Total in acres
	Single Family	Multi-family	Mobile Home	Industrial/ Manu-facturing	Hotel and Entertainment	Retail	Office		
Dillon	51	1	17	10	1	1	1	1	82
Marion	245	5	68	43	2	4	3	5	374
Horry	19,369	1,998	4,971	2,182	546	505	431	347	30,349
Total	19,664	2,004	5,056	2,235	548	510	435	353	30,805

Dillon County

As the county farthest from the Grand Strand, Dillon County is expected to grow the least of the three counties despite the fact that it is the only county with immediate access to an interstate (I-95). Between 2000 and 2030, new non-agricultural land development in Dillon County is expected to grow by almost 82 acres. While the limited growth is expected to occur throughout the county, most of it is likely to occur near the communities of Dillon and Latta (Table 3.3, page 3-12).

Characteristics of growth in Dillon County will likely include growth occurring closer to communities, but not necessarily within municipal boundaries. There will be a limited and continued drift of growth towards I-95 and other roadways that offer quick access to I-95. In addition, strip lot residential development of agricultural and forested lands is expected to continue to be more prominent than residential development of subdivisions in the county.

Marion County

Marion County is expected to have more development than Dillon County. Of the 374 acres of anticipated growth in the county, roughly 88 percent is expected to occur in areas surrounding the communities of Marion and Mullins. Both communities benefit from the ability to provide greater resources and services. While both enjoy relatively strong accessibility, Marion particularly benefits from the presence of U.S. Route 501.

Characteristics of growth in Marion County will likely include more growth near and within communities, especially Marion and Mullins. Commercial development in Marion County is likely to occur along major roadways such as U.S. Route 501 and U.S. Route 76, due to better accessibility along these corridors. Strip lot residential development is likely to continue for rural housing, with former agricultural and forested areas being converted to residential use.

Horry County

The substantial growth historically seen in Horry County will continue through 2030 with a projected additional 30,349 acres being developed (refer to Table 3.2, page 3-10). The majority of development will occur in the eastern portion of the county to the extent that rising property costs and increased demand will allow. However, western sections of the county are also expected to grow at a rate that far exceeds that of Marion or Dillon Counties. The area in and around Aynor is expected to expand by 1,375 acres, which is small in comparison to the area near Conway that is projected to have 5,182 acres of development.

Characteristics of growth in western Horry County will likely include increased growth closer to or within communities, especially Aynor and Conway. Commercial development is more likely along major roadways since these corridors are more accessible. In addition, extended

Table 3.3
No-build Alternative, Detailed Land Use Requirements, in Acres
Interstate 73: I-95 to the Myrtle Beach Region

TAZ Name (Number)	Residential			Commercial					Total
	Single Family	Multi-family	Mobile Home	Industrial/ Manufacturing	Hotel and Entertainment	Retail	Office	Public & Semi Public	
Dillon County	**51**	**1**	**17**	**10**	**1**	**1**	**1**	**1**	**82**
Latta (223)	11	0	4	2	0	0	0	0	18
Dillon (224)	17	0	6	3	0	0	0	0	28
Little Rock (225)	6	0	2	1	0	0	0	0	9
Hamer (226)	9	0	3	2	0	0	0	0	14
Lake View (227)	8	0	2	2	0	0	0	0	12
Marion County	**245**	**5**	**68**	**43**	**2**	**4**	**3**	**5**	**374**
Marion (228)	125	2	35	22	1	2	1	3	192
Mullins (229)	89	2	25	16	1	1	1	2	136
Centenary (230)	12	0	3	2	0	0	0	0	19
Brittons Neck (231)	18	0	5	3	0	0	0	0	27
Horry County	**19,369**	**1,998**	**4,971**	**2,182**	**546**	**505**	**431**	**347**	**30,349**
Aynor (281)	877	91	225	99	25	23	20	16	1,375
Floyds (282)	315	32	81	35	9	8	7	6	493
Conway (283)	3,307	341	849	373	93	86	74	59	5,182
Loris (284)	1,358	140	348	153	38	35	30	24	2,128
Conway East (285)	3,117	322	800	351	88	81	69	56	4,883
Longs (286)	554	57	142	62	16	14	12	10	868
Myrtle Beach (287)	7,249	748	1,860	817	204	189	161	130	11,358
Little River (288)	2,592	267	665	292	73	68	58	46	4,062
Total	**19,664**	**2,004**	**5,056**	**2,235**	**548**	**510**	**435**	**353**	**30,805**

strip lot residential development will likely begin to give way to formalized subdivisions as the housing market demand and property values increase.

3.1.8 How would the project impact development in the three-county area?

Development of an interstate between Interstate 95 and S.C. Route 22, which would become part of I-73, would have the following impacts upon the area:

Land used for right-of-way would be lost for development
The land used for right-of-way would be lost for development. Existing development within the right-of-way for the project would be removed and relocated. Additional development, such as housing, stores, industries, or other facilities would also not have the opportunity to develop the property that is being used as the right-of-way. On the other hand, the quality and value of remaining development that takes place as a result of the project would likely offset the loss of developable land over time.

Development that was already expected to occur in the area would drift toward the project
Development that was already expected to occur in the three-county area would now be expected to occur closer the project. A number of variables are considered in development of a parcel of land such as proximity to resources, accessibility, availability of infrastructure, and, of course, availability of land. Ability to meet zoning and planning requirements is also a consideration, although limited regulation in Marion and Dillon Counties currently makes this less of a factor. The addition of an interstate adds a new dimension to the equation, particularly in the area of proximity and accessibility. Just as commercial development in Dillon has drifted toward I-95, anticipated commercial and industrial development would also likely drift closer to I-73 assuming that all other considerations such as available infrastructure remain equally viable. Single family residential development may also drift toward the interstate.

Additional new development would occur in the three-county area
A new interstate by itself is generally not sufficient to lure new residential, commercial or industrial development. However, the proximity and efficiency offered by location near an interstate certainly enhances the possibility for new development if demand already exists. Limited demand already exists in Dillon and Marion Counties; however, it is coupled with strong demand in Horry County. The result is that Horry County would see more new development from the presence of an interstate and Dillon and Marion Counties would also benefit as a result of existing limited demand and as a low-cost alternative to Horry County.

3.1.9 How were land use impacts resulting from the project determined?

Using the No-build Alternative as a baseline, impacts associated with each of the eight alternatives were established by first determining the shift of development already expected to occur, followed by the likely amount and location of new development. Determining the extent of shift in anticipated

development involved establishing criteria and weighing each according to its likely importance in making a decision regarding location. Factors included:

Proximity to an I-73 interchange

Proximity to an interstate is largely irrelevant unless it is within a short distance to an interchange. Along each proposed alternative, TAZs that included an interstate interchange were expected to draw development while those without an interstate exchange were expected to lose a portion of anticipated growth. The expected growth a TAZ with an interstate interchange could expect depended upon additional factors. As shown in Table 3.4, of the 17 TAZs in Dillon, Marion

Table 3.4
Proposed I-73 Interchanges Along Each Alternative by TAZ
Interstate 73: I-95 to the Myrtle Beach Region

	Interchanges by Alternative							
CCD Name/Number	**Alt. 1**	**Alt. 2**	**Alt. 3**	**Alt. 4**	**Alt. 5**	**Alt. 6**	**Alt. 7**	**Alt. 8**
Dillon County								
Latta (223)								
interchange	I-95	--	I-95	I-95	I-95	--	I-95	--
interchange	501	--	501	501	501	--	501	--
Dillon (224)								
interchange	--	I-95	--	--	--	I-95	--	I-95
interchange	--	301/501	--	--	--	301/501	--	301/501
Little Rock (225)	no interchanges							
Hamer (226)	no interchanges							
Lake View (227)	no interchanges							
Marion County								
Marion (228)								
interchange	--	--	--	501m	--	--	501m	--
interchange	91/41	91/41	--	--	91/41	--	--	91/41
interchange	--	--	--	76	--	--	76	--
Mullins (229)								
interchange	41A	41A	41A	--	41A	41A	--	41A
interchange	76	76	76	--	76	76	--	76
Centenary (230)								
interchange	501n	501n	--	501n	501n	--	501n	501n
Brittons Neck (231)	no interchanges							
Horry County								
Aynor (281)								
interchange	501s	--	--	501s	--	--	--	501s
interchange	22	--	--	22	--	--	--	22
interchange	--	S23	--	--	S23	--	S23	--
interchange	--	--	308	--	--	308	--	--
Floyds (282)	no interchanges							
Conway (283)								
interchange	--	22	22	--	22	22	22	--
Loris (284)	no interchanges							
Conway East (285)	no interchanges							
Longs (286)	no interchanges							
Myrtle Beach (287)	no interchanges							
Little River (288)	no interchanges							

and Horry Counties, only seven would have an interstate interchange, depending upon the selected alternative. For example, Alternative 1 includes interchanges in Latta (223), Marion (228), Mullins (229), Centenary (230), and Aynor (281) TAZs. It is expected that the five TAZs with interstate interchanges along Alternative 1 would receive a larger portion of anticipated development when compared to the surrounding 12 TAZs.

Proximity to an Existing Urban Area

An interstate interchange would draw development from other areas only if the site is equally desirable in terms of access to resources and infrastructure. Proximity to urban areas was considered among the most advantageous factors due to availability of jobs, labor pool, additional services and facilities, and increased likelihood of infrastructure. Existing development patterns confirmed that the majority of commercial and industrial development has located either in or with proximity to one of the communities or towns. Residential development can be farther from urban areas as some residents would rather live in more rural areas.

Proximity to I-95 or the Grand Strand

Each of the alternatives connects to both Interstate 95 and The Grand Strand. Incorporating the access to two interstates as well as the desirability to locate near the Grand Strand recognizes the potential draw that I-95 and the Grand Strand can have on development.

Availability of Water, Wastewater and Land

Availability of water, wastewater, and land were considered of equal importance in their potential to draw anticipated development away from other areas. As in most instances of development, preservation of agriculture or woodlots was not a general consideration.

TAZs in Eastern Horry County held Constant

The decision to locate in eastern Horry County must take into consideration the rising price and increasing scarcity of land. At the same time, S.C. Route 22 and U.S. Route 501 already provide access to the beach attractions for development that locates farther from the Grand Strand. Since I-73 connects to S.C. Route 22, which already provides access to the beach attractions, it is unlikely that new growth related to I-73 would be drawn to it in any significant magnitude. Therefore, the four southernmost TAZs were held constant in analysis of shift.

Shift Factors represent key variables that, if available, would likely impact the decision to choose one location for development over another. In the case of examining I-73, shift factors represent the draw that the presence of I-73 would likely have on growth that is already expected to occur over time based on factors, such as proximity to an intersection, that would otherwise not exist.

The amount of additional new development likely to occur as a result of I-73 was calculated based upon the amount of new jobs likely to occur in the area. In a manner similar to the determination of the No-build Alternative, employment, housing, and population growth were considered to occur at the same rate. Land use requirements were established based upon acreage needed for new homes, businesses, and public facilities. Location of new development followed

the same process as was used in determining growth patterns in the No-build Alternative, coupled with shift factors for the presence of the interstate. However, since new development would likely be drawn to the area partially due to the presence of I-73, the weight of various factors was increased. The increased weight pulled substantially more anticipated new development toward the interstate. Unlike what was expected during the analysis of shift in anticipated growth, the eastern portion of Horry County was considered in examination of new development.

Tables 3.5 and 3.6, page 3-17, show the overall impact of project upon the three-county area, including the shift of anticipated growth, as well as the amount of new growth once the shift in anticipated growth has been considered. In total, the project is expected to spur between 4,157 (Alternative 3) and 5,693 (Alternative 8) acres of new growth, depending upon the selected alternative. Table 3.7, page 3-18, shows the total growth to be expected in the three-county area by combining anticipated growth in the No-build Alternative with new growth from the project (refer to Figures 3-2 through 3-9, pages 3-20 to 3-27). Depending upon the alternative, the impact of the project ranges from 13 percent (Alternative 3) to 18 percent (Alternative 8).

Table 3.5
Total Shift in Anticipated Development Resulting from I-73 Alternatives by TAZ (in acres of new development)*
Interstate 73: I-95 to the Myrtle Beach Region

	Alternatives							
TAZ Name/Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Dillon County	**0.7**	**-0.4**	**-2.3**	**0.7**	**-2.7**	**-0.1**	**-2.6**	**2.5**
Latta (223)	1.6	-1.3	1.6	1.6	1.6	-1.1	1.6	-0.3
Dillon (224)	-0.4	3.3	-1.7	-0.4	-1.9	3.3	-1.9	3.3
Little Rock (225)	-0.1	-0.6	-0.6	-0.1	-0.6	-0.6	-0.6	-0.1
Hamer (226)	-0.2	-1.0	-0.9	-0.2	-1.0	-0.9	-1.0	-0.2
Lake View (227)	-0.2	-0.8	-0.7	-0.2	-0.8	-0.8	-0.8	-0.2
Marion County	**13.2**	**11.7**	**-5.1**	**16.8**	**11.8**	**-5.3**	**8.5**	**13.2**
Marion (228)	3.8	3.8	-11.8	19.2	3.8	-12.0	19.2	3.8
Mullins (229)	9.6	9.6	9.6	-2.1	9.6	9.6	-9.1	9.6
Centenary (230)	0.2	0.2	-1.2	0.2	0.2	-1.2	0.2	0.2
Brittons Neck (231)	-0.4	-1.8	-1.7	-0.4	-1.8	-1.7	-1.8	-0.4
Horry County	**-13.9**	**-11.3**	**7.4**	**-17.5**	**-9.1**	**5.3**	**-5.9**	**-15.7**
Aynor (281)	103.1	13.7	13.7	103.1	13.7	13.7	13.7	103.1
Floyds (282)	-7.4	-34.0	-30.5	-7.6	-33.5	-30.8	-32.9	-7.5
Conway (283)	-77.7	155.5	155.5	-80.1	155.5	155.5	155.5	-78.9
Loris (284)	-31.9	-146.6	-131.4	-32.9	-144.7	-133.0	-142.1	-32.4
Conway East (285)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Longs (286)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Myrtle Beach (287)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Little River (288)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Table 3.6
Impact of I-73 Alternatives by TAZ
(in acres of new development)
Interstate 73: I-95 to the Myrtle Beach Region

	Alternatives							
CCD Name/Number	1	2	3	4	5	6	7	8
Dillon County	**211**	**204**	**158**	**193**	**185**	**176**	**168**	**230**
Latta (223)	56	41	43	51	50	35	46	47
Dillon (224)	68	83	50	62	59	72	53	91
Little Rock (225)	23	21	17	21	20	18	18	24
Hamer (226)	35	32	26	32	30	28	27	37
Lake View (227)	30	27	22	27	26	23	23	31
Marion County	**827**	**784**	**595**	**761**	**744**	**633**	**669**	**867**
Marion (228)	400	380	270	441	360	287	395	420
Mullins (229)	337	321	261	238	304	277	203	354
Centenary (230)	39	37	27	35	35	28	32	41
Britons Neck (231)	51	46	38	47	44	40	40	53
Horry County	**4,384**	**4,163**	**3,403**	**4,016**	**3,951**	**3,618**	**3,591**	**4,596**
Aynor (281)	332	210	172	313	200	183	183	344
Floyds (282)	64	33	24	57	30	27	25	67
Conway (283)	668	918	771	604	878	811	811	703
Loris (284)	274	141	103	248	128	116	106	289
Conway East (285)	703	660	538	644	626	572	569	737
Longs (286)	125	117	96	115	111	102	101	131
Myrtle Beach (287)	1,634	1,534	1,251	1,499	1,456	1,331	1,323	1,713
Little River (288)	584	549	448	536	521	476	473	613
Total	**5,422**	**5,150**	**4,157**	**4,970**	**4,879**	**4,428**	**4,428**	**5,693**

Dillon County

Similar to the No-build Alternative, Dillon County will see the smallest amount of growth among the three counties regardless of the selected alternative. Dillon County may grow between 158 acres (Alternative 3) and 230 acres (Alternative 8) by 2030 as a result of the presence of I-73 (Table 3.6). The project alternatives result in two scenarios for Dillon County based on proximity to Dillon or Latta.

Alternatives 1, 3, 4, 5, and 7 have an interchange with I-95 near Latta and a second interchange with U.S. Route 501. These alternatives result in county growth beyond the anticipated growth of the No-build Alternative ranging from 158 (Alternative 3) to 211 (Alternative 1) acres. Of the eight alternatives, Alternative 1 proposes the most substantial growth around Latta with a total of 56 acres of new growth beyond the No-build Alternative. Alternatives 1, 3, 4, 5, and 7 would result in more substantial growth along U.S. Route 501 in proximity to Latta while resulting in a lower amount of growth around Dillon.

Table 3.7
Total Growth by 2030 including Impact of I-73 Alternatives by TAZ (in acres of new development)
Interstate 73: I-95 to the Myrtle Beach Region

	Alternatives							
TAZ Name/Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Dillon County	**292**	**286**	**240**	**275**	**267**	**258**	**250**	**312**
Latta (223)	74	59	61	69	69	54	64	65
Dillon (224)	95	111	78	90	87	99	81	119
Little Rock (225)	32	30	26	30	29	28	27	33
Hamer (226)	49	46	40	46	45	42	42	51
Lake View (227)	42	39	34	39	38	36	35	43
Marion County	**1,201**	**1,158**	**969**	**1,135**	**1,117**	**1,007**	**1,043**	**1,241**
Marion (228)	592	572	461	633	552	479	587	611
Mullins (229)	474	457	397	374	441	414	339	490
Centenary (230)	58	56	46	54	54	47	51	60
Brittons Neck (231)	78	73	64	73	71	67	66	80
Horry County	**34,733**	**34,512**	**33,752**	**34,365**	**34,300**	**33,967**	**33,940**	**34,945**
Aynor (281)	1,707	1,585	1,547	1,688	1,575	1,558	1,558	1,719
Floyds (282)	557	526	517	551	523	520	518	560
Conway (283)	5,850	6,101	5,953	5,786	6,061	5,994	5,994	5,885
Loris (284)	2,402	2,269	2,231	2,376	2,256	2,244	2,233	2,416
Conway East (285)	5,586	5,543	5,421	5,528	5,510	5,456	5,452	5,620
Longs (286)	993	985	964	983	980	970	969	999
Myrtle Beach (287)	12,992	12,892	12,609	12,857	12,814	12,689	12,681	13,071
Little River (288)	4,646	4,610	4,509	4,598	4,582	4,538	4,535	4,674
Total	**36,226**	**35,955**	**34,961**	**35,775**	**35,684**	**35,233**	**35,233**	**36,498**
Percent Above No-build	**18%**	**17%**	**13%**	**16%**	**16%**	**14%**	**14%**	**18%**

In comparison, Alternatives 2, 6, and 8 have an interchange with I-95 near Dillon with a second interchange at the intersection with U.S. Route 501/301. Alternative 6 projects that less than 80 acres of development would take place near Dillon while Alternative 8 anticipates 91 acres of new development would occur in and near Dillon. Growth near Dillon is most likely expected to take place in areas surrounding the community, as well as along U.S. Route 301/501.

Marion County

Development in Marion County resulting from the project is expected to range from 595 (Alternative 3) to 867 (Alternative 8) acres. While each of the TAZs in Marion County is expected to grow, a substantial gap exists between the TAZs near Marion and Mullins in comparison to the remaining TAZs. In total, the TAZs including Marion and Mullins account for over 89 percent of all new growth expected in the area beyond the No-build Alternative. The eight Build Alternatives result in three different development scenarios in Marion County.

Alternatives 1, 2, 5, and 8 include a total of four interstate interchanges including a connection with S.C. Alternate Route 41 followed by an intersection with U.S. Route 76 near Mullins. A third interchange is proposed to connect with S.C. Route 41 and a fourth intersects with U.S. Route 501 just north of the Little Pee Dee River. The number of intersections coupled with proximity to Mullins results in Alternatives 1, 2, and 8 having the largest amount of new developed acreage in the county, ranging from 784 (Alternative 2) to 867 acres (Alternative 8). Alternative 5 anticipates 744 acres of new development. In each of the four alternatives, significant development is expected to occur along U.S. Route 76. The relatively short distance between Marion and Mullins allows for significant growth to occur in Marion and still be located close to the interstate. Interchanges with S.C. Route 41 and U.S. Route 501 near the Little Pee Dee River are expected to see limited growth due in part to distance before reaching urban areas.

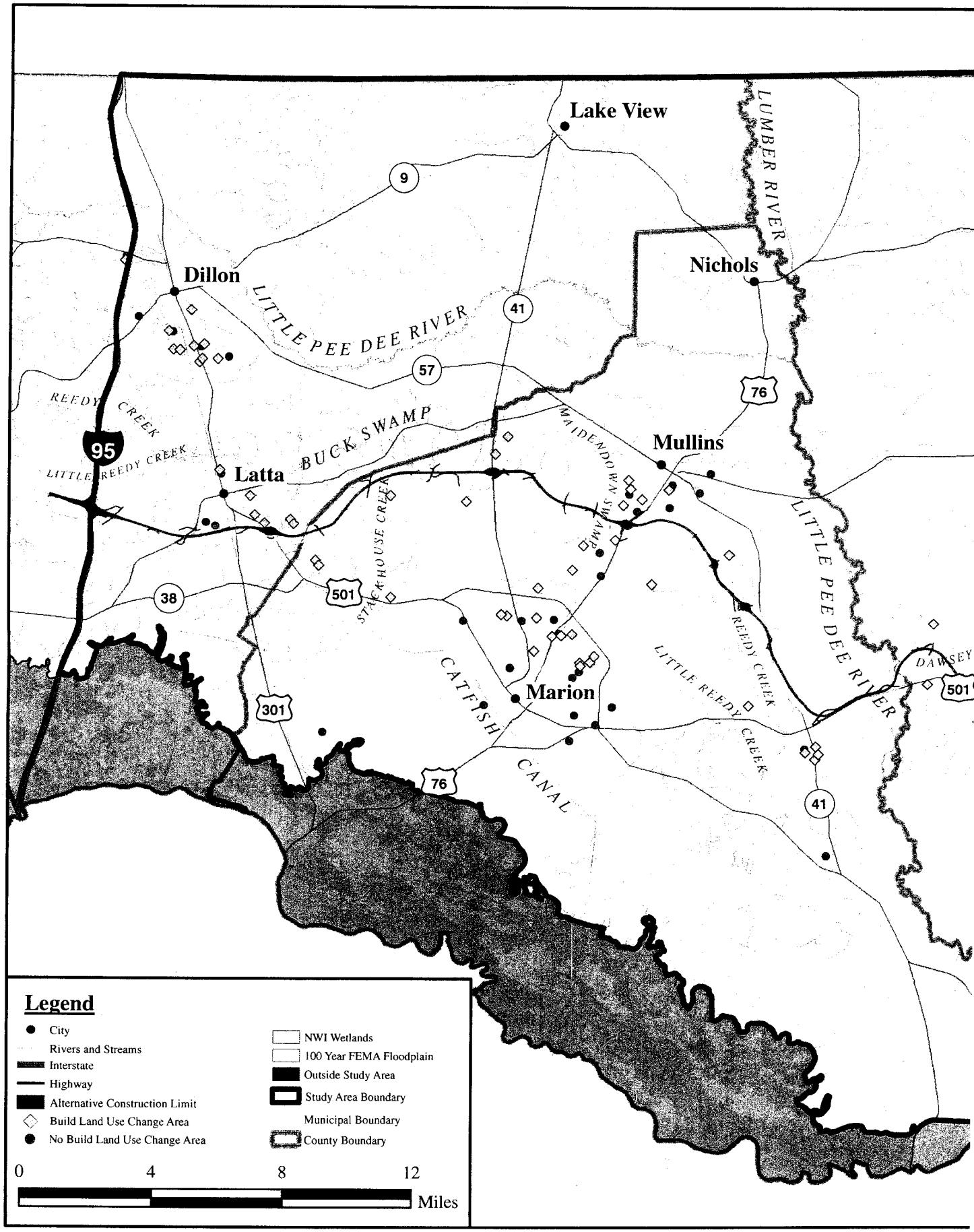
Alternatives 3 and 6 include two interchanges within Marion County, including an interchange with S.C. Route 41A and a second connecting to U.S. Route 76. These alternatives provide the most limited possibility for growth in Marion County, with Alternative 3 anticipating only 595 acres of new development while Alternative 6 would be projected to have 633 acres of new development. Like prior alternatives, the large portion of new development is expected to occur between the communities of Mullins and Marion, particularly around U.S. Route 76.

Alternatives 4 and 7 provide the closest connection of the interstate to the community of Marion including interchanges with U.S. Route 501 Bypass north of the urban area and U.S. Route 76. While Alternative 4 is expected to create approximately 761 acres in new development in Marion County, Alternative 7 is expected to result in 669 acres. This is mainly due to the lack of connectivity along other aspects of the corridor in Dillon and Horry Counties. Like the other alternatives, the majority of development from Alternatives 4 and 7 is expected to be located between Marion and Mullins. However, due to location of Alternatives 4 and 7 close to Marion, most development is expected to gravitate toward that community.

Horry County

The presence of the project, regardless of location, will result in substantial growth in Horry County. Growth resulting from the Build Alternative ranges from 3,403 (Alternative 3) to 4,596 (Alternative 8) acres. While this amount is far lower than anticipated development that will occur without the project, it remains substantially higher than the projected growth in Marion and Dillon Counties combined. Since growth is much more extensive in Horry County, pinpointing locations for new development becomes more complex, especially since the No-build Alternative anticipates substantial growth in the county. The alternatives result in three separate development scenarios in Horry County.

Alternatives 1, 4, and 8 propose two interchanges with U.S. Route 501, one located north of Aynor and one at S.C. Route 22. Alternatives 1, 4, and 8 result in new growth ranging from 4,016 (Alternative 4) to 4,596 (Alternative 8) acres. In all three cases, connectivity with S.C. Route 22 occurs near the end of the existing corridor.


Lake View
Nichols
Dillon
Latta
Mullins
Marion
LUMBER RIVER
LITTLE PEE DEE RIVER
REEDY CREEK
LITTLE REEDY CREEK
BUCK SWAMP
MAIDENDOWN SWAMP
STACKHOUSE CREEK
CATFISH CANAL
LITTLE REEDY CREEK
DAWSEY
9
41
57
76
95
38
501
301
Legend
City
Rivers and Streams
Interstate
Highway
Alternative Construction Limit
Build Land Use Change Area
No Build Land Use Change Area
NWI Wetlands
100 Year FEMA Floodplain
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Study Area Boundary
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County Boundary
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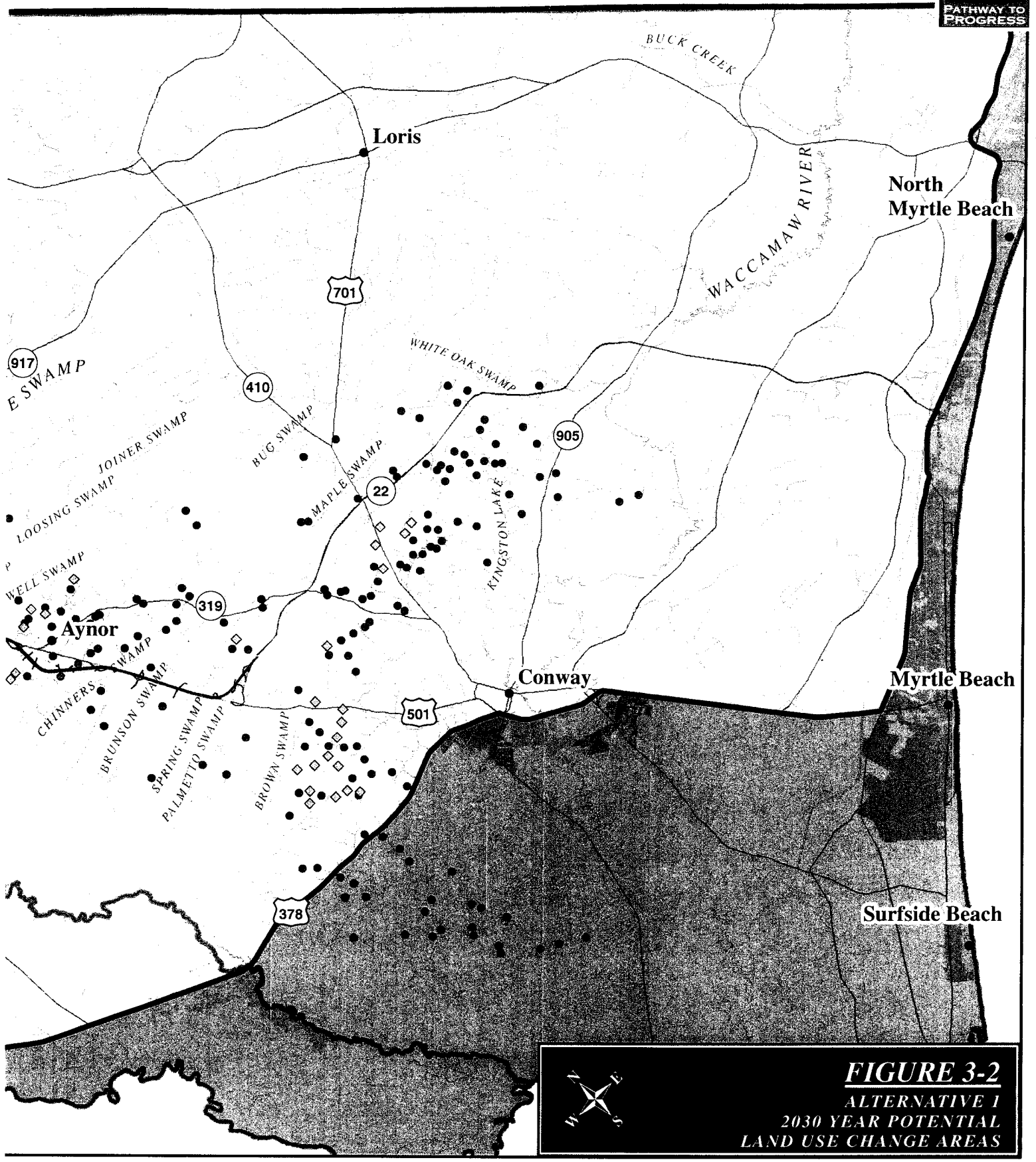
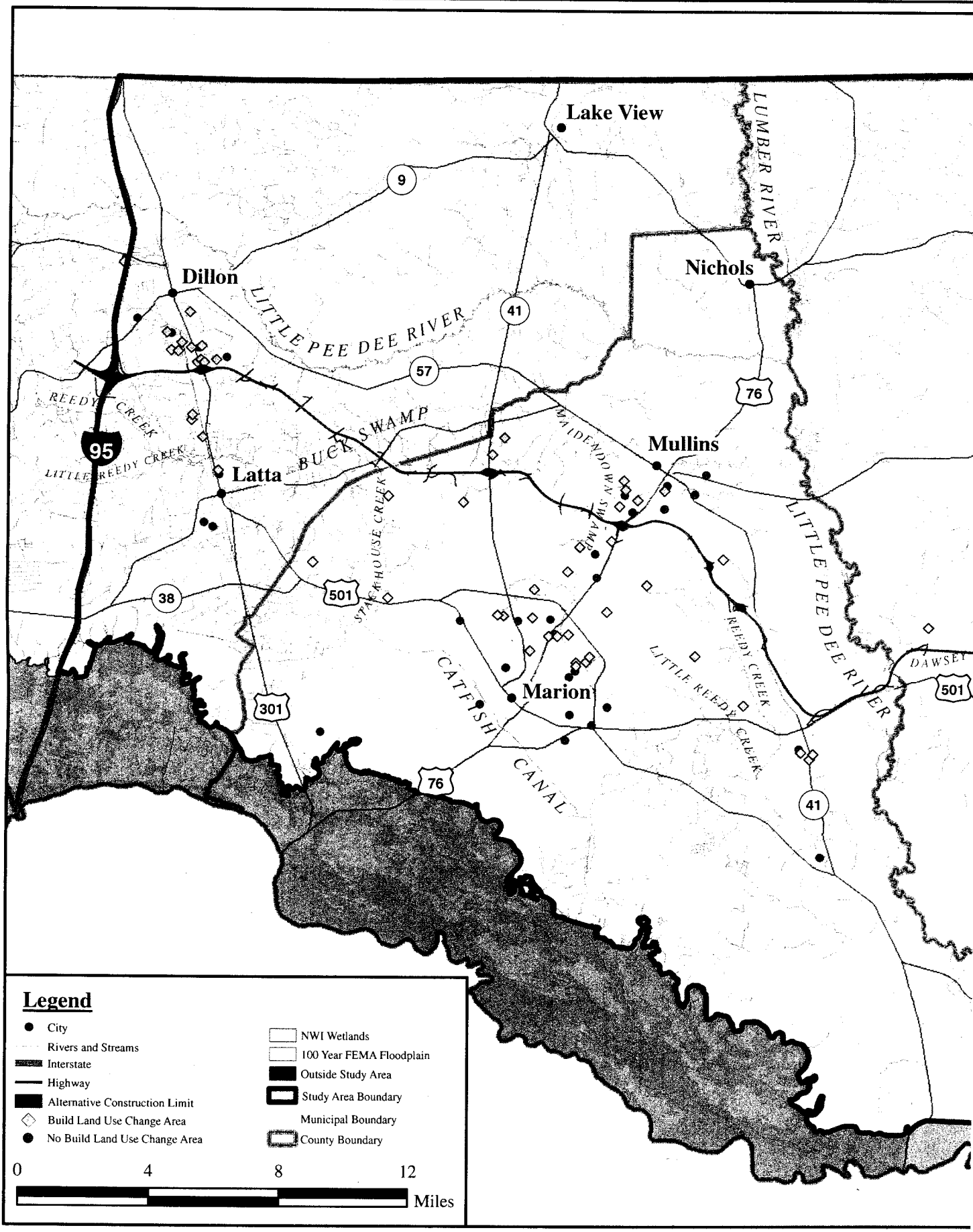


FIGURE 3-2
ALTERNATIVE 1
2030 YEAR POTENTIAL
LAND USE CHANGE AREAS


Lake View
Dillon
Nichols
Latta
Mullins
Marion
LUMBER RIVER
LITTLE PEE DEE RIVER
REEDY CREEK
LITTLE REEDY CREEK
BUCK SWAMP
MAIDENDOWN SWAMP
STACKHOUSE CREEK
CATFISH CANAL
DAWSEY
9
41
57
76
95
38
501
301
Legend
City
Rivers and Streams
Interstate
Highway
Alternative Construction Limit
Build Land Use Change Area
No Build Land Use Change Area
NWI Wetlands
100 Year FEMA Floodplain
Outside Study Area
Study Area Boundary
Municipal Boundary
County Boundary
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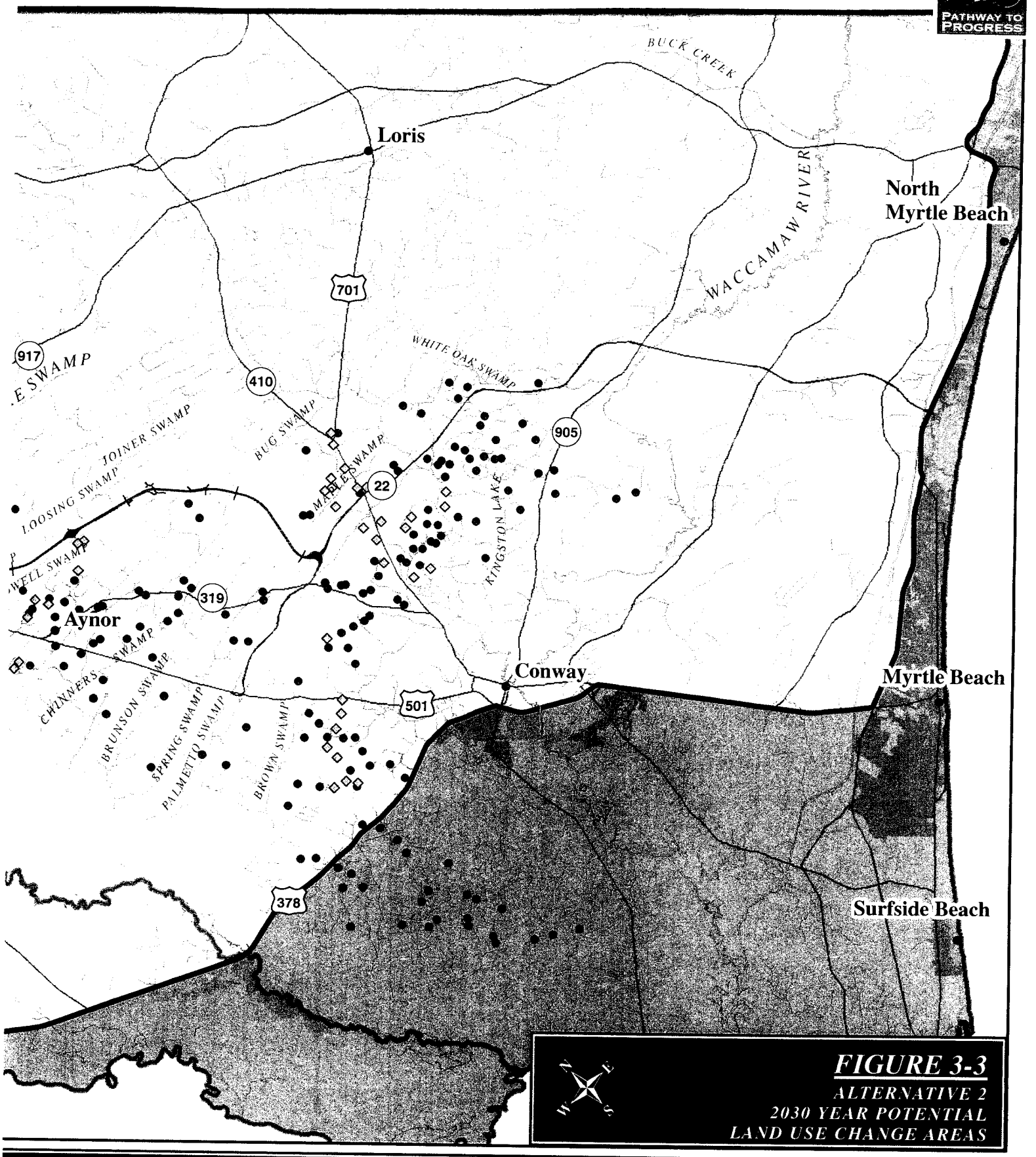
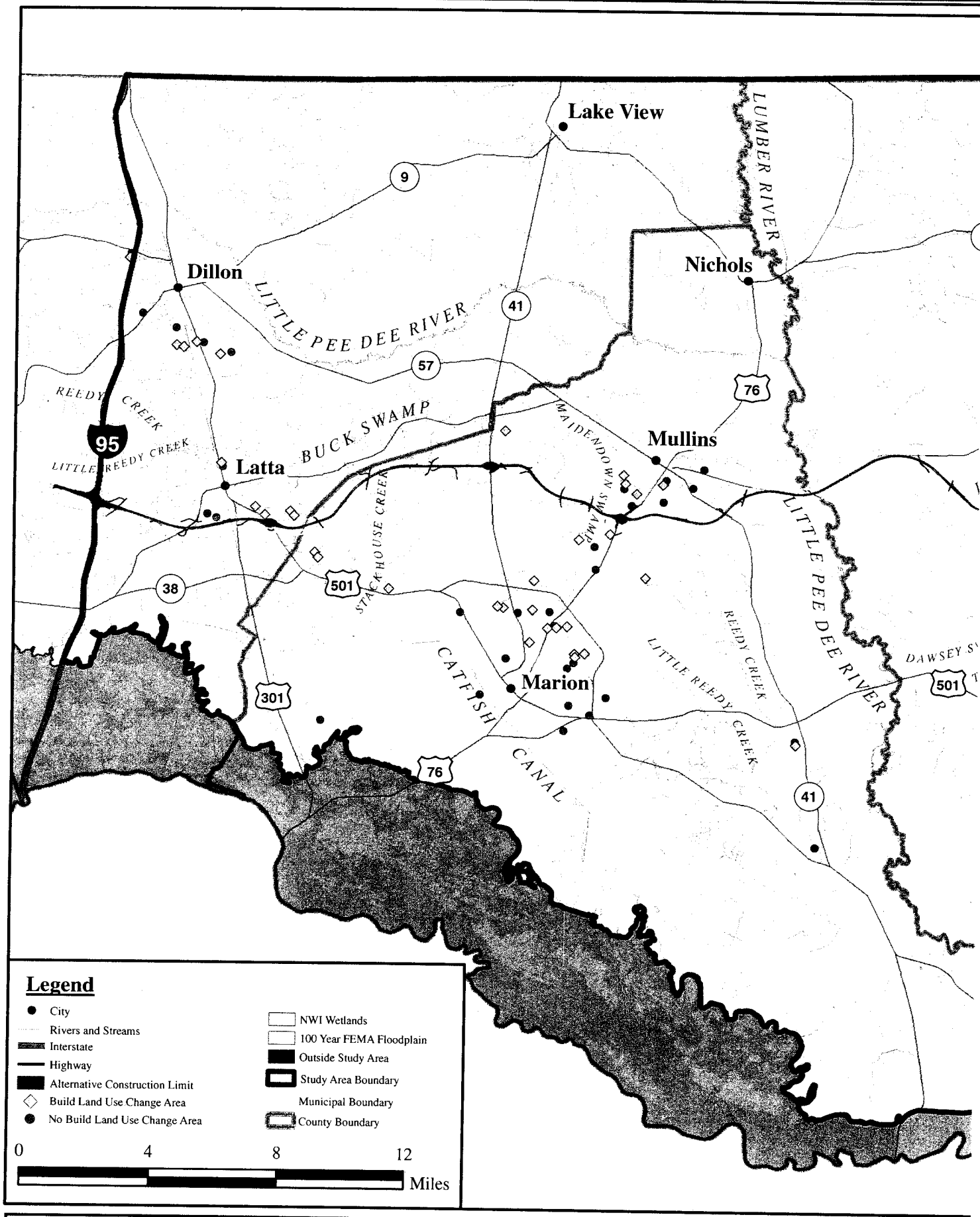


FIGURE 3-3
ALTERNATIVE 2
2030 YEAR POTENTIAL
LAND USE CHANGE AREAS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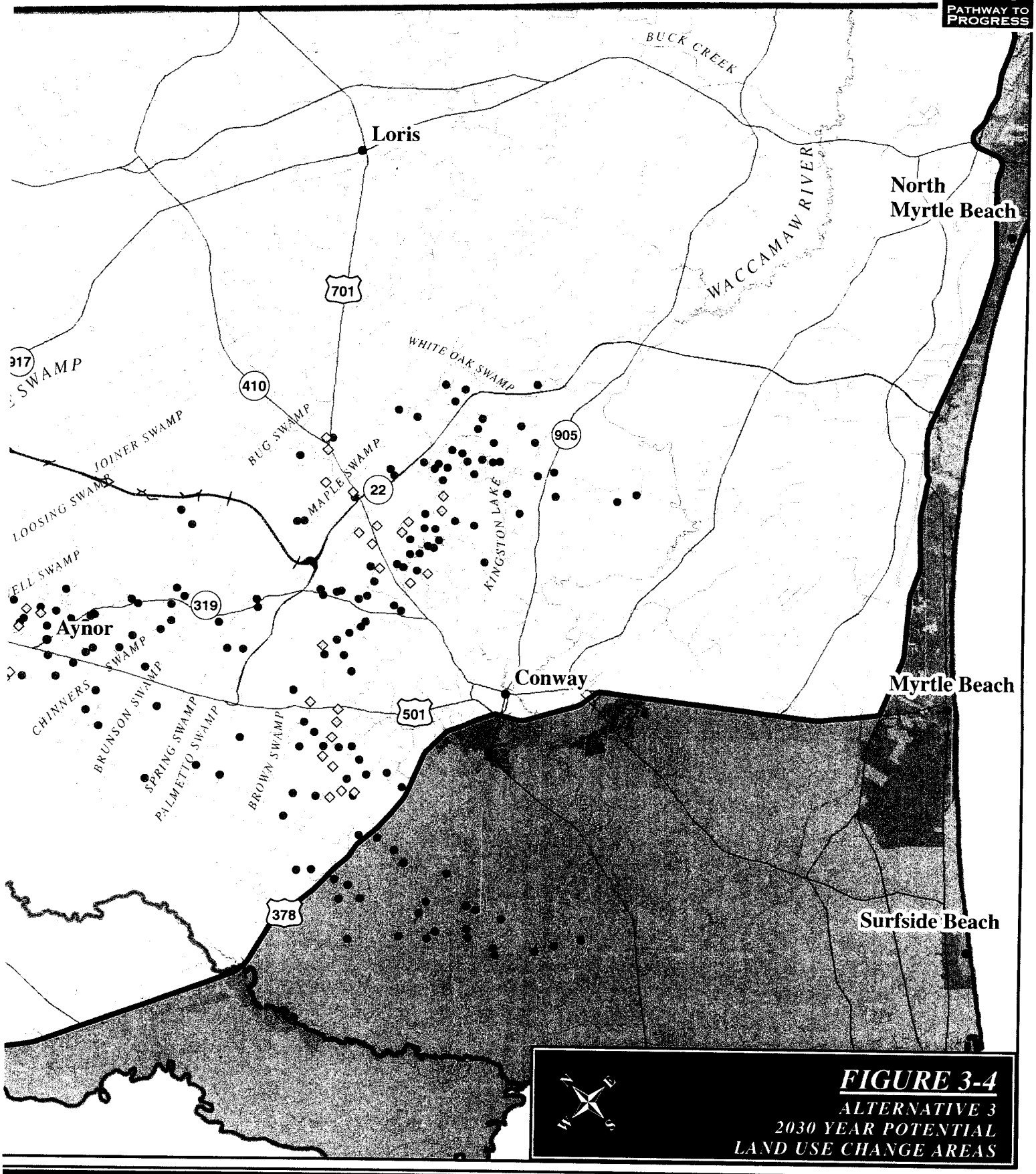
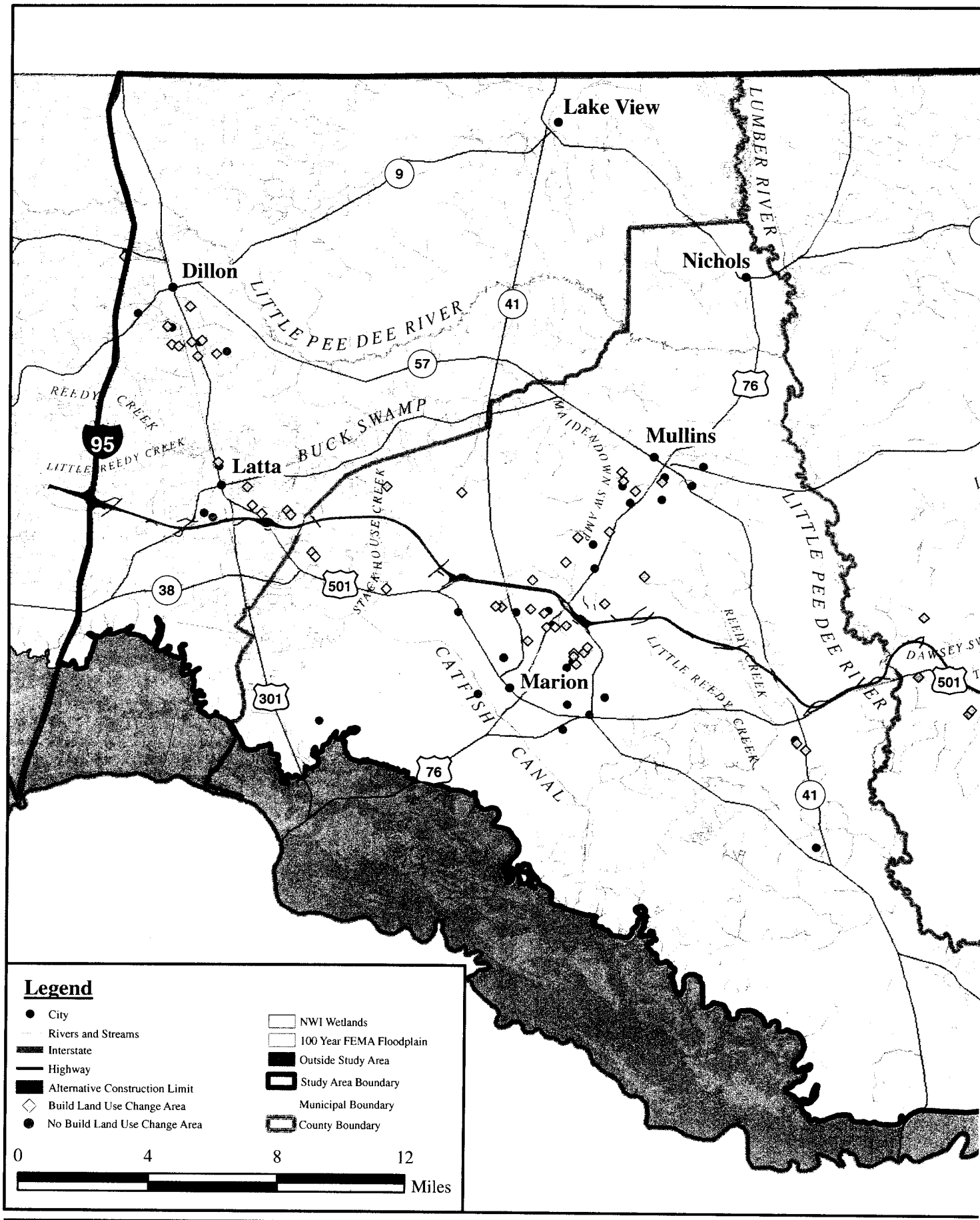


FIGURE 3-4
ALTERNATIVE 3
2030 YEAR POTENTIAL
LAND USE CHANGE AREAS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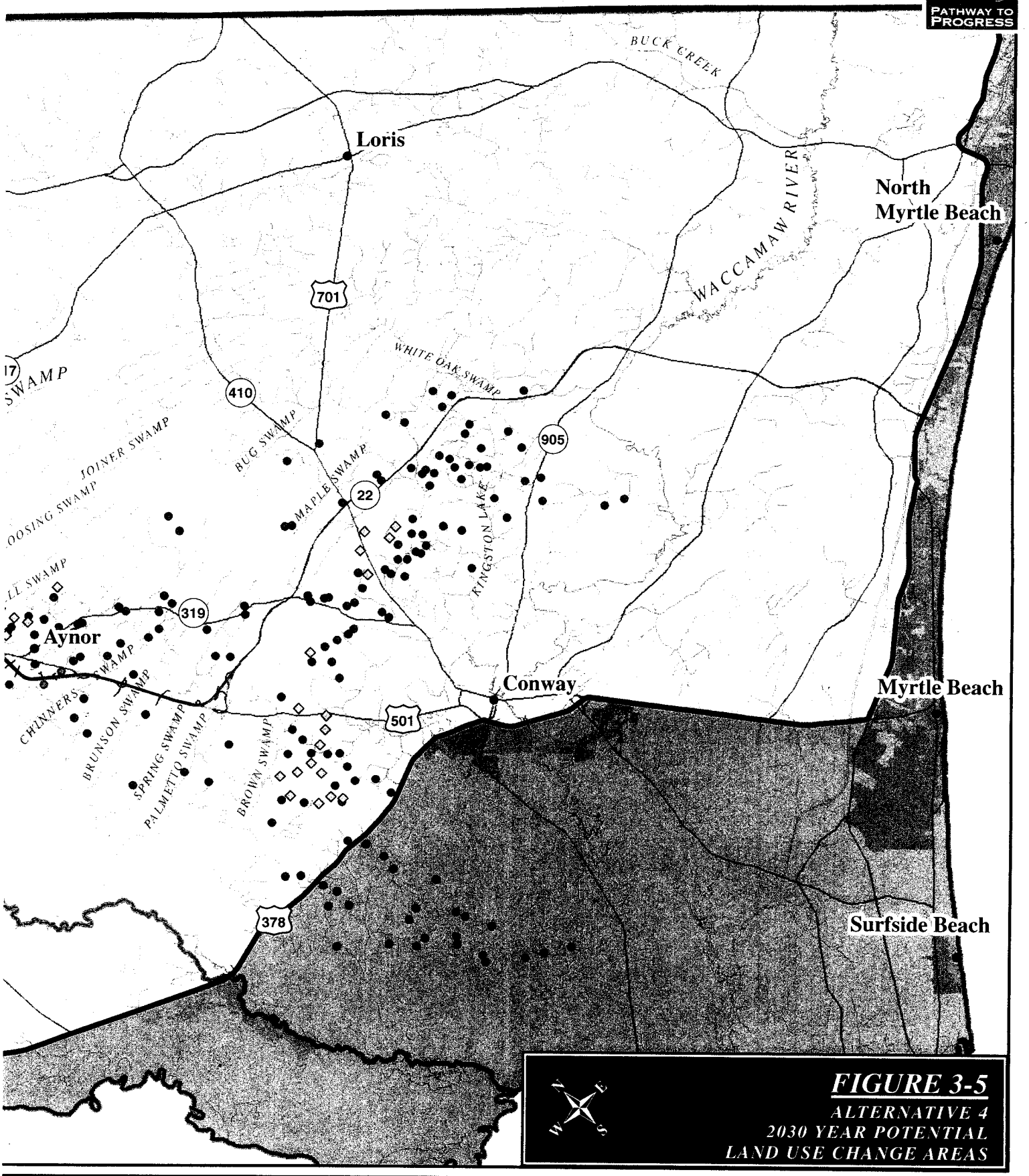
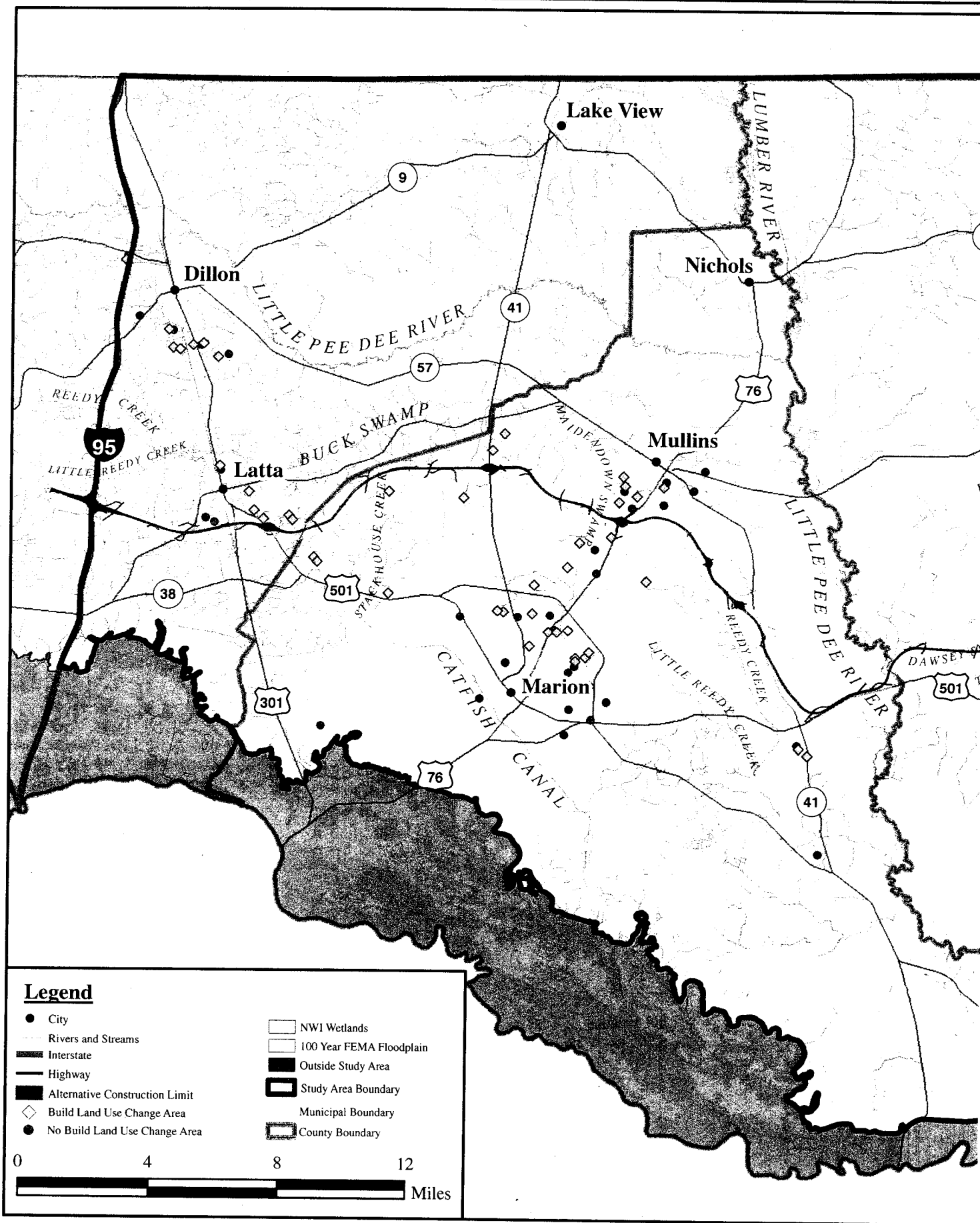


FIGURE 3-5
ALTERNATIVE 4
2030 YEAR POTENTIAL
LAND USE CHANGE AREAS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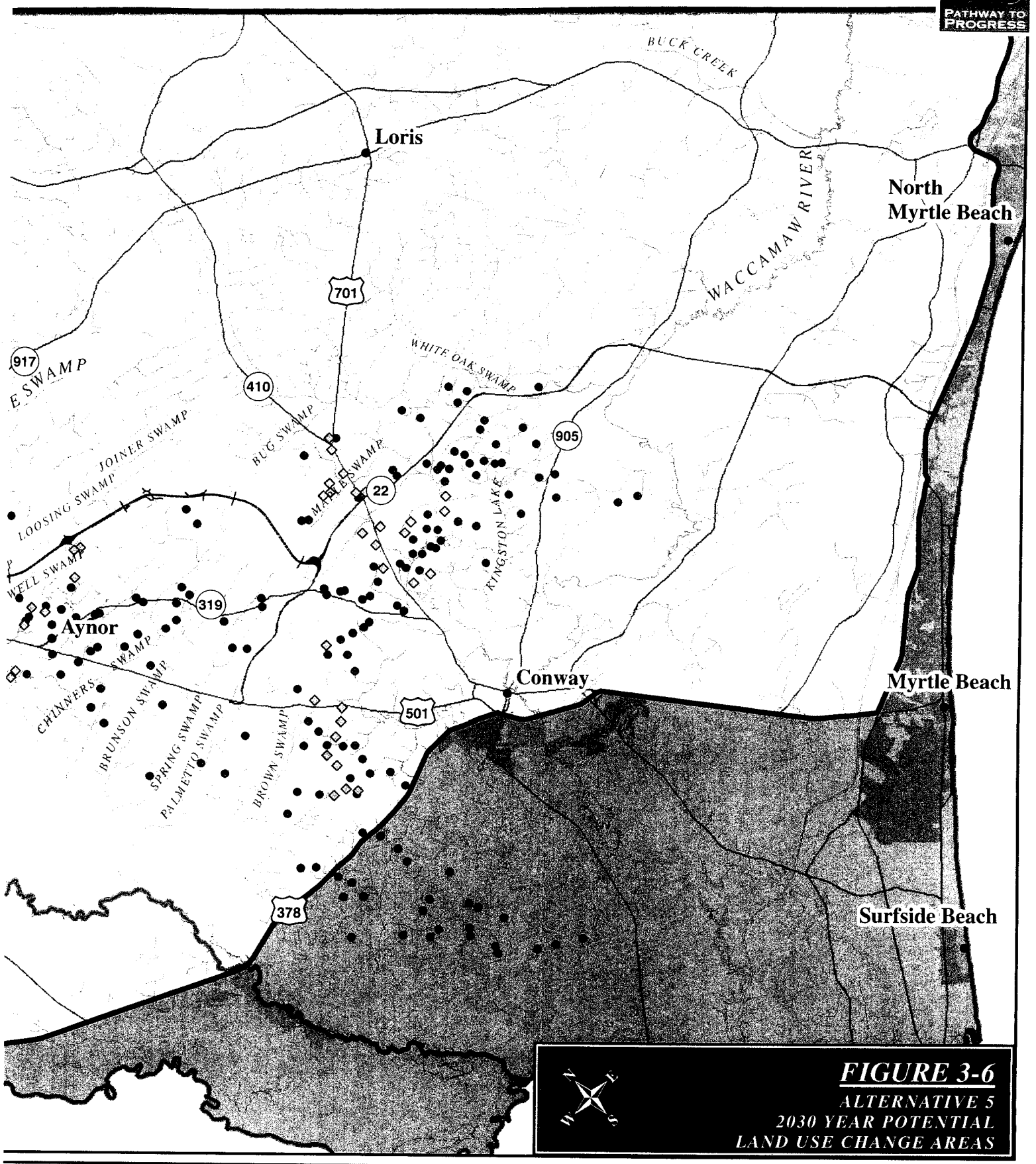
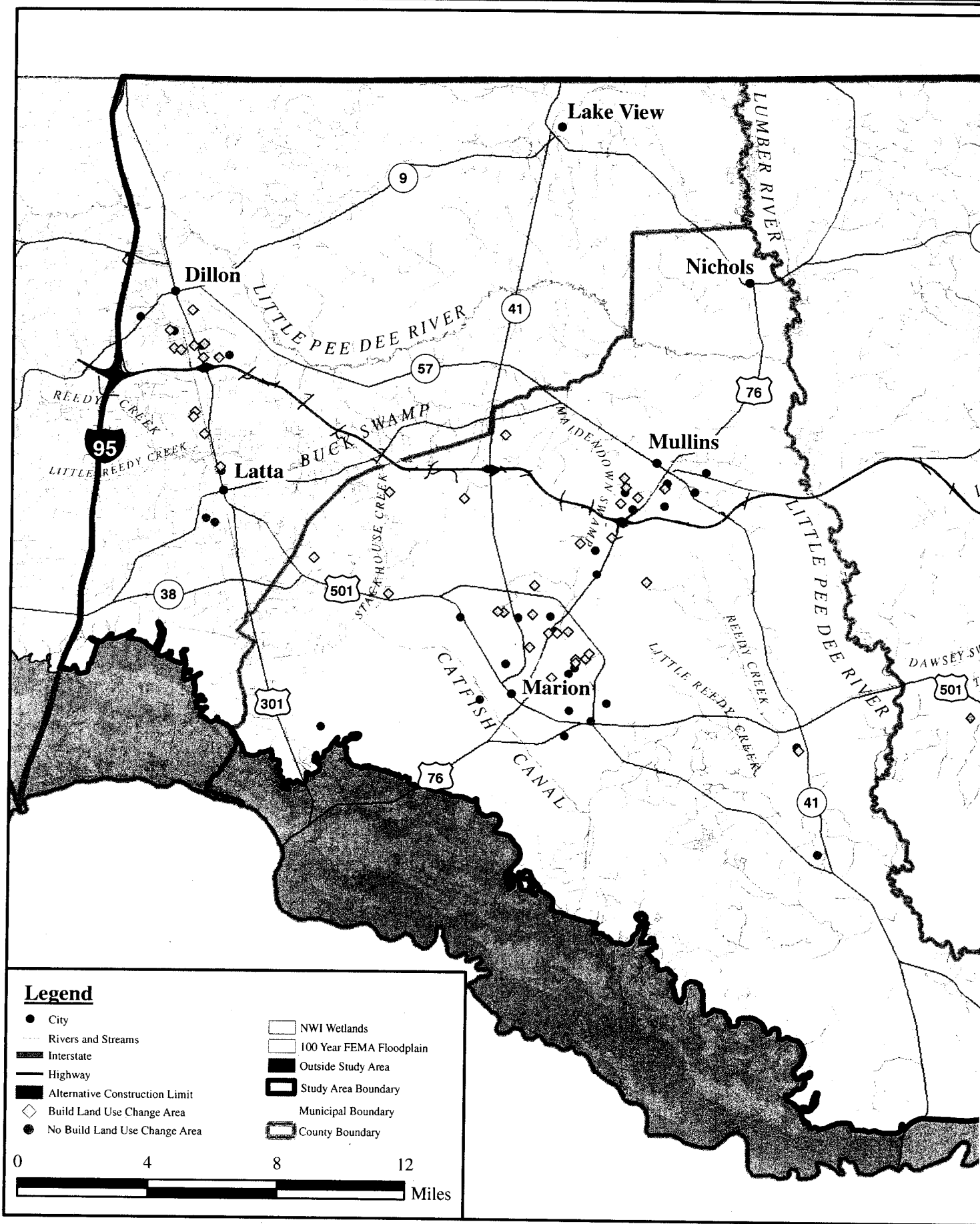


FIGURE 3-6
ALTERNATIVE 5
2030 YEAR POTENTIAL
LAND USE CHANGE AREAS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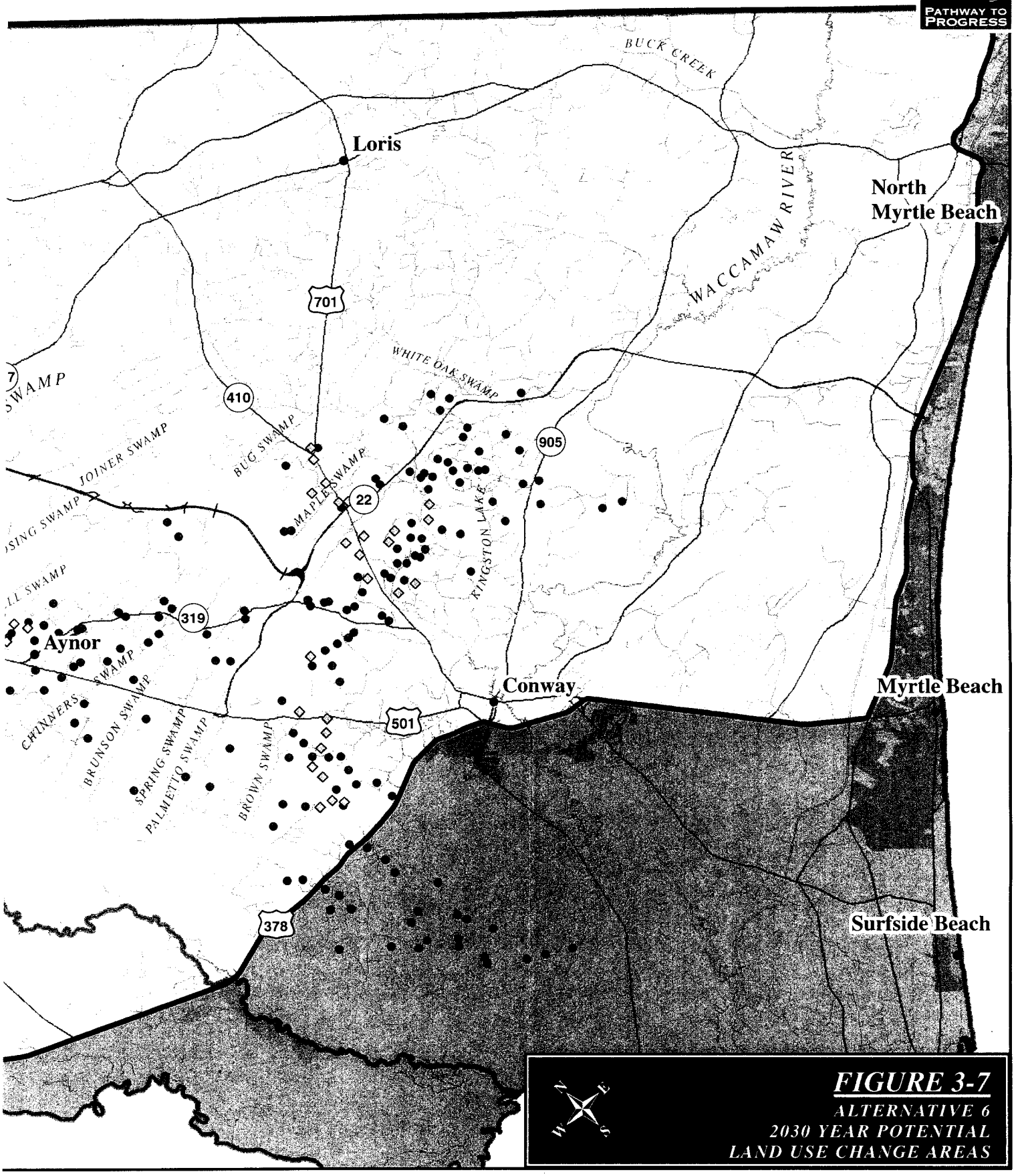
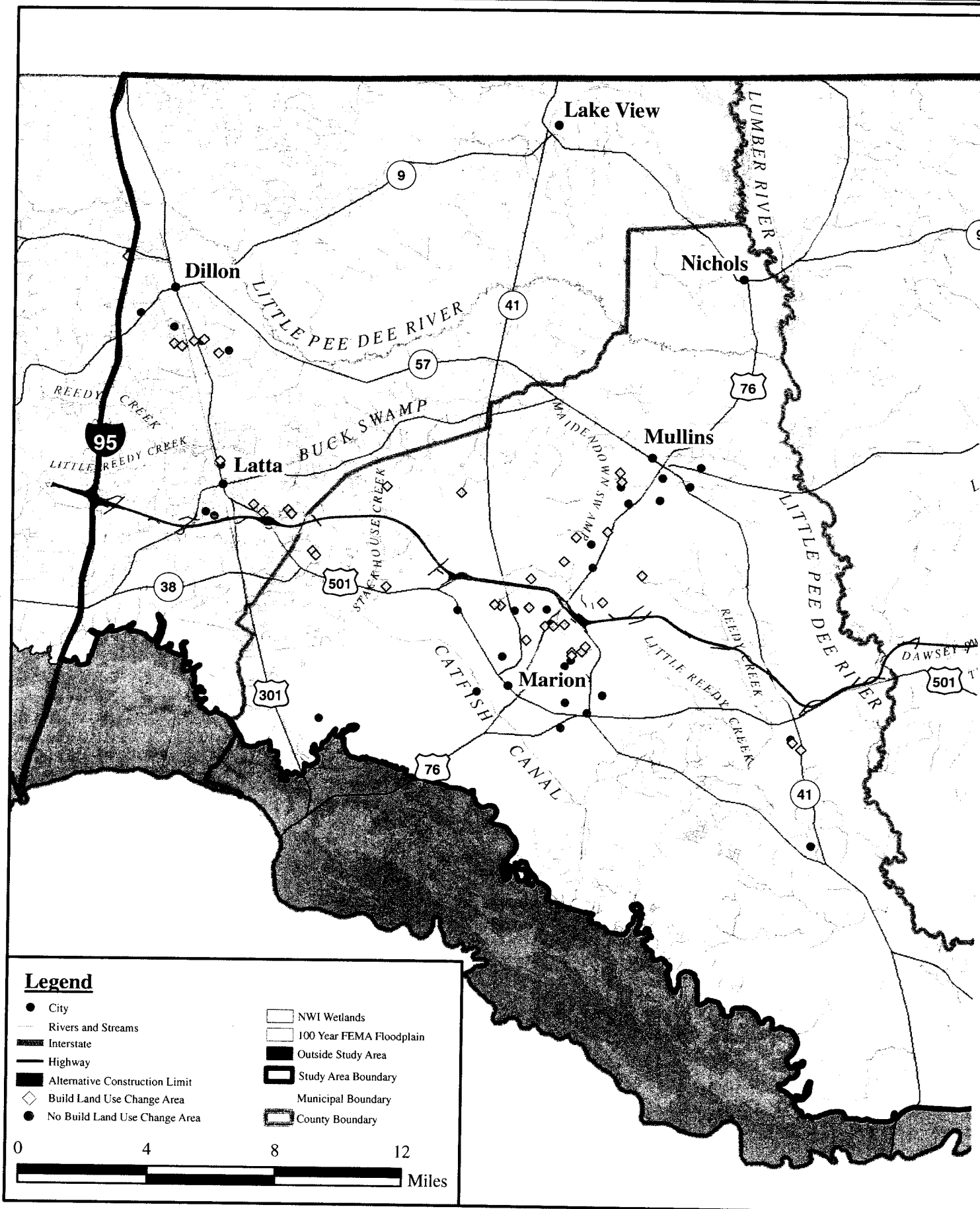


FIGURE 3-7
ALTERNATIVE 6
2030 YEAR POTENTIAL
LAND USE CHANGE AREAS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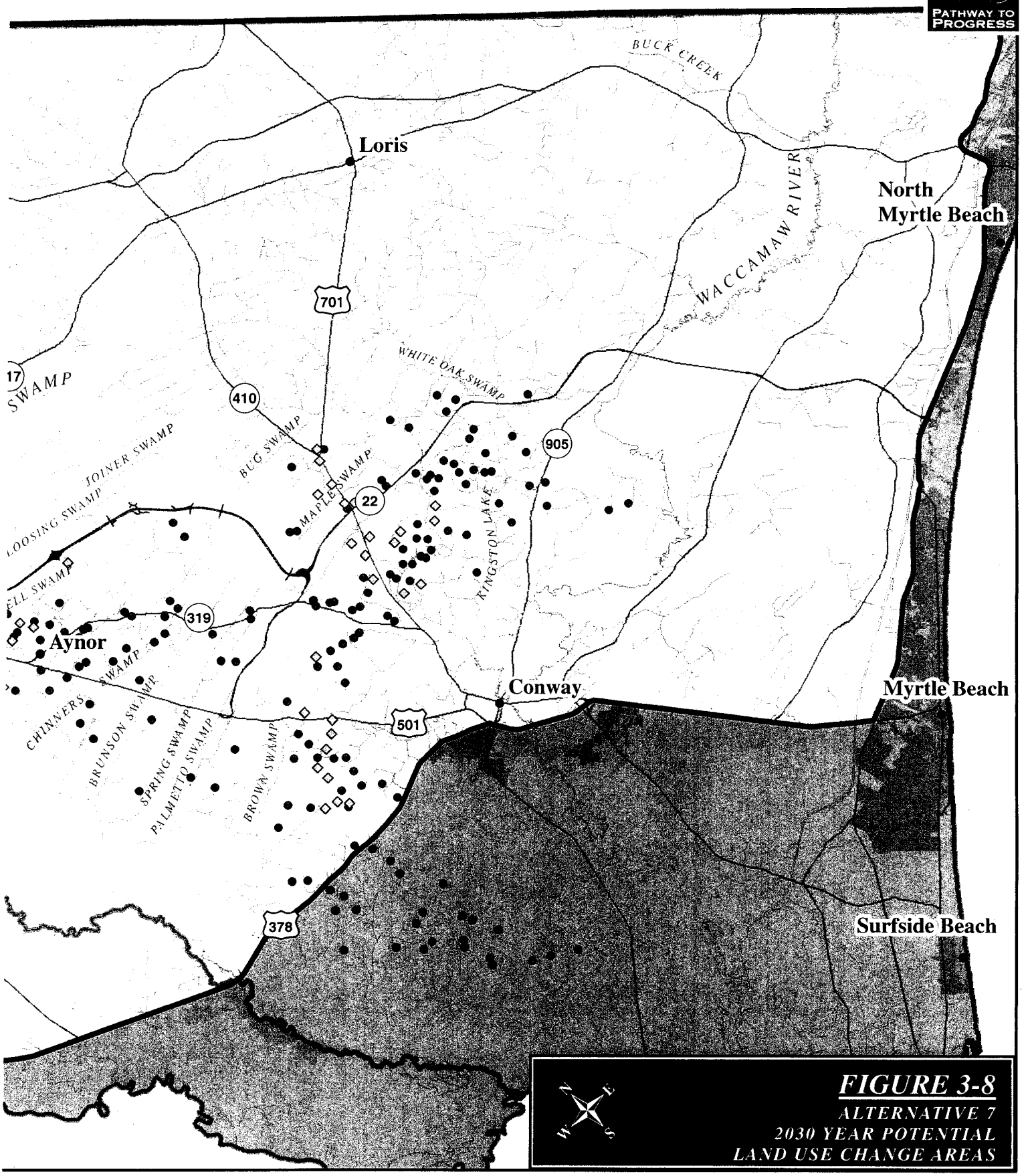
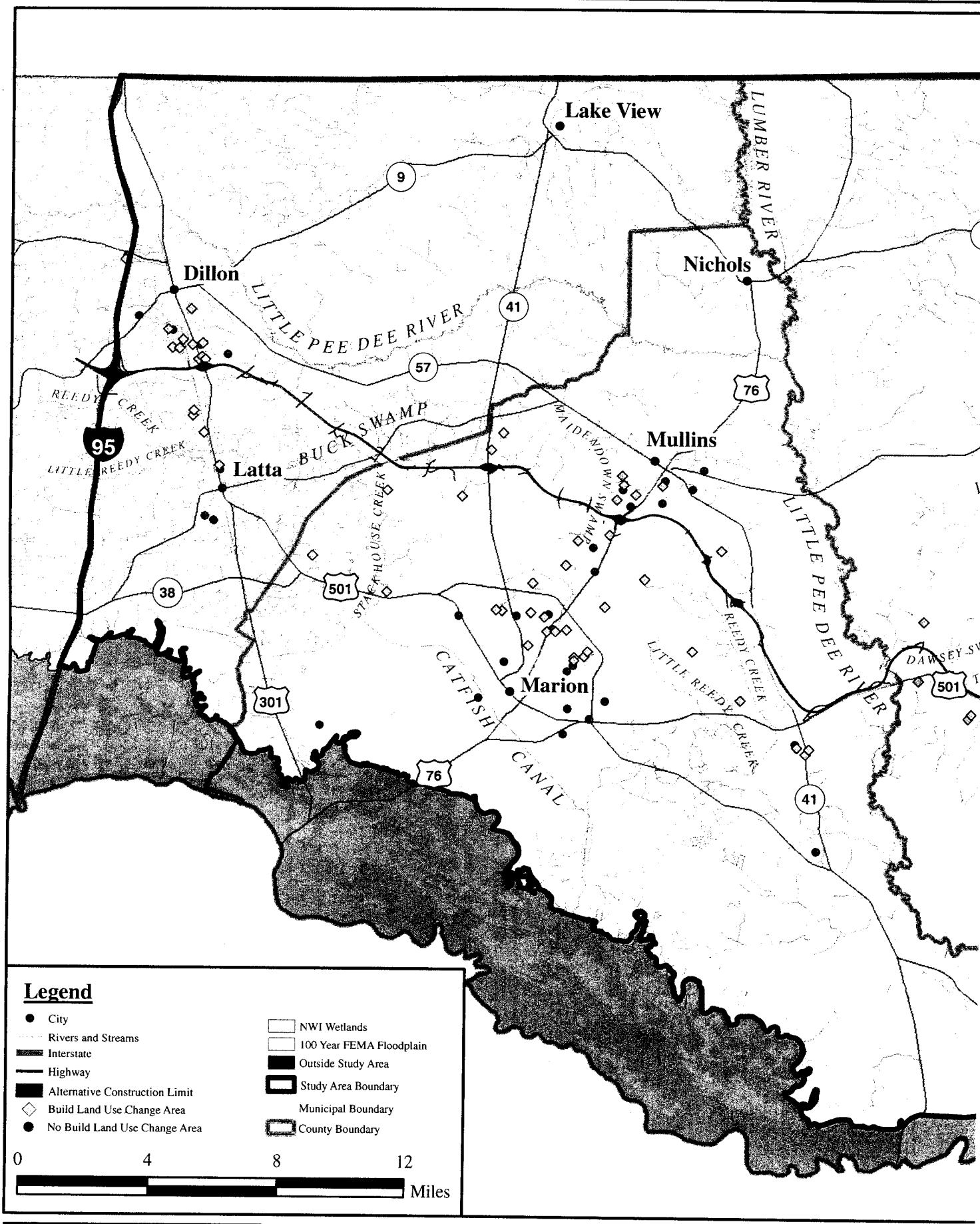


FIGURE 3-8
ALTERNATIVE 7
2030 YEAR POTENTIAL
LAND USE CHANGE AREAS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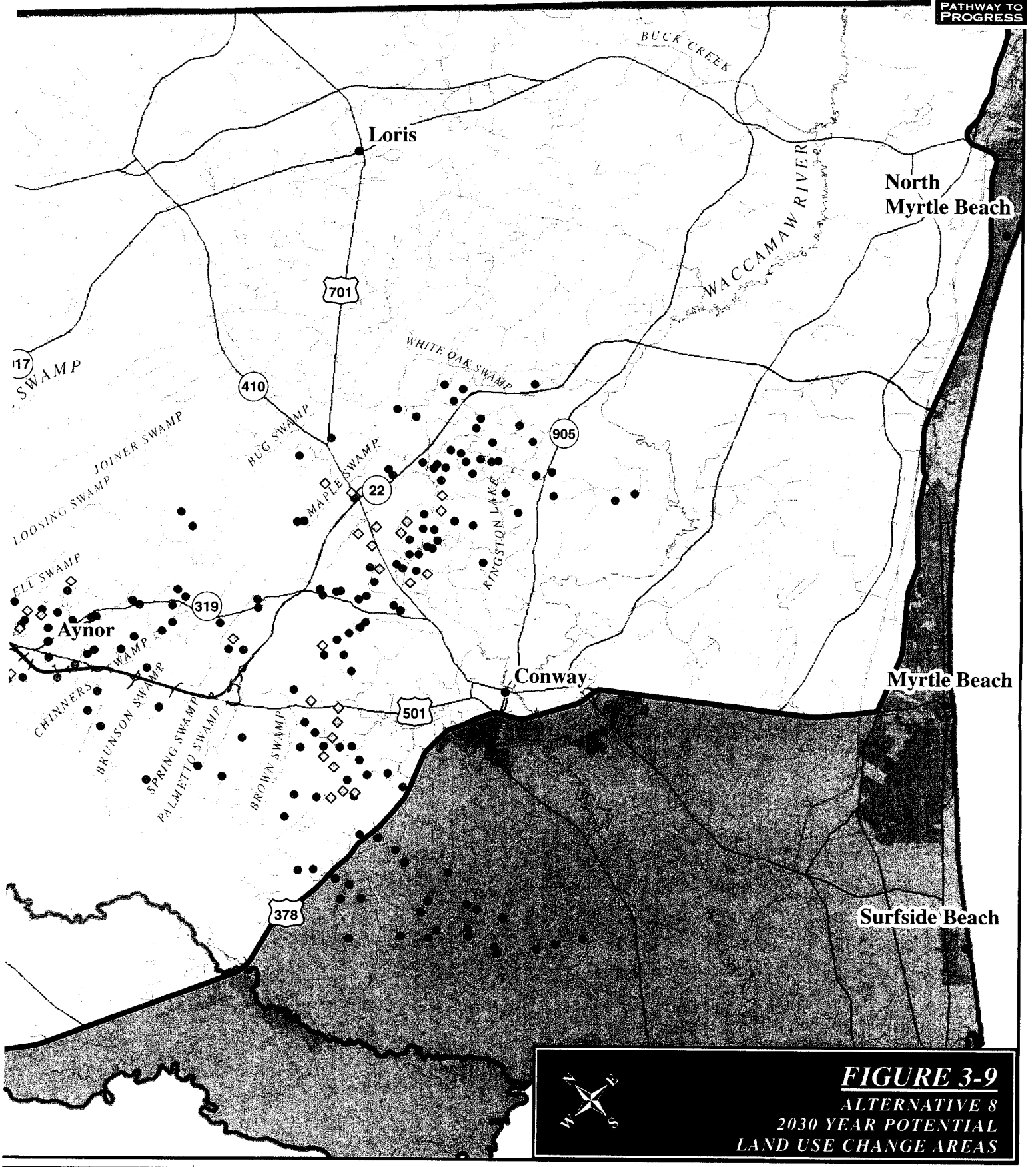

FIGURE 3-9
ALTERNATIVE 8
2030 YEAR POTENTIAL
LAND USE CHANGE AREAS

Alternatives 2, 5, and 7 have interchanges at S.C. Route 23 and at S.C. Route 22 farther to the east. New growth from the Build Alternative ranges from 4,163 (Alternative 2) to 3,591 (Alternative 7) acres. Lack of an immediately available intersection near Aynor will likely shift development in an effort to gain relative proximity to the interstate and the interchange with S.C. Route 23.

Alternatives 3 and 6 are among the alternatives with the lowest amount of new development in Horry County beyond the No-build Alternative. Both alternatives reach into extensively rural portions of Horry County including an interchange with S.C. Route 308 prior to another interchange with S.C. Route 22. Growth among these alternatives ranges from 3,403 (Alternative 3) to 3,618 (Alternative 6) acres.

In all cases, the combination of growth already anticipated in Horry County combined with the new growth from any of the eight alternatives would be significant enough to begin to alter development patterns in western Horry County. In areas surrounding Conway, and, to a lesser extent, Aynor, the historic pattern of strip lot residential development is likely to change into formalized subdivision development and a growing number of multi-family units in response to market conditions, including increasing land prices and sufficient demand to make the added expense worthwhile.

3.1.10 What other factors influence growth and development?

The modest growth in Dillon, Marion, and Horry Counties expected by the presence of the project is largely a reflection of market reality. As mentioned, while an interstate has the capability to attract development, marked growth requires substantive demand as well as presence of other factors. In commercial or industrial development, for example, additional factors may include an appropriate and available labor pool, along with access to resources or incentives.

Externalities, existing or future features not considered in this analysis, have the ability to impact growth in the area. Given that this analysis is intended to project growth to the Year 2030, it is safe to assume that unforeseen externalities will occur and that they will positively or negatively impact development patterns. Two externalities that are either in place or could occur in the near future have the potential to combine with the presence of I-73 to cause significant new growth to occur in the three-county area. These two externalities are the new infrastructure financing recently approved by the South Carolina General Assembly and the development of an inland port in Marion County.

Infrastructure for Interstate Industrial Parks

In March 2006, the South Carolina General Assembly approved new incentives for development as part of the state appropriation act. Among line items included in the budget were approximately $1.5 million in funds available for construction of infrastructure to improve industrial parks located within five miles of an interstate. The funds are to be used only in counties with high unemployment similar to Dillon and Marion Counties. While the new funds may immediately assist communities like Dillon that are located along I-95, it is unlikely that any amount of the $1.5 million will still be available once the proposed project is in place. However, the resolution

indicates an understanding that presence of an interstate is not sufficient to substantially add development to an area and that state leaders are willing take extra steps to make the industrial parks more attractive for development.

Inland Port in Marion County

Marion County is currently working in conjunction with potential investors to establish an inland port in the area. Specifically, the county is seeking to develop an inland port in proximity to rail lines and U.S. Route 301 that will offer a staging opportunity for incoming goods. The industrial facilities are expected to be accompanied by an airport. In total, the inland port and accompanying airport could be expected to occupy more than 17,000 acres in Marion County. While I-73, if constructed, would not be expected to entice development of the magnitude proposed for the inland port project, its presence improves the likelihood that projects like inland ports could occur.

3.1.11 Conclusion

The three-county area will see new development over the course of years through 2030, particularly in Horry County. A new interstate would result in roughly 13 to 18 percent of additional new growth depending upon the selected alternative. Of the eight alternatives, Alternative 8 rated highest in the ability to increase development while Alternative 3 produced the lowest amount of new development. However, the difference between the alternatives is only slightly more than 1,500 acres, less than five percent of the total growth that is already expected to occur throughout the three-county area. Thus, while a difference certainly exists between alternatives, it is not sufficient to recommend one alternative above another based only upon the ability to create new development.

3.2 What are the socio-economic conditions of the project study area?

As explained in Chapter 1, diverse social and economic conditions exist across Dillon, Horry, and Marion Counties. Horry County drives one of the state's strongest economic sectors with revenues from tourism. However, Dillon and Marion Counties have not been as fortunate in attracting economic development or employment opportunities. This is largely due to the state's shift from an agricultural/ manufacturing based economy to one that is now largely service-based.

Highway construction affects not only regional transportation networks but also local communities. The region's socioeconomic and demographic composition is important to understand when determining the potential impacts from the project.

3.3 How is a community defined and what communities are located in the CIA study area?

3.3.1 How were communities identified within the CIA study area?

Topographic maps and aerial photographs were used to locate communities and residential developments in the CIA study area (refer to Figure 3-10, page 3-32) between I-95 and S.C. Route 22. These locations were then verified by field visits. To better define and understand the communities, several methods were used to collect information from local residents. The methods used for each area were based on preliminary information, including census data, to determine the demographic characteristics of the counties. Comments from public information meetings were also reviewed to learn more about the character of these communities, as well as the attitudes and concerns of the residents.

In Horry County, surveys were mailed to residents within the two zip codes that cover the CIA study area. Within Dillon and Marion Counties, another method consisted of contacting local ministers to get input and assistance in surveying members of their congregations and other local leaders. These church contacts sometimes led to invitations for members of the Project Team to attend church meetings. A third method consisted of distributing survey packets through elementary school classes within the CIA study area. In specific areas where no survey responses had been collected, the Project Team conducted door-to-door interviews or mailed surveys to specific postal routes. The methods used to obtain community input are explained further in Chapter 4 under public involvement (refer to Section 4.1, page 4-1). Based on reviews of census data, field surveys and public involvement, it was determined that non-English speaking populations composed between 3.4 percent and 6.3 percent of the CIA study area; therefore, all publications were done in English.[49]

What is a community?

A "community" may be defined by the geographic boundaries of a region, a municipality, or a neighborhood, as well as specific social characteristics that members may have in common, such as religious, political or ethnic affiliation.*

*From the Community Impact Assessment Handbook, prepared by Center for Transportation Research for Florida Department of Transportation

[49] U.S. Census Bureau. 2000 Census Data.

Communities in proximity to the potential alternatives were evaluated in the community impact assessment. In most circumstances, the community boundaries used in this EIS were defined by survey respondents, who associated themselves with a particular community (refer to Figure 3-11, page 3-33).

3.3.2 What is a community impact assessment?

> ***What is Community Impact Assessment?***
>
> **A Community Impact Assessment is a process to evaluate the effects of a transportation action on communities and their quality of life – the human environment.***
>
> *FHWA's Community Impact Assessment
> A Quick Reference for Transportation

The CIA focuses on early and continuous gathering of information from communities and other sources as input into transportation decision making throughout project development, design, mitigation and construction. The CIA process contributes to and strengthens transportation decision making with the goals of:

- Formulating projects that are based on community values;
- Identifying community issues/concerns early and accommodating community needs in project planning, where feasible; and,
- Ensuring human values and concerns receive consideration with other environmental impacts during project development.

A CIA should consider items of importance to people such as mobility, safety, economic effects, relocation, and separation. In addition, the CIA should keep community goals in mind when identifying potential alternatives and analyze both the positive and negative impacts, as well as the magnitude of potential impacts. This variation is due to the differing degrees of sensitivity toward a particular issue or impact (i.e., an impact may be perceived by one community as adverse, but might be tolerated or desirable to another).

The CIA for this project involved gathering information from communities in the CIA study area that was used to define communities, develop an understanding of community values and issues, and gauge opinions about the project.

3.3.3 How would the No-build Alternative affect communities in the CIA study area?

The No-build Alternative would not change the current conditions that exist in any of the communities including travel patterns and accessibility and changes to emergency response times. The No-build Alternative would not cause any positive or negative direct impacts to communities in the CIA study area.

Growth and development are likely to occur throughout the CIA study area, regardless of the proposed project, due to future population growth in the counties. Based on projections from land use modeling and what is known about future projects in the three-county area, a total of 18,679 acres is likely to be developed, including over 16,000 acres being developed as an inland port in Marion County (refer to Section 3.1, Land Use, page 3-1). This amount of development was used as the baseline condition

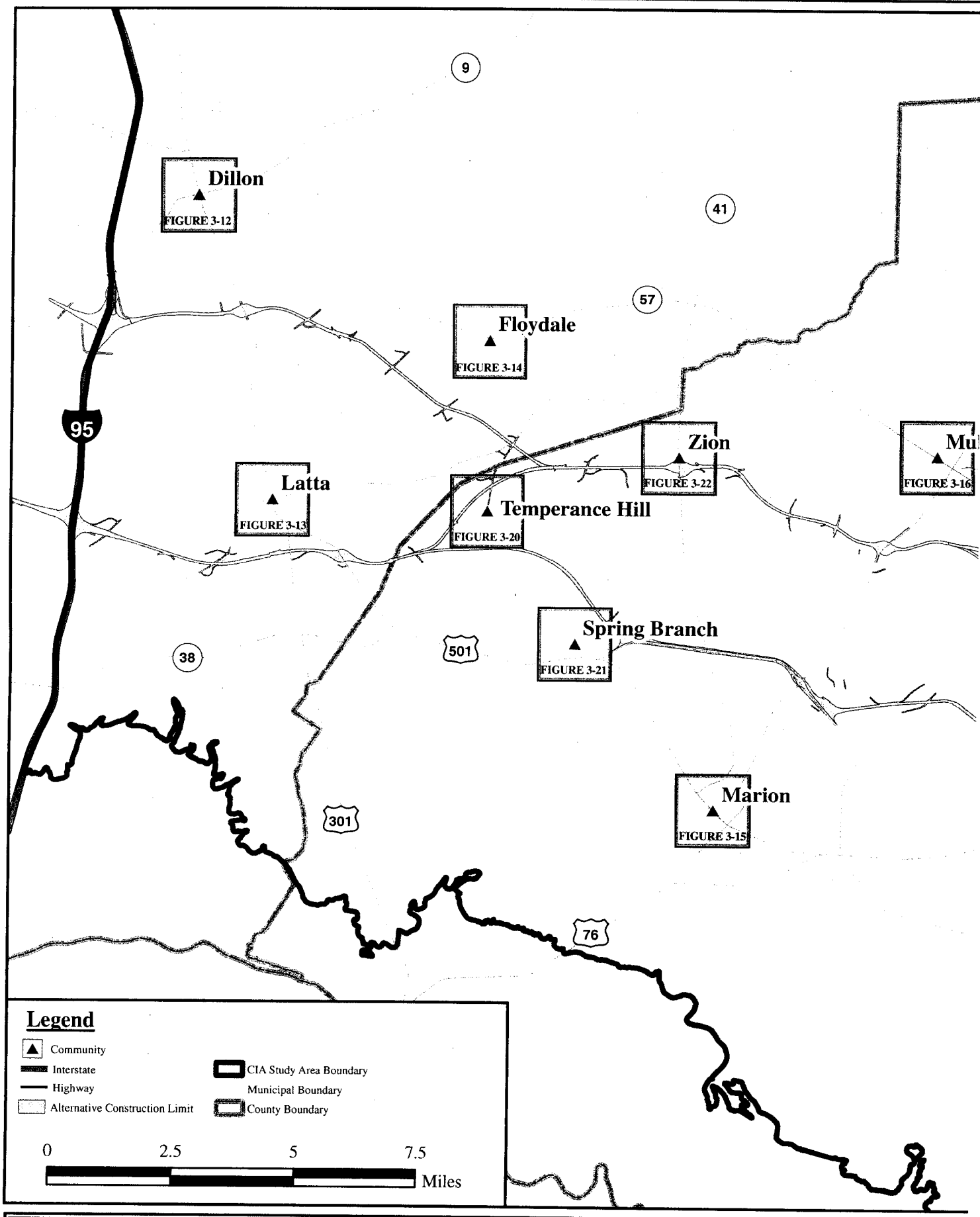
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FIGURE 3-12
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FIGURE 3-14
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FIGURE 3-13
Temperance Hill
FIGURE 3-20
Zion
FIGURE 3-22
FIGURE 3-16
Spring Branch
FIGURE 3-21
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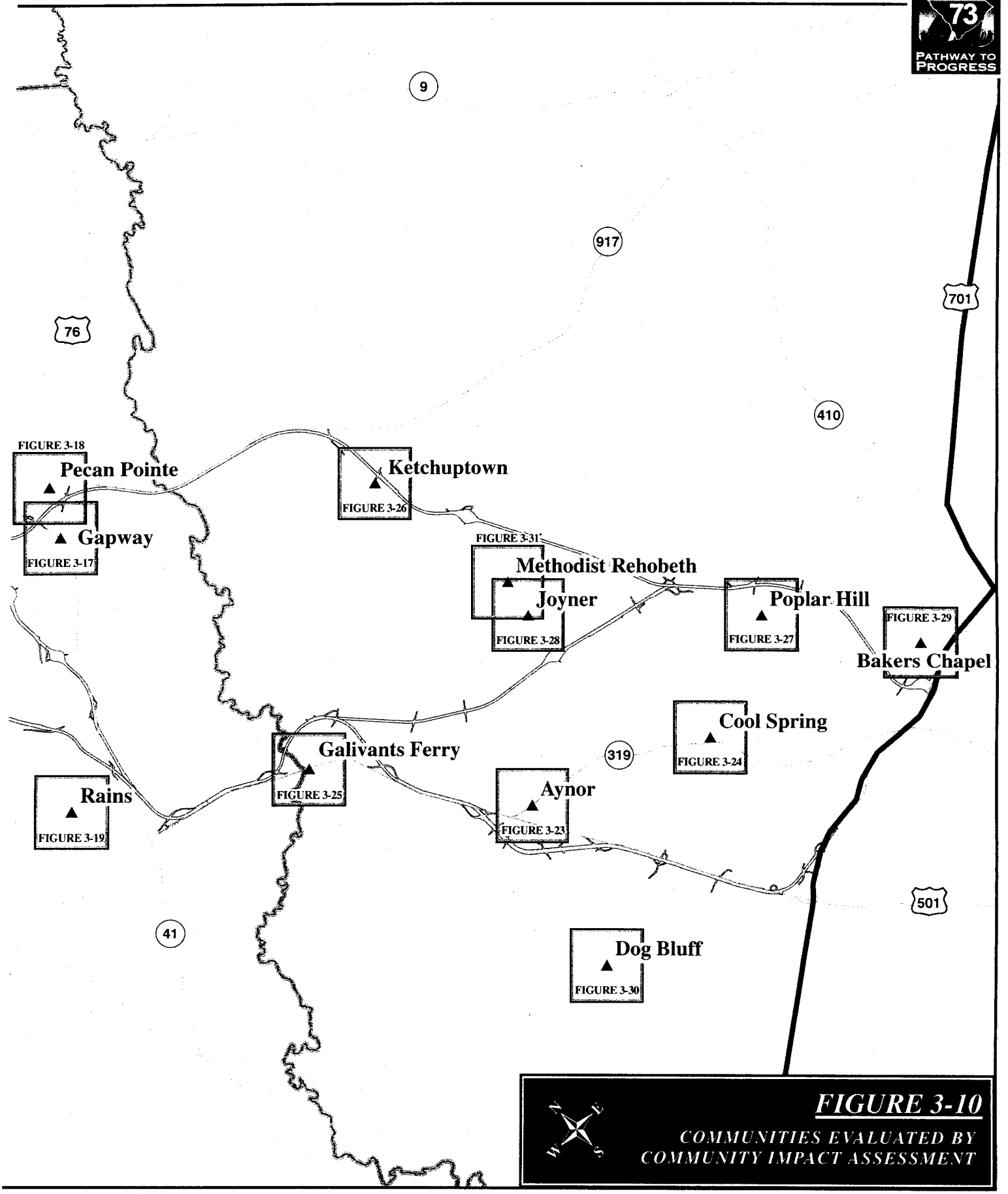


FIGURE 3-10

COMMUNITIES EVALUATED BY COMMUNITY IMPACT ASSESSMENT

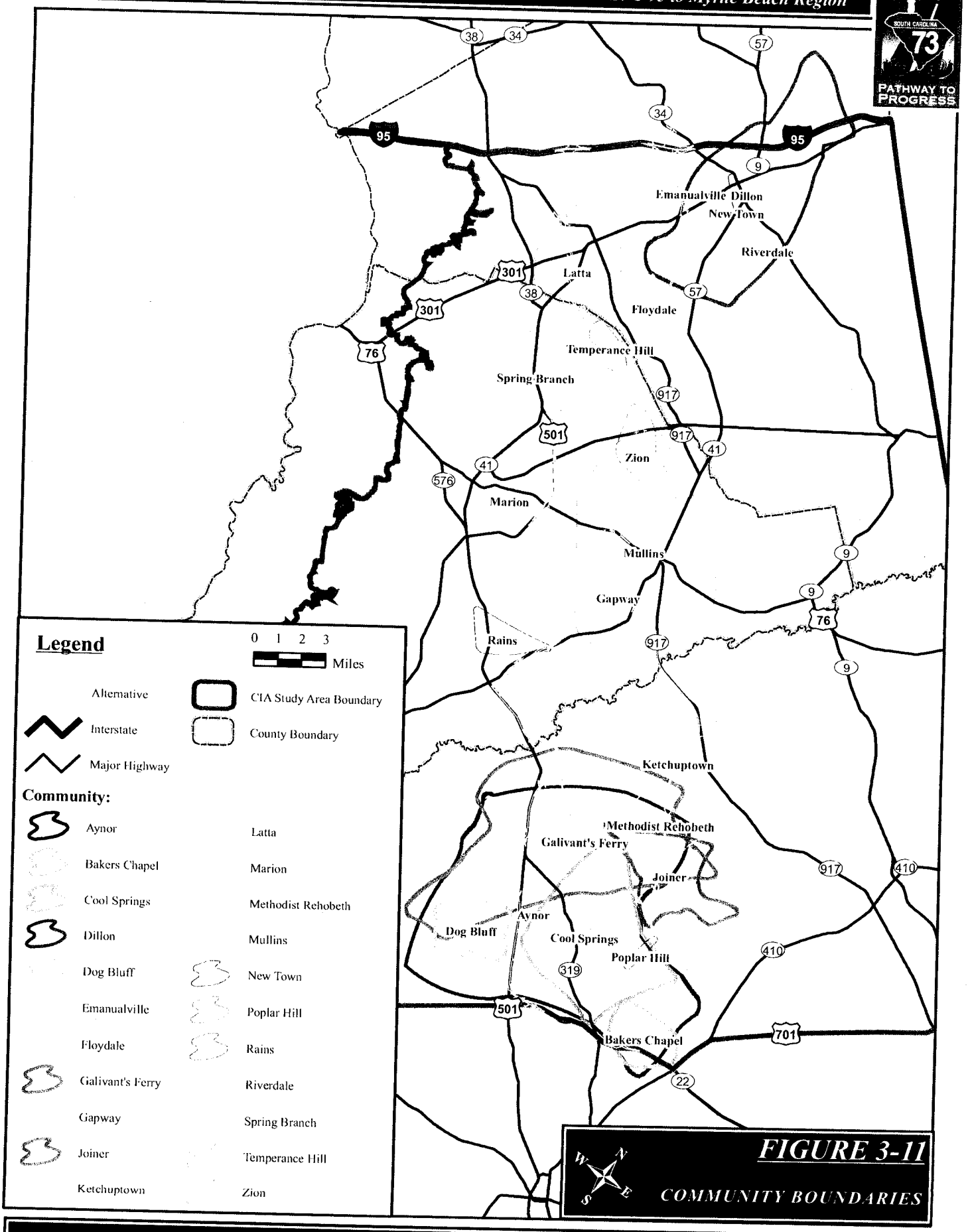


FIGURE 3-11

COMMUNITY BOUNDARIES

for determining the indirect and cumulative impacts that the Build Alternatives would have on the CIA study area.

3.3.4 What are the characteristics of Dillon County and how would it be impacted?

Founded in 1910 and named after James W. Dillon, Dillon County is located in the northeastern portion of the state and contains a total of 405 square miles. "Swamps and rivers kept this section of the Pee Dee isolated for many years, but the construction of a railroad in the nineteenth century brought increased development."[50] Dillon County is primarily rural in character, with scattered low density residential development. Higher density residential development, commercial, and industrial land uses are concentrated within and surrounding the incorporated urbanized areas of Dillon and Latta. The demographic and economic characteristics of the communities in Dillon County are shown in Tables 3.8, page 3-35, and 3.9, page 3-36.

Dillon County has experienced little growth in its population and economy over the past 20 years. As explained in Chapter 1, there are high percentages of residents living below the poverty level as compared to state and national percentages. Responses received indicated that respondents who live in the urbanized portions of Dillon County showed the strongest support for the project. Of respondents who live within the municipal boundaries of Dillon and Latta, the majority supported the construction of the project, while a small percentage thought the project could have a negative impact on their communities.

In general, the majority of people living in smaller communities such as New Town, Riverdale, Emanuelville, and Floydale, do not support the project. Respondents in rural areas were more concerned about potential community impacts the project could have.

A public information meeting was held in Dillon County on March 8, 2005, at Dillon High School. Approximately 141 individuals attended, and 22 provided comments at the meeting. Seventy-five percent of the comments were generally in favor of construction. Two comments specifically expressed concern about the division of family farms by the project, as they were when I-95 was built. Comments, received through survey response, during public meetings, or in letters to SCDOT, indicate that urban area respondents thought that economic growth, job creation, and improvements related to additional tax revenue were needed in their communities. The overall impression from respondents was once the project was constructed, it could have the potential to create more opportunities for new and better jobs, along with economic stimulation and advancement. Respondents from smaller communities thought that the project would disrupt their way of life. All eight alternatives would pass through Dillon County, near the communities of Latta or Dillon.

Approximately 46 acres of development would occur in Dillon County as a result of the No-build Alternative through 2030 (refer to Section 3.1, Land Use). Based on the land use model, the alternatives would provide additional development in the County, ranging from 94 to 129 acres (Table 3.10, page 3-37) beyond the growth anticipated from the No-build Alternative. Development that was commercial

[50] South Carolina Reference Room – Dillon County. http://www.state.sc.us/scsl/dil.html Last accessed March 13, 2006.

Table 3.8
Demographic Characteristics of Communities in CIA Study Area
Interstate 73 EIS: I-95 to the Myrtle Beach

	Population	% Minority	% over 65	% Head of Household w/ school-age children	Lived in residence over 10 years
Dillon County	30,722	49%	12%	35%	44%
Dillon	6,316	46%	16%	43%	43%
Latta	1,410	42%	18%	24%	46%
Floydale	991	19%	13%	41%	55%
Marion County	35,466	58%	12%	32%	44%
Marion	7,042	68%	15%	30%	45%
Mullins	5,029	63%	17%	36%	45%
Rains	1,453	70%	16%	46%	45%
Temperance Hill	1,943	24%*	8%	47%	36%
Zion	964	60%	12%	56%	45%
Gapway / Pecan Point	1,041	21%	15%	44%	42%
Spring Branch	1,943	53%*	8%	47%	36%
Horry County	196,629	19%	15%	26%	28%
Aynor	587	14%	15%	35%	45%
Galivant's Ferry / Methodist Rehobeth/Joyner	927	10%	11%	45%	45%
Ketchuptown	1,532	33%	17%	37%	52%
Poplar Hill	941	9%	11%	44%	57%
Dog Bluff	1,520	9%	8%	55%	35%
Bakers Chapel	974	6%	12%	29%	25%
Cool Spring	1,500	12%	8%	47%	36%

*Although these communities are within the same block group, field surveys indicated substantial differences in their racial composition. Therefore, block data was used to reflect a more accurate portrayal of the minority population.

or business in nature would benefit the county by bringing in new employment opportunities in the area while adverse impacts such as increased traffic or noise could affect residents.

3.3.5 What are the characteristics of Cities and Towns located within Dillon County and how would they be impacted?

Dillon

The City of Dillon, the county seat, is located in the central portion of Dillon County, adjacent to Interstate 95. Dillon began as a railroad depot in the late 19th century, when railroad construction brought development to the area. Although it had tobacco warehouses, Dillon was also known for its cotton factory and cotton seed oil mill, which attracted cotton trade from a large area.

Table 3.9
Economic Characteristics of Communities in CIA Study Area
Interstate 73 EIS: I-95 to the Myrtle Beach

	Median Head of Household Income	% below Poverty level	Household w/ no vehicle	Median value of owner occupied homes
Dillon County	$26,630	24%	15%	$60,700
Dillon	$25,267	26%	24%	$68,300
Latta	$25,833	21%	19%	$59,000
Floydale	$28,896	11%	6%	$51,500
Marion County	$26,526	23%	16%	$63,500
Marion	$24,265	27%	23%	$58,500
Mullins	$20,154	29%	25%	$60,800
Rains	$25,556	26%	9%	$53,600
Temperance Hill / Spring Branch	$31,172	22%	7%	$43,900
Zion	$21,488	26%	26%	$65,200
Gapway / Pecan Point	$36,779	15%	1%	$84,100
Horry County	$36,470	12%	7%	$119,700
Aynor	$29, 583	20%	7%	$92,100
Galivant's Ferry / Methodist Rehobeth/Joyner	$31,429	14%	13%	$74,700
Ketchuptown	$29,241	20%	< 1%	$54,100
Poplar Hill	$40,179	7%	5%	$56,000
Dog Bluff	$31,818	14%	< 1%	$71,100
Bakers Chapel	$33,875	17%	8%	$32,100
Cool Spring	$29,167	20%	9%	$56,400

The Dillon County Courthouse, Dillon County Library, and Dillon House Museum are all located in downtown Dillon, as is Harmon Field, a local park, and Old Hamilton Cemetery. Health care is provided by St. Eugene Medical Center, and emergency services are provided by the City of Dillon Fire Department and the Dillon Police Department.

The majority of the respondents of Dillon community feel as though it is a close-knit community with a small-town feel, where respondents interact with their neighbors, and have other family members living in the community. Most respondents like their neighborhood, feel safe, and feel they have a decent quality of life. Respondents thought that growth and advancement was needed in their community and that the project could create jobs and economic development. Respondents were supportive of long-term jobs, jobs during construction, and the possibility of new stores and restaurants coming to the area. Some respondents thought that the project could have a beneficial economic impact on their community, but it could also create more traffic, noise, and air pollution. Some respondents were against dividing family farms and encouraged the use of existing roadways where possible, but were against tolling these existing roadways.

Table 3.10
Dillon County and Communities Projected 2030 Development by Acreage
Interstate 73 EIS: I-95 to the Myrtle Beach Region

County/Community/Neighborhood	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
Dillon County								
Induced Development	129	126	94	117	111	105	100	111
Cumulative Development	175	172	140	163	157	151	146	157
Dillon County Communities								
Dillon								
Induced Development	73	84	51	66	60	68	54	69
Cumulative Development	101	112	79	94	88	96	82	97
New Town								
Induced Development	0	0	0	0	0	0	0	0
Cumulative Development	0	0	0	0	0	0	0	0
Riverdale								
Induced Development	0	0	0	0	0	0	0	0
Cumulative Development	0	0	0	0	0	0	0	0
Emanuelville								
Induced Development	1.4	1.8	1.4	1.4	1.4	1.8	1.4	1.8
Cumulative Development	1.4	1.8	1.4	1.4	1.4	1.8	1.4	1.8
Latta								
Induced Development	117	16	104	112	112	16	107	16
Cumulative Development	135	34	122	130	130	34	125	34
Floydale								
Induced Development	0	0	0	0	0	0	0	0
Cumulative Development	0	0	0	0	0	0	0	0

Alternatives 2, 6, and 8 would cross the southern portion of the Dillon community. The other Build Alternatives would be approximately five miles west of Dillon. The proposed alternatives are not expected to impact community cohesion in Dillon. The potential alternatives would be located along the southwestern edge of the community, and are not likely to create a physical barrier that would divide or isolate neighborhoods or residents.

What is Community Cohesion?

Community cohesion is a term that describes the social network and actions that provide satisfaction, security, camaraderie, support and identity to members of a community or neighborhood.*

*Effective methods for Environmental Justice Assessment by David Forkenbrock and Jason Sheeley

Travel patterns are not expected to change. The proposed alternatives pass through an area that is predominantly rural and agricultural. Most stores, public services, schools, and other facilities are located to the north of Alternatives 2, 6, and 8, near the downtown area. Vehicular and pedestrian access to these services and facilities would not be altered or hindered, nor would routing of emergency vehicles.

Special populations, such as elderly, handicapped, non-drivers, transit-dependent, or minority social groups were not identified in this portion of Dillon and thus, would not be impacted by the proposed alternatives.

Only three of the Build Alternatives would impact Dillon. Alternatives 2, 6, and 8 would displace the following in the Dillon Community:

- Five residences, including three occupied houses, one vacant house, and one occupied mobile home;
- Two churches, the Dothan Baptist Church and the New Memorial Temple of Christ;
- Three businesses, the Merita Bread Company with ten employees, Coastal Agro Business, and All-Star Self Storage; and
- One vacant commercial building.

Approximately 28 acres of growth is expected to occur in the City of Dillon by the Year 2030, for the No-build Alternative (refer to Section 3.1, Land Use). The eight Build Alternatives would be expected to bring between 51 and 84 additional acres of development, depending on alternative (Table 3.10, page 3-37).

During the summer months, the City of Dillon has high volumes of tourist traffic. Many tourists frequently stop for services throughout the city. Alternatives 1, 3, 4, 5, and 7 could cause a loss of revenue generated by tourist traffic due to their distance from the City of Dillon.

Within the Dillon Urban Cluster, there are three neighborhoods that have been identified by the survey: New Town, Riverdale, and Emanuelville (refer to Figure 3-12, page 3-40, and *Community Impact Analysis Technical Memorandum*). An Urban Cluster is a defined census boundary that includes a densely settled core created from block groups or census blocks, and the adjacent densely settled surrounding territory (with a density of 500 people per square mile) that together have a minimum of 2,500 people but fewer than 50,000 people.

Summary of impacts

- Alternatives 2, 6, 8 would result in four residential, three business, and one church relocations; there would be one impacted noise receiver and no changes in accessibility.
- Alternatives 1, 3, 4, 5, and 7 would have no relocations, noise impacts, or changes in accessibility.
- Alternative 1 would have 73 acres of induced development and 101 acres of cumulative development.
- Alternative 2 would have 84 acres of induced development and 112 acres of cumulative development.
- Alternative 3 would have 51 acres of induced development and 79 acres of cumulative development.
- Alternative 4 would have 66 acres of induced development and 94 acres of cumulative development.
- Alternative 5 would have 60 acres of induced development and 88 acres of cumulative development.
- Alternative 6 would have 68 acres of induced development and 96 acres of cumulative development.

- Alternative 7 would have 54 acres of induced development and 82 acres of cumulative development.
- Alternative 8 would have 69 acres of induced development and 97 acres of cumulative development.

New Town

New Town is a small neighborhood located on the south side of downtown Dillon. According to survey results, the average length of residency is eight years and respondents report a moderately good quality of life. The majority of respondents in New Town interact with one another, but many respondents do not feel as if they are a close-knit community.

New Town

None of the alternatives would directly impact New Town. The closest alternatives to New Town, Alternatives 2, 6, and 8, would be located approximately two miles to the southwest of the neighborhood. One respondent from New Town commented that the project would not have much of an effect on the neighborhood. Although growth would be anticipated due to normal increases in population, based on the land use model, no development is projected under the No-build or any of the Build Alternatives in this community. Therefore, no indirect and cumulative impacts would be expected to New Town.

Riverdale

Based upon the survey results, Riverdale is a close-knit, well-established neighborhood located on the east side of Dillon, south of S.C. Route 9. The respondents of Riverdale feel they have a high quality of life and feel very safe living there. Many in the community have other family members in the area and all respondents feel members of this community interact with their neighbors.

None of the alternatives would directly impact Riverdale. Alternatives 2, 6, and 8 would be located closest to Riverdale, approximately three miles to the southwest. Although growth would be anticipated due to normal increases in population, based on the land use model, no development is projected under the No-build or any of the alternatives in this community. During the summer months Riverdale has tourist traffic that frequently stop for services. Alternatives 2, 6, and 8 could cause a slight loss of revenue generated by tourist traffic due to their distance from Riverdale. Therefore, indirect and cumulative impacts would be expected to be minimal to Riverdale.

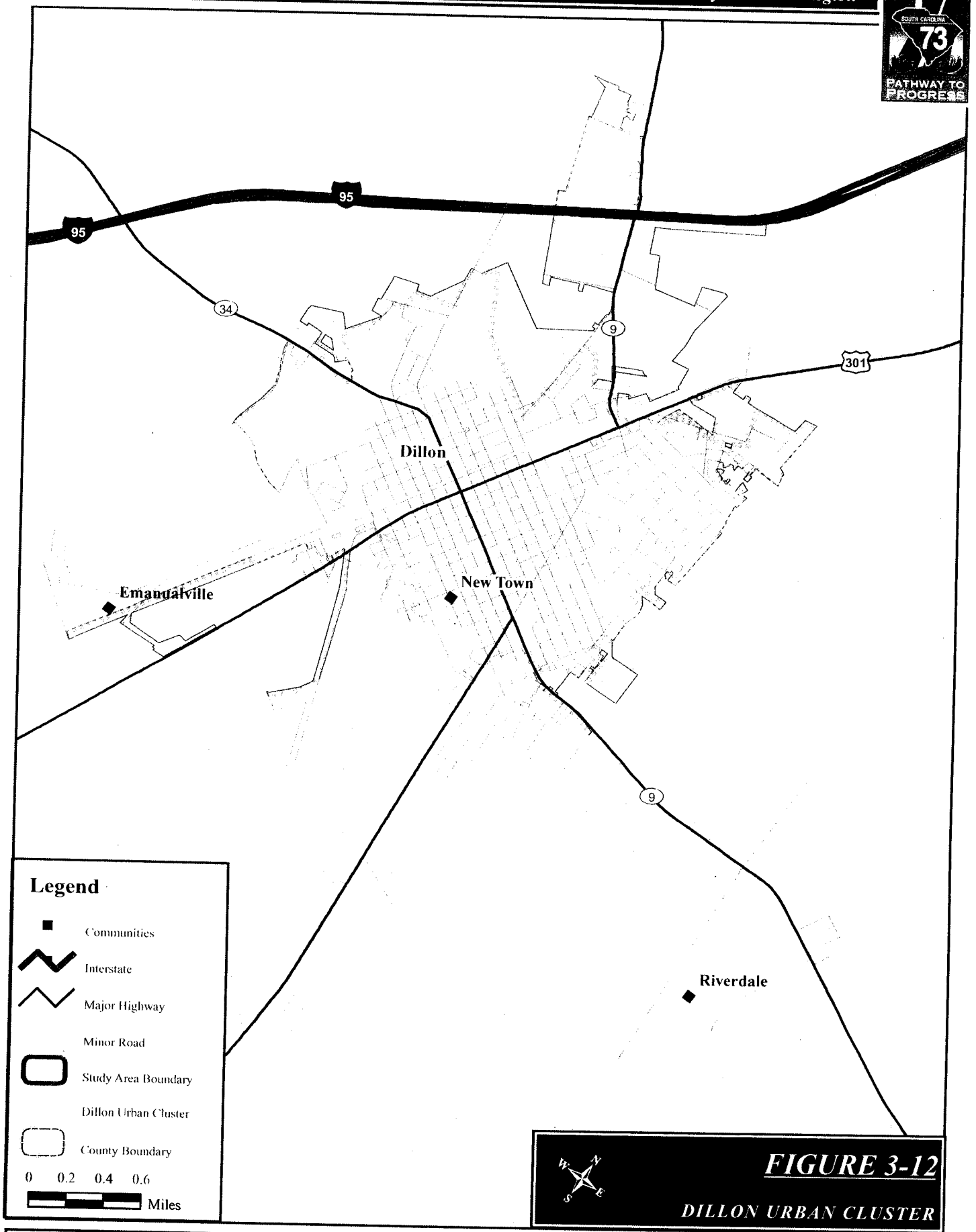


FIGURE 3-12

DILLON URBAN CLUSTER

Emanuelville

Emanuelville is a small community located on the southwest side of Dillon, along S-423/West Fairfield Road. Three surveys were received from the area show that respondents feel that it is a close-knit community and all interact with their neighbors. Respondents generally feel the area is safe, but none report having other family members living in the same community. Average length of residency for survey respondents is eight years (individual responses ranged from six to 30 years).

Alternatives 2, 6, and 8 would run parallel to S-423 (West Fairfield Road), approximately 0.25 mile southwest of the community of Emanuelville. Because the alternatives would be located along the periphery of Emanuelville, a physical barrier is not likely to divide this community and should not impact community cohesion. Access to and from Dillon, Latta, and I-95 should not be impacted and travel patterns are not likely to be affected. No cross streets within or in the vicinity of Emanuelville would be bisected. Vehicular and pedestrian access to community services and facilities would not be altered or hindered, nor would routing of emergency vehicles.

Alternatives 2, 6, and 8 would not result in the displacement of any residences or businesses in the Emanuelville community; however, the New Memorial Temple of Christ Church would be relocated. Often churches are the cornerstones of small communities and their relocation could affect the cohesion of the area. Depending on where the church relocates, travel patterns to and from the church could be changed, impacting travel times, accessibility or the ability of some members to continue to attend.

If the proposed interchange at U.S. Route 301/501 results in increased development and traffic in the vicinity of Emanuelville, it could affect the rural atmosphere of the community. Although growth would be anticipated due to normal increases in population by the Year 2030, the land use model projected that no development was expected to occur with the No-build Alternative in the Emanuelville community. Even though Alternatives 2, 6, and 8 would parallel the community boundary of Emanuelville, all eight Build Alternatives would result in small amounts of development, ranging from 1.4 to 1.8 acres depending on alternative (refer to Section 3.1, Land Use).

Summary of impacts

- Alternatives 2, 6, and 8 would have one church relocation, no noise impacts and no changes in accessibility.
- Alternatives 1, 3, 4, 5, 7 would have no relocations, no noise impacts, and no changes in accessibility.
- Alternatives 1, 3, 4, 5, 6, and 7 would have 1.4 acres of induced development and 1.4 acres of cumulative development.

- Alternatives 2 and 8 would have 1.8 acres of induced development and 1.8 acres of cumulative development.

Latta

Located in south-central Dillon County, Latta was founded circa 1888. Latta, like Dillon, was the result of a plan for a direct north-south railroad route from Wilson, North Carolina to the town of Pee Dee, South Carolina. Latta is named for Robert J. Latta who designed the street plan for the town. The major growth period for Latta was during the early 20th century when Latta became a major tobacco market in the region. In 1918, the town constructed an electric power plant and by 1924 had also built a municipal water system. The City of Latta covers approximately one-square mile.

Community facilities include a community center, a town ball park, and a branch of the Dillon County Library in Latta. The community is serviced by the Oak Grove Volunteer Fire Department, which has a fire station in downtown Latta. Health care services are located in Dillon.

Based on survey information, the majority of respondents feel that Latta is a close-knit community that interact regularly with their neighbors, have other family members living within the same community, and rate their community as very safe. The average length of residency for survey respondents is 26 years (individual survey responses ranged from one year to 50 years). Survey comments expressed that this project would be the type of positive change respondents were looking for and locating the project too far east of their community would hinder anticipated development.

Alternatives 1, 3, 4, 5, and 7 would pass the closest to the Town of Latta, within 0.5 mile of the western municipal boundary. Neighborhoods in downtown Latta would not be affected. The Build Alternatives would essentially bisect the community boundary that was developed based on survey responses. The alternatives would separate residential areas to the west and southwest from downtown Latta. However, access between neighborhoods and to downtown would be maintained along U.S. Route 301 and interactions between residents should not be hindered. Northwest of Latta, Road S-151 (Bethea Extension) would be converted to a cul-de-sac at the interstate; however, direct access to Latta would be maintained via S.C. Route 917 (refer to Figure 3-13, page 3-43). Travel patterns within downtown Latta would not be altered and pedestrian access should not be affected. Emergency vehicles routes may have to be revised but access to areas on the other side of the interstate would not be hindered. Alternatives 1, 3, 4, 5 and 7 would result in the relocation of 11 residences, including seven occupied houses, one vacant house, and three occupied mobile homes, along with one business, Signode.

Survey respondents most often listed Dillon and Marion as places where they shop, bank, and conduct business. U.S. Route 301/501 to Marion and U.S. Route 301 to Dillon provide direct routes to these locations. While there may be short-term impacts to travel from construction, depending on the Preferred Alternative, none of the proposed alternatives would impede travel to these locations once construction was completed.

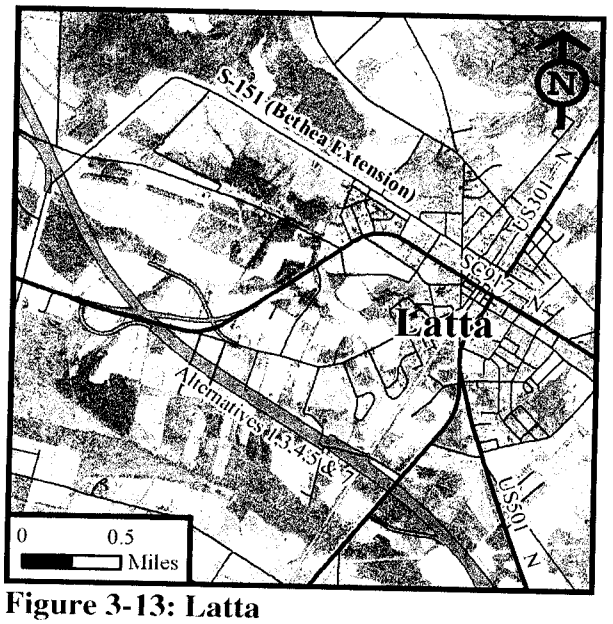


Figure 3-13: Latta

Special populations, such as elderly, handicapped, non-drivers, or transit-dependent groups were not identified in this portion of Latta and thus, would not be impacted by the proposed alternatives.

The No-build Alternative is expected to result in 18 acres of new development (refer to Section 3.1, Land Use). The eight Build Alternatives are also anticipated to result in additional development in the Town, ranging anywhere from 16 to 117 acres, depending on alternative (refer to Table 3.10, page 3-37). Additionally, induced development could occur in the area of the proposed interchanges at S.C. Route 917 and U.S. Route 501 associated with Alternatives 1, 3, 4, 5, and 7.

A group of concerned citizens in Latta along Alternatives 1, 3, 4, 5, and 7 have sent a petition of 20 signatures in support of Alternatives 2, 6, and 8.[51] In addition, a group of concerned citizens sent a petition of 42 signatures in support of Alternatives 1, 3, 4, 5, and 7.[52]

Summary of impacts

- Alternatives 1, 3, 4, 5, and 7 would have ten 10 residential and one business relocations, no noise impacts, and one road bisected.
- Alternatives 2, 6, and 8 would have no relocations, no noise impacts, and no changes in accessibility.

3.3.6 What neighborhoods and rural communities are located within Dillon County and how would they be impacted?

Floydale

Located approximately five miles south of Dillon, Floydale is a community that was named for the Floyd family, who were major landholders in the area. Floydale includes several residential areas, two convenience stores, the Floydale Rescue Squad and Fire Department, and two churches, the St. Paul AME Church and Greater New Zion Church.

Based on surveys, the majority of respondents feel that the community is close-knit, in which they interact with their neighbors, have a very good quality of life, is a very safe place to live, and have family members living in the community. Average length of residency for survey respondents is 28 years, with individual surveys ranging from two years to 63 years.

[51] The Citizens of the Southern Route petition.
[52] The Citizens of the Northern Route petition.

Alternatives 2, 6, and 8 would impact the Floydale community as defined by the survey. The alternative corridor is located approximately one mile west of the central portion of the Floydale community and residential areas to the west of Floydale would be affected.

Alternatives 2, 6, and 8 would intersect Road S-45 (Friendship Road); creating cul-de-sacs and a physical barrier that would eliminate direct access between the two sides (refer to Figure 3-14). However, while this may be considered inconvenient, access would still be maintained via several other roads in the vicinity (S-23/Haymount Road, S-71/Judge Road). Therefore, residents would not be isolated from the rest of the community and social interaction between neighbors along Road S-45 could still occur.

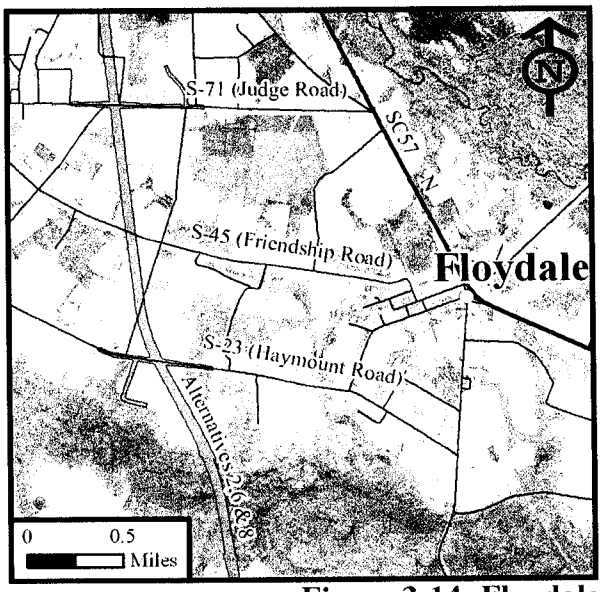


Figure 3-14: Floydale

With the exception of Road S-45, travel patterns and accessibility are not likely to be affected and no other streets within the community would be bisected. Most stores, public services, schools, and other facilities for the community are located to the north, near the downtown Dillon area, and access to Dillon would not be affected. A few businesses and the Floydale Volunteer Fire Department are located in the community on S.C. Route 57, east of the proposed alternatives. Vehicular access to these areas would not be hindered, nor would routing of emergency vehicles. None of the alternatives would result in the displacement of any residences or businesses in the Floydale community.

Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in this portion of Floydale and should not be impacted by the alternatives.

Summary of impacts

For all the Build Alternatives there would be no relocations and no noise impacts. Alternatives 2, 6, and 8 would have one road bisected. No additional growth from the project is anticipated in the community, since an interchange would not be in close proximity to the Floydale community and based on the land use model results. Therefore, no indirect or cumulative impacts would occur to Floydale.

3.3.7 What are the characteristics of Marion County and how would it be impacted?

Marion County covers approximately 493 square miles. This area of the state was first settled by the Peedee, Cheraw, and Waccamaw Indians. Native Americans were attracted to the many resources provided by the nearby Little Pee Dee and Great Pee Dee Rivers. English settlers followed, migrating inland from the coast, and by the late 1700's, the communities that eventually became Marion, Mullins, Nichols, and Sellers began to prosper. In 1798, the county was named Marion in honor of General Francis Marion, the "Swamp Fox" of the Revolutionary War.[53] The demographic and economic characteristics of the communities in Marion County are shown in Tables 3.8 and 3.9, pages 3-35 and 3-36, respectively.

Much of Marion County is rural in character, consisting of scattered low density residential development. Higher density residential development, commercial and industrial land uses are concentrated within and surrounding the incorporated urbanized areas of the Cities of Marion and Mullins, and the Town of Nichols.

All of the alternatives would traverse the central portion of Marion County between the communities of Marion and Mullins. The opinions about the project varied greatly among respondents, with 45 percent supporting the project being built in their community, and 27 percent not supporting it.

As explained in Chapter 1, Marion County has also experienced little growth in its population and economy over the last 20 years. Respondents in the urbanized portions of Marion County, such as Marion and Mullins, showed the strongest support for the project. Respondents living in rural areas were more concerned about potential impacts the project could have on their communities.

A public information meeting was held at the Marion Technical Education Center on May 3, 2005, with 263 people in attendance. Of the 39 comments received during the meeting, many expressed approval of the project based on the potential of economic development opportunities. Respondents were also concerned about impacts to or loss of property. Comments, through survey response, submitted during public meetings, or in letters to SCDOT indicated that urban area respondents thought that economic growth, job creation, and improvements related to additional tax revenue were needed in their communities. The overall impression from respondents was that once the project was constructed, it could have the potential to create more opportunities for new and better jobs, along with economic stimulation and advancement. Residents of the smaller communities were concerned that the project would affect their way of life.

It is expected that 17,108 acres of new development will occur through 2030 in Marion County with the No-build Alternative, regardless of the project (refer to Section 3.1, Land Use). More than 16,000 acres of this development is occurring as a result of an inland port, located north of the City of Marion. The eight Build Alternatives are anticipated to bring additional acres of development to the county, ranging from 570 acres to 779 acres, depending on alternative (Table 3.11, page 3-46).

[53] Marion County website. http://www.co.marion.sc.us/cohistory.html Last accessed March 13, 2006.

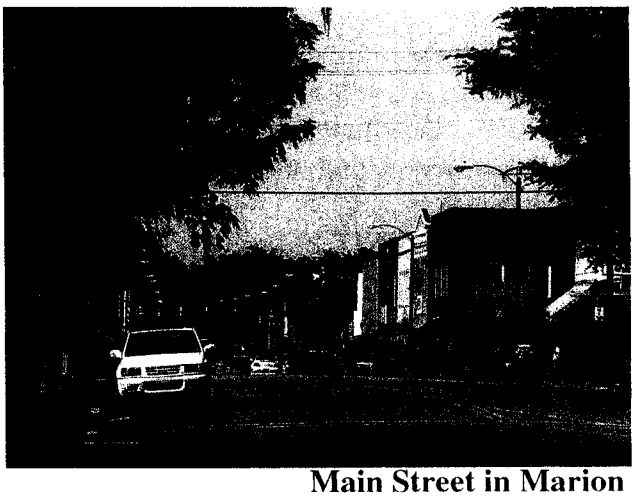
Table 3.11
Marion County and Communities Projected 2030 Development by Acres
Interstate 73 EIS: I-95 to the Myrtle Beach Region

County/Community/ Neighborhood	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
Marion County								
Induced Development	766	746	570	709	708	625	632	779
Cumulative Development	17,874	17,854	17,678	17,817	17,816	17,733	17,740	17,887
Marion County Communities								
Marion								
Induced Development	188	198	180	240	198	219	198	214
Cumulative Development	395	405	387	447	405	426	405	421
Mullins								
Induced Development	303	285	221	237	269	237	201	303
Cumulative Development	435	417	354	368	401	368	333	435
Gapway								
Induced Development	21	13	0	0	0	0	0	21
Cumulative Development	33	25	12	12	12	12	12	33
Zion								
Induced Development	10	10	0	0	10	0	0	10
Cumulative Development	10	10	0	0	10	0	0	10
Temperance Hill								
Induced Development	30	30	0	30	30	30	30	30
Cumulative Development	30	30	0	30	30	30	30	30
Spring Branch								
Induced Development	21	21	21	21	21	21	21	21
Cumulative Development	21	21	21	21	21	21	21	21
Rains								
Induced Development	30	30	0	0	0	0	0	30
Cumulative Development	30	30	0	0	0	0	0	30

3.3.8 What are the characteristics of Cities and Towns located within Marion County and how would they be impacted?

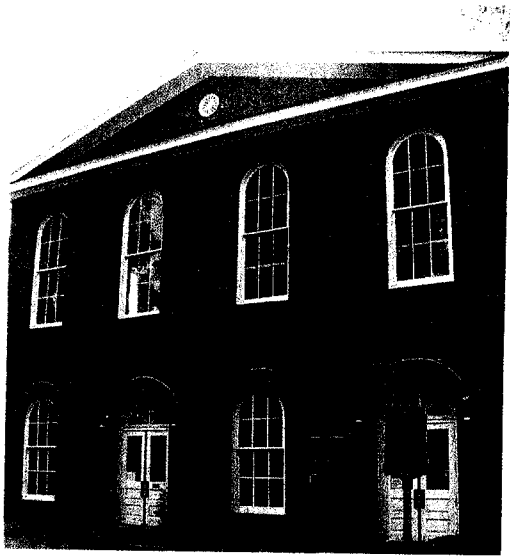
Marion

The City of Marion, the county seat, covers approximately 4.3 square miles and is located in the northern-central portion of Marion County at the intersection of U.S. Route 76 and U.S. Route 501. Marion's growth boomed with the construction of the Wilmington to Manchester Railroad, completed in 1854. Stock-raising, cotton and tobacco farming have been important to the city since the late 1800's.



Main Street in Marion

The City of Marion offers many community services and facilities including the Marion Chamber of Commerce, the Marion County Museum, and the Marion Historic District, listed on the National Register of Historic Places (NRHP). There are six recreation facilities in the City of Marion. The community is serviced by the City of Marion Fire Department, which provides fire and rescue to approximately 7,600 citizens of Marion. The Marion Public Library was established in 1898 as the first tax-supported public library in South Carolina. Health care is provided by the Marion County Medical Center, located on U.S. Route 76 between Marion and Mullins, and serves the respondents of Marion and Marion County.



Marion Old Town Hall and Opera House 1892

Based on survey results, the majority of respondents interact with their neighbors and plan to stay in the community long-term. The average length of residency for survey respondents is 12 years (individual surveys ranged from six months to 69 years). The majority of respondents supported the project and the possible creation of jobs during construction, as well as long-term employment opportunities, new stores and restaurants. A respondent expressed concern that the project could direct traffic away from businesses in the city, while another expressed concern that it could impact Marion County's wildlife. Other comments received expressed that the project could bring more business and job opportunities, which would help the declining economy. Some respondents requested that the project be located close to downtown, hoping that improved access would increase tourism and revitalize the City of Marion. Others thought the interstate would be detrimental to the community because people would lose land or generational family farms may be divided.

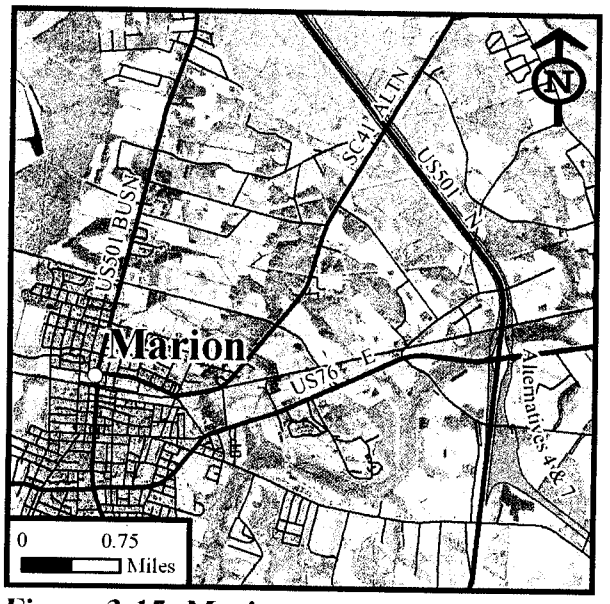


Figure 3-15: Marion

Alternatives 4 and 7 would pass through the eastern part of the City of Marion following the existing alignment of U.S. Route 501 Bypass (refer to Figure 3-15), while the other Build Alternatives would be farther away. The project would not change travel patterns within the downtown area or to the west towards Florence. Access to property and businesses along U.S. Route 501 would be maintained with one-way frontage roads on either side of the project, which would change local travel patterns. Motorists may have to go in the opposite direction of travel for a short distance in order to reach an overpass with access to the direction they want to travel.

No new physical barriers would be introduced to impact community cohesion in Marion. The areas to the east of Alternatives 4 and 7 would be primarily commercial and industrial, and access between downtown and these businesses would remain essentially unchanged. During the summer months, the City of Marion has tourist traffic that frequently stops for services throughout the city. Alternatives 4 and 7 could cause traffic to bypass the city and could impact revenue generated by this tourist traffic.

Special populations, such as elderly, handicapped, non-drivers, transit-dependent, or minority social groups were not identified in this portion of Marion and thus, should not be impacted by the proposed alignments.

Alternatives 4 and 7 would require the relocation of two houses and three businesses, including Datwyler Rubber (which has 143 employees and is the fifth largest employer in Marion County), Ken Baker Originals Auto Repair, and Swamp Fox Used Car Parts.

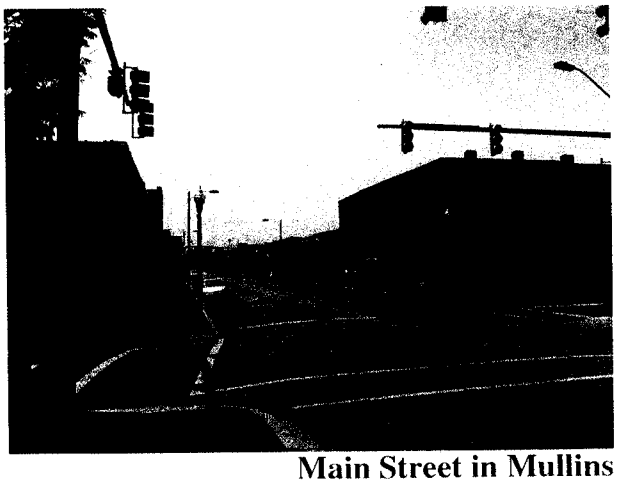
The land use model identified U.S. Route 76, adjacent to the interchange, as a prime corridor for economic development (refer to Section 3.1, Land Use). Development along U.S. Route 76 could result in land use changes in the area; however, this growth is expected to occur with the No-build Alternative, regardless of the project. The land use model predicted that an additional 207 acres of development would occur in the Marion community regardless of the proposed project, due to growth through 2030 and from the inland port. The eight Build Alternatives would bring an additional amount of development, between 180 and 240 acres, depending on alternative (Table 3.11, page 3-46).

Summary of impacts

Alternatives 4 and 7 would have two residential and three business relocations. They would have no noise impacts with any of the Alternatives. The accessibility would be affected by one-way frontage roads with these alternatives. Alternatives 1, 2, 3, 5, 6, and 8 would have no relocations, no noise impacts, and no changes in accessibility.

Mullins

The City of Mullins covers approximately three square miles and is located in the northeastern portion of Marion County, five miles east of the county seat of Marion. Mullins is named for the

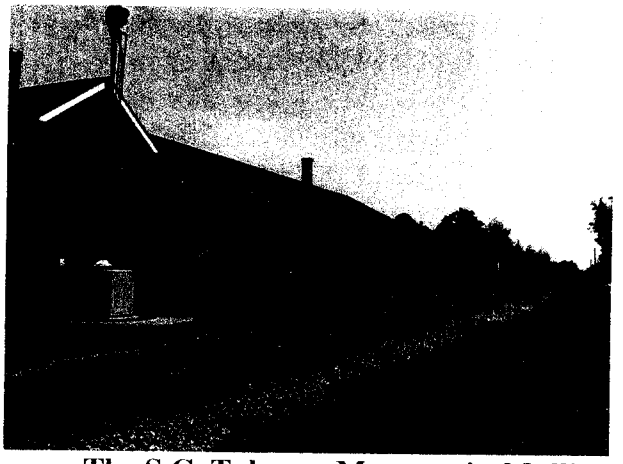


Main Street in Mullins

[54] City of Mullins website. http://www.mullinssc.us/history.html Last accessed March 13, 2006.

second president of the Wilmington to Manchester railroad. Mullins grew from a railroad depot to become the largest tobacco center in South Carolina in the 1890's.[54]

Mullins has many community services and facilities to offer including the Greater Mullins Chamber of Commerce, the South Carolina Tobacco Museum, the Mullins Public Library, and the Gapway Recreational Complex and Miles Recreational Center, which offers senior activities. The citizens of Mullins are serviced by the Mullins Fire Department and Mullins Police Department.



The S.C. Tobacco Museum in Mullins

Comments received from the surveys indicated that the majority of respondents interact regularly with their neighbors and have other family members living in Mullins. Average length of residency for survey respondents is nine years, although individual surveys ranged from one year to 40 years. Survey respondents were supportive of long-term jobs and thought the project was needed to bring more jobs and growth to the area. Many stated that any development around Mullins would be a boost to the economy, and improved access brought by the interstate would produce positive changes. Other respondents thought the project could be a tool to recruit businesses and industry to the area, creating much needed jobs. Respondents were also concerned about impacts to their farms and land, and several favored a corridor that closely followed U.S. Route 501.

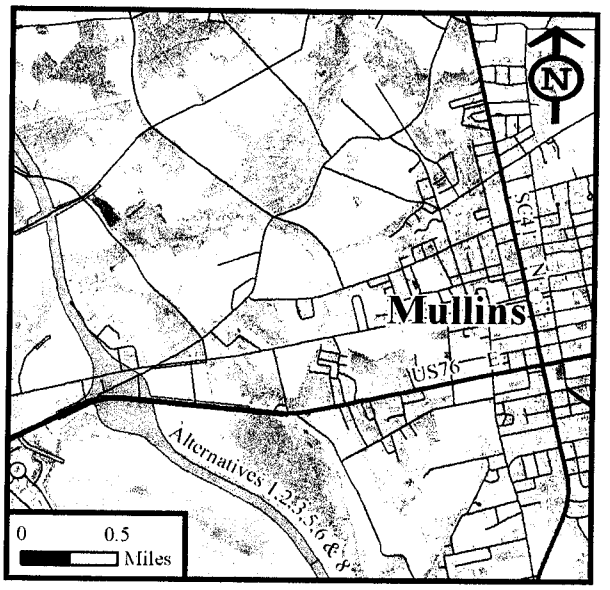
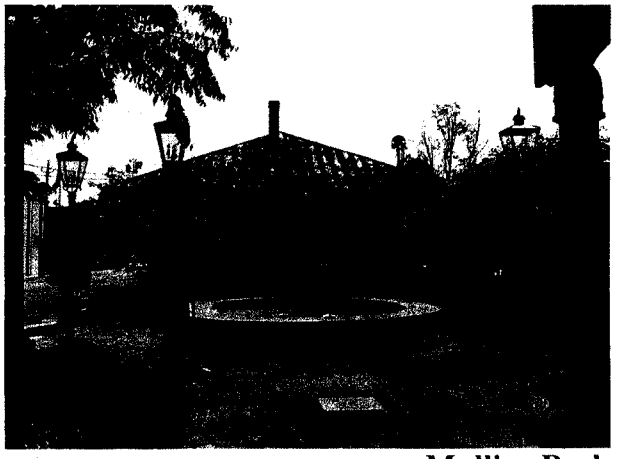


Figure 3-16: Mullins

Alternatives 1, 2, 3, 5, 6, and 8 would pass just west of the City of Mullins (refer to Figure 3-16), while Alternatives 4 and 7 would be farther west. Alternatives 3 and 6 would continue south, adjacent to S.C. Route 917, while Alternatives 1, 2, 5, and 8 would travel southwest to cross the Little Pee Dee River near the existing U.S. Route 501 crossing. The impacts to Mullins would be equal for all the Build Alternatives, with the exception of relocations.

The Build Alternatives were shifted west of Mullins to minimize separation of neighborhoods and schools from the downtown area. The Williams Park neighborhood would be located to the west of the project; however, no physical barriers would exist to prevent access from the neighborhood

to Mullins. As such, travel patterns within the City of Mullins would not be impacted. Vehicular and pedestrian access to community services and facilities would not be altered or hindered, nor would the routing of emergency vehicles. Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in this portion of Mullins and should not be impacted by the alternatives.



Mullins Park

Alternatives 1, 2, 5, and 8 would require the relocation of 26 residences, including 21 houses and five mobile homes, along with two business relocations, the S&H Quick Stop and Smith Rogers Oil. Alternatives 3 and 6 would relocate 19 residences, including 17 houses and two mobile homes, along with three businesses, the S&H Quick Stop, Smith Rogers Oil, Sawyers Heating and Oil, and one vacant business.

The interchange at U.S. Route 76 would encourage development and this location has been identified as a prime corridor for economic growth, which could have positive impacts on the city in terms of new businesses and the creation of jobs (refer to Section 3.1, Land Use). The land use model predicted that 132 acres of development would occur in Mullins due to the No-build Alternative through 2030. The eight Build Alternatives were projected to add between 201 and 303 acres of new development depending on alternative (Table 3.11, page 3-46).

Summary of impacts

Alternatives 1, 2, 5, and 8 would have 26 residential and 2 business relocations. There would be no changes in accessibility. Alternative 1 would have 5 impacted noise receivers, Alternative 2 would impact 2, Alternative 5 would impact 4, and Alternative 8 would have 1 impacted noise receiver. Alternatives 3 and 6 would have 19 residential and 3 business relocations, 11 impacted noise receivers, and no changes in accessibility. Alternatives 4 and 7 would have no relocations, no noise impacts, and no changes in accessibility.

3.3.9 What neighborhoods and rural communities are located within Marion County and how would they be impacted?

Gapway

Gapway is a rural residential area approximately three miles south of Mullins, along S.C. Route 41 at Road S-19. This community developed around Gapway Baptist Church, originally organized in 1775, and located at its present site since 1812.

Survey responses indicated a close-knit community with a very high quality of life and a feeling of safety in their community. All respondents reported having family in the area and interacting often

with their neighbors. Average length of residency for surveys was 31 years. The main concerns of respondents were the impact to farms and the related loss of livelihood in the area, the possibility of family and friends moving out of the community, changes to their rural way of life, more air pollution and noise, increased traffic in the neighborhood, and living too close to an interstate. Issues such as faster routes to the area and bringing in new jobs during construction were of low importance to respondents.

Gapway would be affected by Alternatives 1, 2, 3, 5, 6, and 8, while Alternatives 4 and 7 would be farther removed. Alternatives 3 and 6 would pass to the west of Mullins, cross through Gapway and then would continue south adjacent to S.C. Route 917. After passing Mullins, Alternatives 1, 2, 5, and 8 would proceed west of Mullins and traverse to the west of the Gapway community.

Alternatives 3 and 6 would pass through Gapway, as defined by the community survey. However, the alternatives would pass about 0.75 mile northeast of the community center, which was identified as Gapway Baptist Church. The main residential areas of the Gapway community would remain intact to the southwest of Alternatives 3 and 6, and interaction between neighbors should not be affected. Since the character of Gapway is rural and agricultural, construction of the interstate could have impacts on the character of the area with regards to visual landscapes and noise. Local access to businesses and services in Mullins via S.C. Route 41 and Road S-19 (Bluff Road) and access south on S.C. Route 917 would be maintained and travel patterns would not be altered. Pedestrian travel in the community should not be affected, nor should emergency vehicle access. No interchanges would be located near Gapway so induced development in the immediate area is expected to be limited. Two residences within the Gapway community boundary would be relocated due to Alternatives 3 and 6.

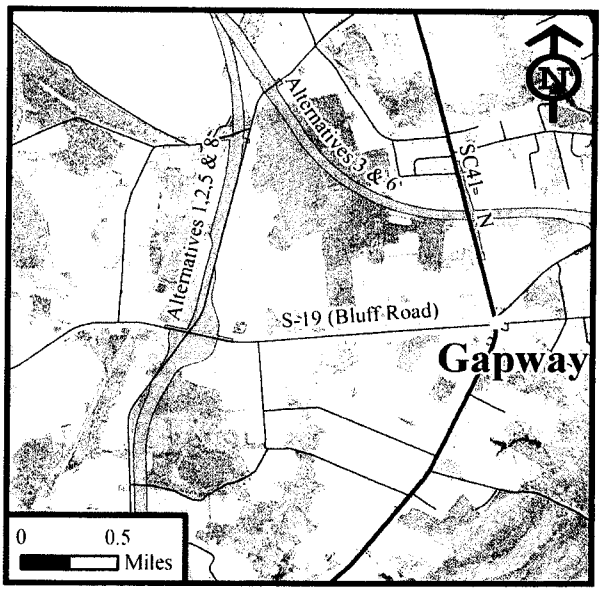


Figure 3-17: Gapway

Alternatives 1, 2, 5, and 8 would proceed along the western edge of the Gapway community near Road S-19 (Bluff Road) (refer to Figure 3-17). The alternatives veer away from Gapway approximately 1.4 miles from the center of the community. The main residential areas of Gapway would remain to the east of the proposed interstate and community cohesion is not likely to be affected. Access towards Marion via Road S-19 would be maintained across the interstate, and access to Mullins would remain unchanged. The alternatives may have similar noise and visual impacts as those for Alternatives 3 and 6, but to a lesser extent because these alternatives would be further from the main residential areas of the community. Within the

Gapway community, as defined by the survey, six residences and one vacant business building would be relocated due to Alternatives 1, 2, 5, and 8.

Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in this portion of Gapway and should not be impacted by the Build Alternatives.

The land use model projected approximately 12 acres of development in the Gapway community, by the Year 2030, as a result of the No-build Alternative (refer to Section 3.1, Land Use). Alternatives 1, 2, and 8 were predicted to result in an additional 13 to 21 acres of new development, while Alternatives 3, 4, 5, 6, and 7 were predicted to result in no additional development to Gapway (Table 3.11, page 3-46).

Summary of impacts

Alternatives 1, 2, 5, and 8 would have six residential relocations and no changes in accessibility. Alternatives 1 and 5 would have 6 impacted noise receivers, Alternatives 2 and 8 would have one impacted noise receiver. Alternatives 3 and 6 would have 2 residential relocations, 11 impacted noise receivers, and no changes in accessibility. Alternatives 4 and 7 would have no relocations, no noise impacts, and no changes in accessibility.

Pecan Pointe

This is a residential subdivision located north of Gapway and approximately two miles south of Mullins along S.C. Route 41. The neighborhood was developed between the years 2000-2002. No comment forms or surveys specifically identifying Pecan Pointe have been received. Pecan Pointe was included in the study because it was mentioned during several interviews with local officials and due to its proximity to the Build Alternatives.

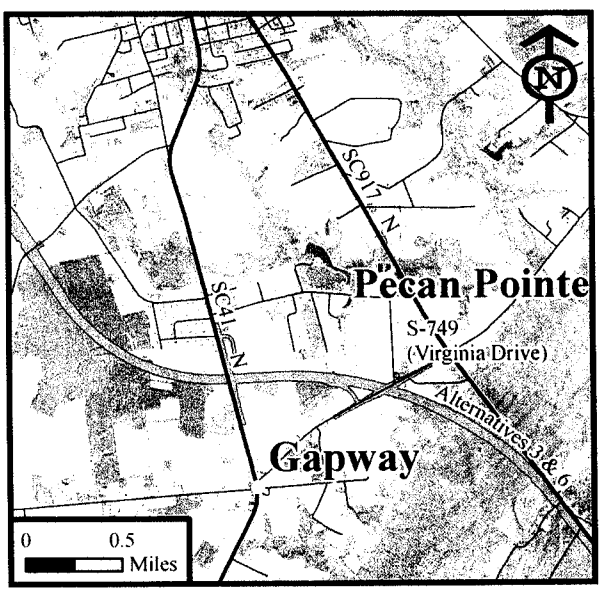
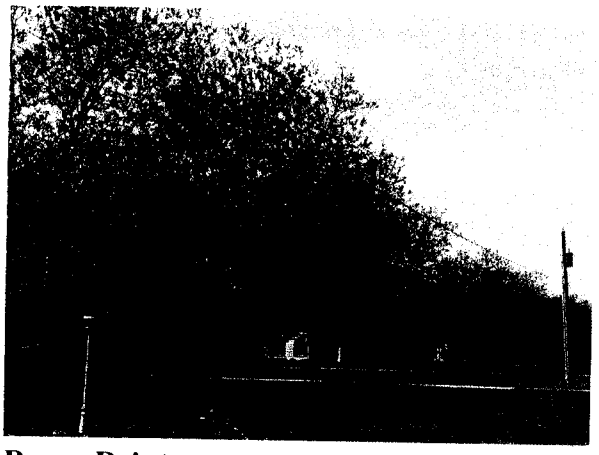


Figure 3-18: Pecan Pointe

Alternatives 3 and 6 would pass to the southwest side of the Pecan Pointe neighborhood, and it would not be separated from Mullins by the proposed project. Pecan Pointe is a residential neighborhood and community cohesion within the neighborhood would not be affected by the project. Pedestrian access would not be impacted. Travel patterns would also not be affected within the community or direct access to services and businesses in Mullins via S.C. Route 41. Road S-749 (Virginia Drive) would become cul-de-sacs, but overall, regional travel patterns should not be affected (refer to Figure 3-18). Emergency services would not be affected. Since Pecan Pointe is located in a rural area just south of Mullins, the project may change the landscape surrounding the neighborhood. Visual impacts and increased noise may occur, however, no relocations would occur within the



Pecan Pointe

neighborhood. No surveys were received from Pecan Pointe; therefore, it is unknown at this time how the residents view this project.

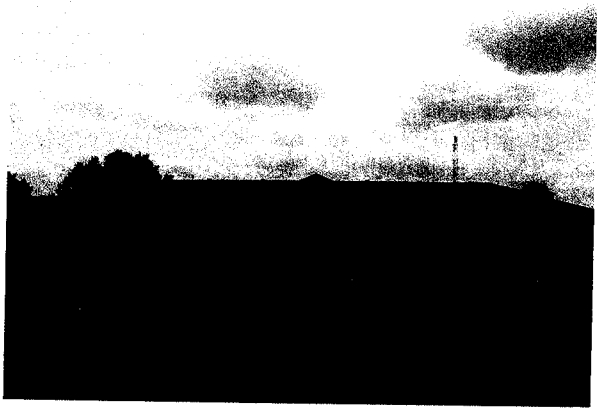
Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in Pecan Pointe and should not be impacted by the Build Alternatives.

Summary of impacts

There would be no relocations, no noise impacts, no changes in accessibility, and no indirect or cumulative impacts.

Rains

Rains is a small, residential area approximately seven miles south of the City of Marion, just off the intersection of U.S. Route 501 and Grady Road. The town received the name Rains in 1914 when the Seaboard Coast Railroad track was being built through the community and rain fell almost continuously during construction.[55]



Rains-Centenary Elementary School

Rains is serviced by the Rains Volunteer Fire Department, located on U.S. Route 501. The Rains Centenary/Pleasant Grove Elementary School is also located off of U.S. Route 501. There are five churches in the community: New Faith Apostolic; New Life Holiness Church; New Hope Holiness Church; Rains Freewill Baptist Church; and the Bethlehem AME Church.

Based on the surveys received from Rains, respondents stated they feel safe in their community and that it is close-knit, with the majority of respondents having other family members living in Rains and planning to stay in the community long-term. Average length of residency for survey respondents is 24 years (individual surveys ranged from six years to 45 years). Respondents from Rains were interested about long-term jobs and jobs during construction, new stores and restaurants, and providing a faster route to nearby communities. Issues like the potential for more air pollution and noise, and changes to their rural way of life were less important to the respondents. No direct comments about the project were received from the community of Rains.

[55] Palmetto Place Names (Writers' Program. South Carolina.)

Alternatives 1, 2, 5, and 8 would pass through the eastern part of Rains, at the edge the municipal boundary of the community. Alternatives 4 and 7 would pass through the extreme eastern portion of the Rains community, as defined by the survey. Alternatives 3 and 6 would be approximately four miles east and would not impact the community of Rains.

Due to the location of Alternatives 1, 2, 4, 5, 7, and 8, no physical barriers would be created within Rains. The proposed alternatives would be located along the eastern edge of the community and travel patterns within Rains would remain unchanged (refer to Figure 3-19). As a result, residents would not be divided or isolated and community cohesion would not be affected. Most stores, public services, schools, and other facilities are located in Marion or Aynor, and access to the areas would be maintained. All potential alternatives near Rains would maintain routes to the east towards Mullins via an overpass at S.C. Route 41. Interchanges would be located to the north of Rains at U.S. Route 76 near Marion and to the south of Rains near Aynor. Alternatives 1, 2, 5, and 8 would require the relocation of one residence in Rains. No emergency services would be affected. Pedestrian access and emergency services would not be affected. Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in this portion of Rains and should not be impacted by the alternatives.

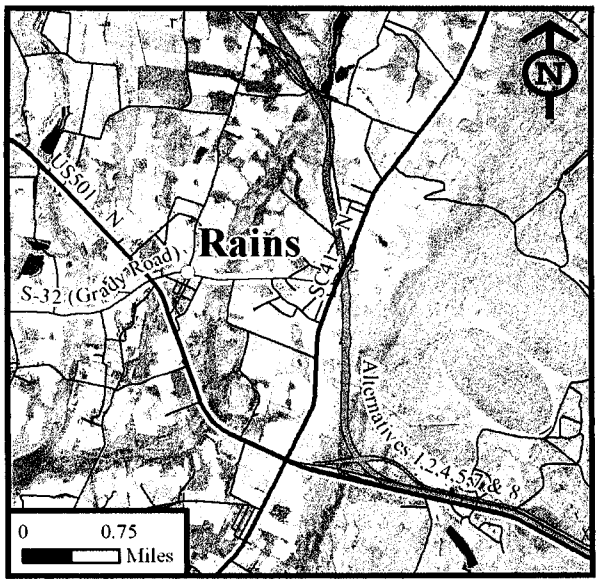


Figure 3-19: Rains

Although growth would be anticipated due to normal increases in population, the land use model predicted no new development due to the No-build Alternative in Rains (refer to Section 3.1, Land Use). Alternatives 1, 2, and 8 were projected to have 30 acres of new development within the community while Alternatives 3, 4, 5, 6, and 7 were projected to add no additional growth (Table 3.11, page 3-46).

Summary of impacts

Alternatives 1, 2, 5, and 8 would have one residential relocation and no changes in accessibility. Alternatives 1 and 8 would have no noise impacts. Alternatives 2 and 5 would have two impacted noise receivers. Alternatives 3, 4, 6, and 7 would have no relocations, no noise impacts, and no changes in accessibility.

Temperance Hill

This rural community has grown up around an agriculture-based, family-farm, crossroads area of northern Marion County located near the triangular intersection of Carroll Road (Road S-37), Dudley Road (Road S-22), and Temperance Hill Road (Road S-23). The community has three active churches (Ebenezer Southern Methodist, Union Baptist Church, and Bethlehem Freewill Baptist Church), a community store, and a volunteer fire department that services over 400 homes in Zion, Sellers, Meadow Hill, and Spring Branch Communities.

Ebenezer Southern Methodist Church in Temperance Hill

The majority of respondents from Temperance Hill felt that it is a very safe, close-knit community where neighbors often interact and have other family members living within the same community. Average length of residency for survey respondents is 46 years (individual surveys ranged from one year to 79 years). Survey data showed that the majority of the respondents did not support the project and thought it could have a negative impact on the community. The main concerns of respondents were related to the possible negative impacts that the project could have on their community, such as community members having to move, change in rural way of life, more air pollution and noise, additional traffic, and having to live close to an interstate. The possible benefits of an interstate, such as faster routes, more jobs, and new stores were not important to many of the respondents. Other comments received indicated a strong sense of community, with many living there for generations on family farms. Some respondents thought that the proposed project would not benefit their community and could destroy the culture of the community.

Two petitions, with 161 and 43 signatures, were received from residents of Temperance Hill expressing their concerns with the project. The community was concerned that all of the alternatives would come through a portion of their community, possibly impacting homes and land. The residents also thought that the alternatives that crossed just north of the community would be the most detrimental, and supported "the easternmost route that takes I-73 between Latta and Dillon."[56]

All eight of the proposed Build Alternatives would impact Temperance Hill to some extent. Alternatives 1, 3, and 5 cross through the community boundary, as defined by survey response, while the other alternatives pass just outside of the Temperance Hill community boundary. Mullins, Latta, and Dillon were the places most often listed by survey respondents to shop, bank, and conduct business. S.C. Route 917, S.C. Route 41 and Road S-23 (Temperance Hill Road) to U.S. Route 501 are the primary routes between Temperance Hill and these cities. None of the proposed Build Alternatives would impede access to those locations.

[56] Petition from Residents and Citizens Concerning I-73 Routing Through Temperance Hill.

Alternatives 1, 3, and 5 would cross the northeastern portion of the community boundary, approximately 0.5 mile from the community center. The main residential areas and churches of the community would remain intact. Access on S.C. Route 27 would be maintained via an overpass, which should not hinder local transportation after construction is complete. Existing Road S-22 (Dudley Road) would be bisected by the interstate; however, connectivity would be maintained by reconfiguring Road S-22 to connect with Road S-242 (Dew Road, refer to Figure 3-20). Road S-198 (Carroll Road) would also be bisected and have cul-de-sacs, which would separate a small group of houses from the community center, but access to the community would be maintained via an overpass at Road S-197 (Old Ebenezer Road).

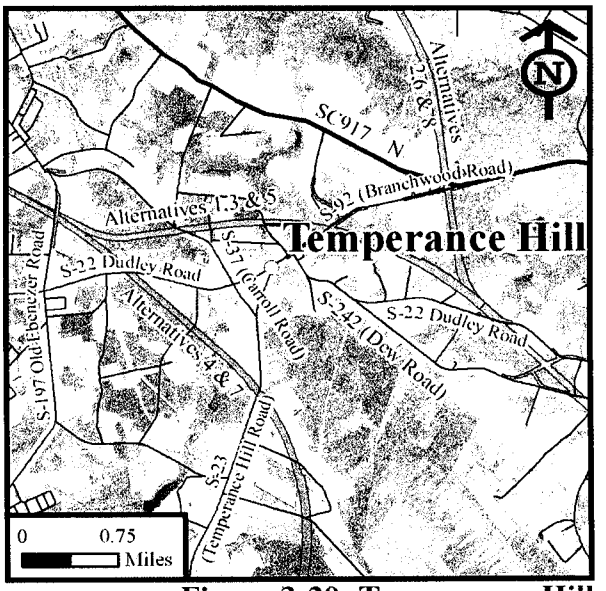


Figure 3-20: Temperance Hill

Alternatives 1, 3, and 5 would require the relocation of four residences, including three houses and one mobile home, and one business, the R&J Quick Store, which is the only convenience store in the area. Overall community cohesion would not be affected.

Alternatives 4 and 7 pass approximately 0.10 mile from the western boundary and approximately one mile to the southwest of the center of the Temperance Hill community. The cohesion of the community would remain unaffected. Road S-22 (Dudley Road) and Road S-23 (Temperance Hill Road) would be bisected by the interstate, and would require local traffic to use alternate routes. Access over the interstate would be maintained on Road S-197 (Old Ebenezer Road), which provides access to Latta and Dillon and to U.S. Route 501 towards Marion. For these alternatives, the closest access for both interstate and local traffic would be at the proposed interchange at U.S. Route 501, three miles northwest of the community center.

Alternatives 2, 6, and 8 would pass within 0.25 miles of the eastern boundary of the Temperance Hill community and approximately 1.5 miles to the east of the community center. Road S-22 (Dudley Road) would be bisected by the proposed interstate and access across the interstate would be located at Road S-242 (Dew Road). Traffic along S.C. Route 917 would be re-routed for a short distance along existing Road S-92 (Branchwood Road) and would then pass under I-73, maintaining connectivity for S.C. Route 917 towards Mullins. Travel to Latta would not be affected by these alternatives and they would have the overall least impact on local travel patterns. These routes join the proposed routes for Alternatives 1, 3 and 5 and would have the same effects as those roads from Road S-22 southward. The primary land uses in the area are residential and agricultural.

For all of the proposed Build Alternatives, changes to the visual landscape and/or noise impacts may occur, but community cohesion would not be affected. Pedestrian travel should not be hindered

and emergency service routes may have to be altered but access to all areas of the community will be maintained. Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in this portion of Temperance Hill and should not be impacted by the Build Alternatives.

Although growth would be anticipated due to normal increases in population, land use modeling predicted that no development from the No-build Alternative is likely to occur in the community (refer to Section 3.1, Land Use). With the exception of Alternative 3, which would provide no new development, all alternatives would result in approximately 30 acres of new development in Temperance Hill (Table 3.11, page 3-46). Potential new development predicted by the land use model is further explained in Section 3.1.

Summary of impacts

Alternatives 1, 3, and 5 would have four residential and one business relocation, 1 impacted noise receiver, and one road bisected. Alternatives 2, 4, 6, 7, and 8 would have one road bisected.

Spring Branch

This rural crossroads community is an agriculture-based, family-farm area in northern Marion County, located on high ground west of Grassy Bay and just north of Marion. The community consists of residential areas, including the neighborhood of Ellerby Heights, and several churches: Spring Branch Church, Saint Stevens Baptist Church, Fork Chapel AME and St. Phillips United Methodist Church.

S-263 in Spring Branch

Based on surveys received from Spring Branch, the majority of respondents interacts regularly with their neighbors, but do not feel that it is a close-knit community or have other family members living in the areas. Average length of residency for survey respondents is 16 years (individual surveys ranged from three to 40 years). The majority of Spring Branch respondents thought that the project would improve the community. The levels of importance assigned by respondents to various concerns related to the project ranged widely. Least important to respondents was the likelihood of themselves or their neighbors having to move and an increase in neighborhood traffic. Most important were the creation of both construction related and long-term jobs, and the possibility of bringing in new businesses. Respondents voiced a need for an uplift of the economy with new jobs and economic growth, along with the construction of community and art centers.

Although the alternatives do not affect the community boundary, as defined by the survey, and are not anticipated to affect community cohesion, Alternatives 4 and 7 pass within 0.8 miles of Spring Branch. An overpass is proposed for Road S-263 (Sellers Road) east of the community and an interchange would be located at U.S. Route 501, approximately one mile to the southeast.

Road S-223 and Road S-23 (Temperance Hill Road) are the primary routes between Spring Branch, Marion, and Latta, where Spring Branch respondents reported shopping, banking and conducting business (refer to Figure 3-21). Development may be expected to occur in the area of the proposed U.S. Route 501 interchange; however, based on community input, development could have a positive impact on the Spring Branch community. Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in this portion of Spring Branch and would not be impacted by the alternatives.

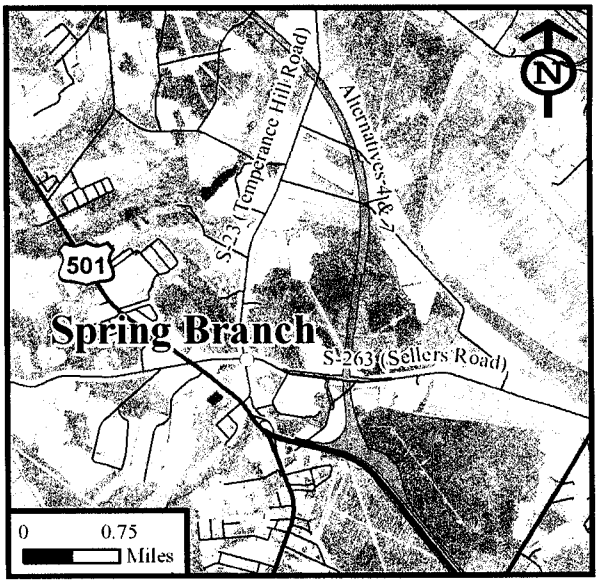


Figure 3-21: Spring Branch

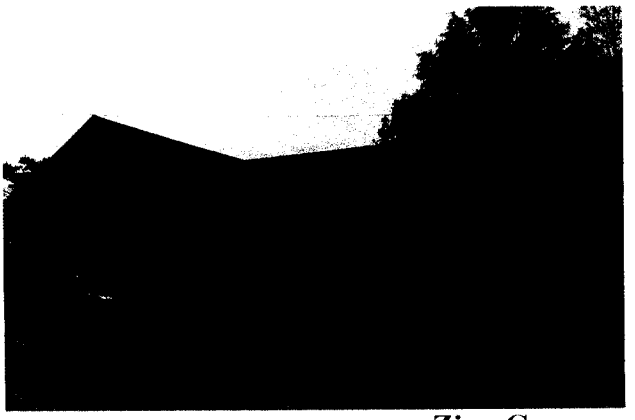
There are no commercial or residential relocations associated with the Spring Branch community for any of the proposed alternatives, and no emergency services would be affected. Although growth would be anticipated due to normal increases in population, the land use model predicted no development due to the No-build Alternative in the community (refer to Section 3.1, Land Use). However, all of the alternatives were projected to bring 21 acres of new development to Spring Branch (Table 3.11, page 3-46).

Summary of impacts

Alternatives 1, 2, 5, and 8 would have one residential relocation, no noise impacts, and no changes in accessibility. Alternatives 3, 4, 6, and 7 would have no relocations, no noise impacts, and no changes in accessibility.

Zion

Zion is a small residential area approximately four miles north of Mullins at the intersection of S.C. Route 41 and Zion Road. There are several residential areas, a community store, and two churches, the Mt. Zion AME and Everbee Baptist.


Zion Grocery

Comments from the surveys were received from Zion show that respondents feel very safe in

their community and the majority felt that it is a close-knit community in which they interact regularly with their neighbors and have other family members living in Zion. Average length of residency for survey respondents is 33 years (individual surveys ranged from nine years to 77 years). The main concerns of respondents were jobs during construction and long-term jobs, new stores and businesses in the area, family or friends moving away, and changes to their rural way of life. Other important issues varied among respondents; however, several mentioned the importance of preserving the character of their community.

Zion would be affected by Alternatives 1, 2, 3, 5, 6, and 8, which pass through the Zion community, as defined by the survey. An interchange at S.C. Route 41 would be located just to the west of the community's center. Alternatives 4 and 7 would not impact Zion, as it would be over three miles farther to the west.

The construction of the interstate would separate residences west of Zion from the community center, including the store, local churches, and the main residential areas. However, access would be maintained and connectivity of the existing roads in this area would remain intact. As a result, travel patterns would not be affected and would not prevent residents from interacting and pedestrian access would not be impacted. Road S-22 (Methodist Church Road) is the primary access from Zion to businesses and services in the City of Mullins (refer to Figure 3-22). Although the road configuration would change, this connection would be maintained via a frontage road. Due to the re-configuration of local roads, travel patterns may be affected temporarily during construction.

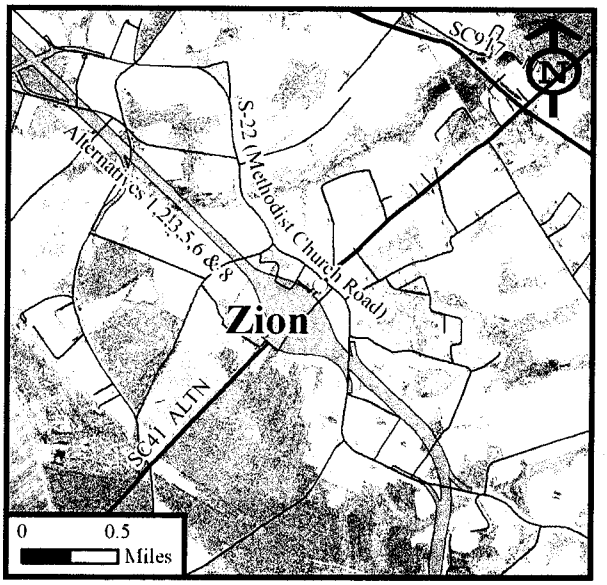


Figure 3-22: Zion

Currently, the Zion area is primarily rural and residential. Over time, development resulting from the project could cause changes to the character of the area. The proposed project could change the visual landscape of the area and create noise impacts. Emergency services from Temperance Hill or Mullins would not be affected. The alternatives would require relocation of eight residences in Zion, including seven houses and one mobile home. Census data shows a high percentage of persons with disability in this block group; it is unknown at this time if any of the relocations in Zion would affect disabled. The evaluation of the Preferred Alternative in the Final EIS would address potential impacts.

Based on land use modeling, no new development due to the No-build Alternative would be predicted to occur in Zion, although growth would be anticipated due to normal increases in population (refer to Section 3.1, Land Use). Alternatives 1, 2, 5, and 8 are projected to bring 10 additional acres of

development to the community, while Alternatives 3, 4, 6, and 7 are predicted to result in no new additional growth to Zion (Table 3.11, page 3-46).

Summary of impacts

Alternatives 1, 2, 3, 5, 6, and 8 would have eight residential relocations, six impacted noise receivers, and no permanent changes in accessibility. Alternatives 4 and 7 would have no relocations, no noise impacts, and no changes in accessibility.

3.3.10 What are the characteristics of Horry County and how would it be impacted?

Horry County covers 1,160 square miles[57] of beaches, rivers, streams, and swamps making it the largest county in South Carolina. The largest city within the county is Myrtle Beach and the county seat is Conway. The demographic and economic characteristics of the communities in Horry County are shown in Tables 3.8 and 3.9, pages 3-35 and 3-36, respectively.

The South Carolina State Library Reference Room states that "Horry was named after Brigadier General Peter Horry, a Revolutionary War Hero. The county was originally a part of Georgetown District but became a separate county in 1801. This area of the state was isolated for many years by numerous rivers and swamps, and the inhabitants sometimes referred to themselves as the "Independent Republic of Horry."[58] During the 18th and early 19th centuries, Horry County's primary industries were lumber, turpentine, naval stores, and tobacco farming. Today, tourism has come to dominate the coastal areas of the county with major growth in and around the City of Myrtle Beach.

The majority of western Horry County is unincorporated and is primarily undeveloped and rural in nature, with a mixture of land uses including forest/agriculture, conservation preservation, residential, industrial, commercial, parks, recreation, and municipalities.[59] The Town of Aynor is the largest community within the CIA study area in Horry County. Conway is the closest city to the CIA study area and is considered the gateway to the Myrtle Beach and the Grand Strand area.

All of the alternatives would link to S.C. Route 22, the Conway Bypass, in the northeastern part of Horry County. Of the surveys received from Horry County, the majority of respondents did not support the project being built in the area and thought the project could have a negative impact on their community.

As detailed in Chapter 1, Horry County has experienced substantial growth in its population and economy over the past 20 years. Respondents who live in the urbanized portions of Horry County showed stronger support for the project than those living in rural areas of the county. In general, the

[57] Horry County Comprehensive Plan, March 16, 1999

[58] South Carolina Association of Counties website, Horry County page. http://www.sccounties.org/counties/Profiles/horry-profile_files/horry-profile.htm Last accessed March 13, 2006.

[59] South Carolina. "Horry County Comprehensive Plan." Horry County Government. 17 Jan. 2006 http://www.horrycounty.org

majority of respondents living in smaller communities within Horry County like Cool Spring, Ketchuptown, Poplar Hill, Dog Bluff, and Methodist Rehobeth, did not support the project being built in the area. Respondents from rural areas were much more concerned about potential impacts the project could have on their communities, viewing the project as a negative impact to their community.

On March 10, 2005, a public information meeting was held at Myrtle Beach High School in Horry County. A total of 235 people attended and 49 left comments at the meeting. Approximately 40 percent of the respondents supported the project, while 16 percent were against it, and the rest provided no comment. The use of U.S. Route 501 was favored by 16 percent of the respondents and opposed by 35 percent. Respondents were concerned with loss of residences, historic sites, wetlands, and family farms. Most wanted the interstate to avoid small communities and towns such as Aynor, Cool Spring, Ketchuptown, and Galivants Ferry.

A second public information meeting was held on March 22, 2005, at the Aynor High School and 620 citizens attended. Of the 194 people that provided comments, less than 20 percent supported the project. Opinions of the project were generally consistent throughout the portion of Horry County in the project study area. The rural/urban dichotomy seen in Marion and Dillon Counties was not as evident in Horry County from the surveys, comments, and letters received. Most respondents in the project study area portion of Horry County did not support the project. Many of the comments received at the public meeting suggested putting the roadway closer the state's border with North Carolina and using existing S.C. Route 9. Respondents did not think that the construction of an interstate was needed and were, in large part, apprehensive of the project's impact to their community and their way of life. In general, the potential for economic development was not as important to the respondents as it was for the respondents surveyed in other counties of the project study area.

Land use modeling projected that approximately 1,525 acres of new development would occur in Horry County with the No-build Alternative, regardless of this project (refer to Section 3.1, Land Use). The eight Build Alternatives are predicted to result in additional development, ranging from 285 acres to 470 acres, depending on alternative (Table 3.12, page 3-62). New development could bring in economic development such as new businesses which would create new jobs. However, it could also bring in increased traffic and noise throughout communities in the County.

3.3.11 What are the characteristics of Cities and Towns located within Horry County and how would they be impacted?

Aynor

The Town of Aynor is located in the northwestern part of Horry County along U.S. Route 501. Aynor started out as a railroad depot. It was originally laid out in 1906 by the timber and turpentine

Table 3.12
Horry County and Communities Projected 2030 Development by Acreage
Interstate 73 EIS: I-95 to the Myrtle Beach Region

County/Community/Neighborhood	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
Horry County								
Induced Development	331	470	285	312	420	334	334	376
Cumulative Development	1,856	1,995	1,810	1,837	1,945	1,859	1,859	1,901
Horry County Communities								
Aynor								
Induced Development	271	258	183	252	224	193	193	283
Cumulative Development	1,658	1,645	1,870	1,639	1,611	1,580	1,580	1,670
Galivants Ferry								
Induced Development	312	210	171	312	200	181	181	312
Cumulative Development	1,072	970	931	1,072	960	941	941	1,072
Cool Spring								
Induced Development	10	28	0	10	28	0	10	10
Cumulative Development	472	490	0	472	490	0	472	472
Joiner								
Induced Development	0	0	0	0	0	0	0	0
Cumulative Development	0	0	0	0	0	0	0	0
Methodist Rehobeth								
Induced Development	0	0	0	0	0	0	0	0
Cumulative Development	0	0	0	0	0	0	0	0
Ketchuptown								
Induced Development	0	0	0	0	0	0	0	0
Cumulative Development	0	0	0	0	0	0	0	0
Dog Bluff								
Induced Development	0	0	0	0	0	0	0	0
Cumulative Development	81	81	81	81	81	81	81	81
Poplar Hill								
Induced Development	0	0	0	0	0	0	0	0
Cumulative Development	16	16	16	16	16	16	16	16
Bakers Chapel								
Induced Development	0	107	1	0	67	1	1	1
Cumulative Development	80	187	81	80	147	81	81	81

company, Burroughs and Collins, and was incorporated in 1913. Aynor was a tobacco and cotton market for Horry County. Its nickname is "Little Golden Town".[60]

Aynor's community facilities include the Aynor Branch of the Horry County Memorial Library and Aynor Recreation Center. The citizens of Aynor are serviced by a fire and rescue station within the Town and the Aynor Police Department.

[60] Myrtle Beach Area Chamber of Commerce.http://www.myrtlebeachinfo.com/chamber/aboutarea/communities.html Last accessed March 13, 2006.

The Aynor community boundary, as defined by the survey responses, is much larger than the incorporated town limits, and includes many of the rural Horry County communities within the CIA study area. Due to this fact, the survey data for the town and the community of Aynor were assessed collectively. Comments received from surveys showed that a high majority of respondents feel they have a high quality of life, live in a safe environment, it is a close-knit community, interact with their neighbors, and have other family members living in the Aynor community. Respondent concerns included the loss of farms, the potential changes to their rural way of life, living to close to an interstate, and creating dangerous routes for school traffic. Issues such as faster routes and bringing in new businesses were of low importance to respondents.

Though respondents did not support the project as a whole, they submitted a petition of 888 signatures that indicated which alternatives would be best for their community. The letter to SCDOT, dated January 16, 2006, supported alternatives that would closely follow the existing attendance zones for the Aynor school area. "Following school attendance zones would preserve this long standing, close knit community."[61] The alternatives that would most closely follow this recommendation are Alternatives 3 and 6.

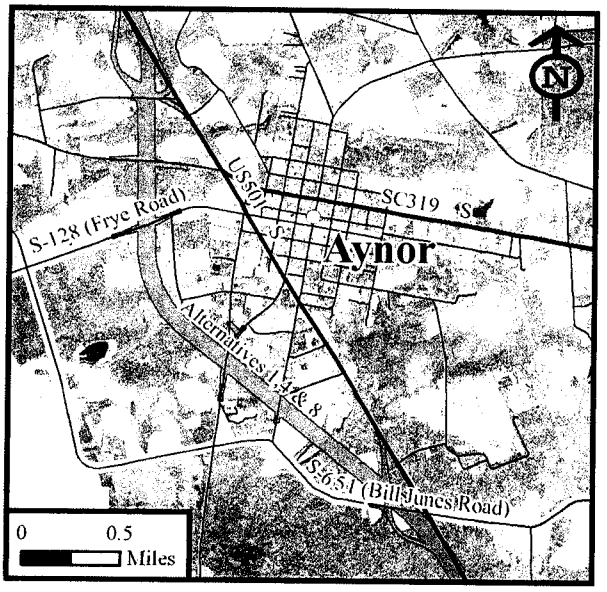


Figure 3-23: Aynor

The Town of Aynor would be impacted by Alternatives 1, 4, and 8, which pass the downtown area to the west. Proposed interchanges would be constructed northwest and southeast of Aynor where the alternatives depart from and reconnect to existing U.S. Route 501. The downtown and main residential areas of Aynor would remain intact and cohesion in this area would not be affected. The alternatives would separate more rural residential areas from downtown. Although access would be maintained, the interstate could be perceived as a barrier between these areas. Alternatives 1, 4, and 8 would separate Aynor High School from Aynor Middle School, Aynor Elementary School and the downtown area. Connectivity between the schools would be maintained with an overpass at Road S-128 (Frye Road), (refer to Figure 3-23).

Regional travel patterns, between Conway and Marion along U.S. Route 501 would be altered. Access between the project and U.S. Route 501 would be limited to two interchanges and one-way frontage roads built adjacent to the project. These one-way frontage roads would be used for local access where the project would replace existing U.S. Route 501. Road S-651 (Bill Jones Road) to the east of Aynor would be converted to a cul-de-sac at the interstate; however, S-651 would still have direct access to U.S. Route 501 Business into downtown Aynor. Through the Town of Aynor, existing U.S. Route 501 would become a business route and travel patterns in the downtown area

[61] Horry County petition

would remain unchanged, and accessibility for pedestrian traffic and other modes of travel would also remain intact. Emergency service routes may be altered but access to all areas of the community would be maintained. Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in this portion of Aynor and would not be impacted by the alternatives.

Displacements and relocations that would result from Alternatives 1, 4, and 8 would include the following:

- 19 homes, including 15 houses and four mobile homes;
- Three businesses, including Woody's Auction, Van Lott, Inc., and Lamar's Meat Market; and
- One public facility, Horry County Recycling.

Based on the land use model, approximately 1,387 acres of development is anticipated with the No-build Alternative by the Year 2030 (refer to Section 3.1, Land Use). The eight Build Alternatives were predicted to result in an additional amount of development, ranging between 183 and 283 acres, depending on alternative (Table 3.12, page 3-62).

The volume of tourist traffic increases during the summer months in the Town of Aynor. Many tourists briefly stop for convenience services such as gas stations and restaurants. Alternatives 2, 3, 5, 6, and 7 would be located away from Aynor, and tourist-friendly businesses could be adversely impacted due to loss of revenues.

Summary of impacts

Alternatives 1, 4, and 8 would have 19 residential, 3 business, and 1 community facility relocations, no noise impacts, and accessibility affected by one-way frontage roads. Alternatives 2, 5, and 7 would have no relocations, one impacted noise receiver, and no changes in accessibility. Alternatives 3 and 6 would have no relocations, no noise impacts, and no changes in accessibility.

3.3.12 What neighborhoods and rural communities are located within Horry County and how would they be impacted?

Cool Spring

Cool Spring is a residential area located approximately four miles southeast of Aynor, along S.C. Route 319. The name originates from a small spring that was referred to by local respondents many years ago as the cool spring. Area churches include Cool Spring Methodist Church, St. Peter's AME Church and St. Matthew's Baptist.

S.C. Route 319 in Cool Spring

Based on comments received from the community, the respondents of Cool Spring commented on the high quality of life and safety in this quiet and peaceful rural area. The majority of respondents has family in the area, feel their community is close-knit, and interact regularly with their neighbors. Average length of residency for Cool Spring surveys is 27 years, with individual surveys ranging up to 79 years. Survey data show that the majority of respondents did not support the project being built in this area and thought that it could have a negative impact on their community. The main concerns of respondents included changes to their rural way of life, living too close to an interstate, and creating dangerous routes for children to get to school. Issues such as faster travel routes and bringing in new businesses appeared to be of low importance. Other concerns from the community included impacts to quality of life, safety, losing neighbors and splitting their neighborhood.

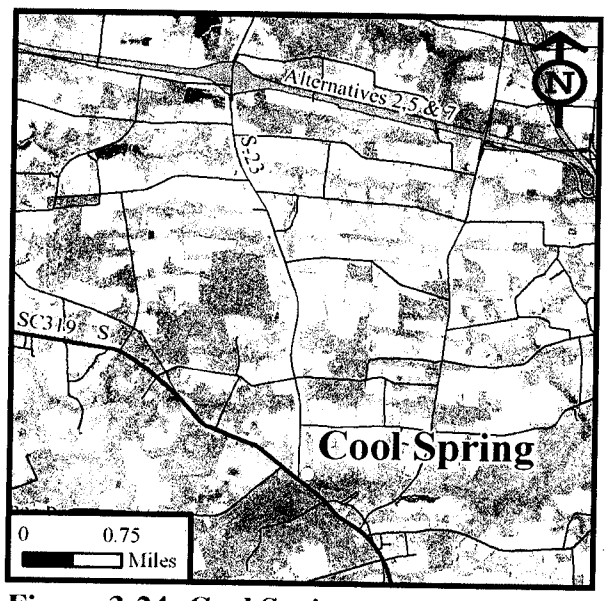


Figure 3-24: Cool Spring

The community of Cool Spring would be impacted by Alternatives 2, 3, 5, 6, and 7, which impact the easternmost section of the community, as defined by the survey. For Alternatives 2, 5, and 7, an interchange would be constructed at Road S-23 (Nichols Highway), (refer to Figure 3-24).

The main residential areas of Cool Spring are located near the intersections of S.C. Route 319, Road S-131 (Edwards Road), Road S-75 (Valley Forge Road) and Isaac Gerald Road. The alternatives would not impact community cohesion or the interaction of residents. Connectivity of the existing roads in this area would remain intact and travel patterns would remain the same. Pedestrian access and emergency services would not be impacted. Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in this portion of Cool Spring and would not be impacted by the alternatives.

Alternatives 2, 5, and 7 would relocate eight residences, including six houses, one mobile home, and one vacant residence. Alternatives 3 and 6 would require the relocation of three residences, two houses and one vacant residence.

Construction of the Road S-23 interchange would provide convenient access to the Cool Spring Industrial Park located on S.C. Route 319. Improved access could potentially help the development of the industrial park and in turn, provide additional jobs for this area. The land use model predicted that 462 acres of development would occur with the No-build Alternative in the Cool Spring community (refer to Section 3.1, Land Use). Alternatives 1, 4, 7, and 8 were predicted to result in an additional 10 acres of development in the community, while Alternatives 2 and 5 would result in

an additional 28 acres of development. Alternatives 3 and 6 are not predicted to result in any new development in the Cool Spring community (Table 3.12, page 3-62).

Summary of impacts

Alternatives 1, 4, and 8 would have no relocations, no noise impacts, and no changes in accessibility. Alternatives 3 and 6 would have two residential relocations, one impacted noise receiver, and no changes in accessibility. Alternatives 2, 5, and 7 would have seven residential relocations, one impacted noise receiver, and no changes in accessibility.

Galivants Ferry

Galivants Ferry is located north of Aynor, paralleling the Little Pee Dee River. This was the location of Galivant's ferry to cross the river until a bridge was constructed in the 1890's. In the late 1800's, state and local Democratic candidates began coming to Pee Dee Farms General Store in May to give political speeches at the Galivants Ferry Stump meeting. The original general store is now a convenience store, located on U.S. Route 501 at the Little Pee Dee River crossing. Because of its history, portions of Galivants Ferry have been designated a NRHP historic district. Area churches include: Galivants Ferry Baptist Church, Zion Methodist, Red Hill Southern Methodist, Union Chapel AME Church, Gethsemane Pentecostal Church, and Antioch Baptist Church.

Galivants Ferry Stump

Galivants Ferry Convenience Store

Comments received indicate that respondents report a very good quality of life and feeling safe in the community. The majority of survey respondents has family in the area, feel their community is close-knit, and interact with their neighbors regularly. The slight-majority of those surveyed did not support the project being built in the area. Important issues to the residents of Galivants Ferry include changes to their rural way of life, living too close to an interstate, more traffic in the area, and the potential for more air pollution and noise. Other issues raised included concerns about safety, the relocation of homes and families that have been in the community

for generations, and churches. Several residents suggested that a more southerly route would not disrupt as many homes and the community.

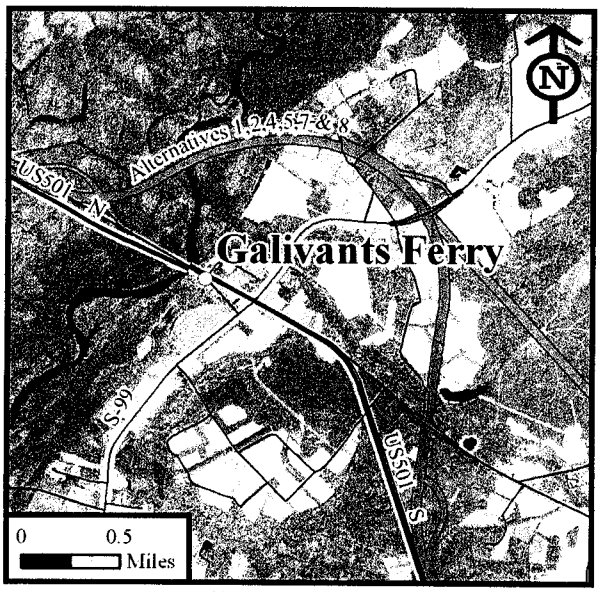


Figure 3-25: Galivants Ferry

Alternatives 1, 2, 4, 5, 7, and 8 enter the Galivants Ferry community north of the community center near the U.S. Route 501 crossing of the Little Pee Dee River (refer to Figure 3-25). The alternatives then shift away from U.S. Route 501 at this location to avoid the Galivants Ferry Historic District. Alternatives 1, 4 and 8 rejoin U.S. Route 501 south of the junction with S.C. Route 129 and continue south toward Aynor while Alternatives 2, 5, and 7 continue eastward through the community, as defined by the survey.

Accessing the main roads in the area would be maintained with overpasses, which would allow travel patterns not to be impacted. However, with Alternatives 1, 4, and 8, one-way frontage roads on each side of the proposed interstate would be planned for this area. Access to both directions of travel on U.S. Route 501 would not be available at every overpass. Motorists would be required to travel in the opposite direction for a short distance in order to reach an overpass to allow them to travel in the direction they wanted. Access to U.S. Route 501 in both directions of travel would not be altered with Alternatives 2, 5, and 7, and emergency service routes are not likely to be affected. Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in this portion of Galivants Ferry and would not be impacted by the alternatives.

Alternatives 1, 4, and 8 would result in the relocation of seven residences, and two produce stores, the Winburn Produce and PoBoy Produce. Local businesses, including the Pee Dee Farms General Store, are located on U.S. Route 501, and the alternatives could reduce the tourist traffic passing by these establishments.

Based on the land use model predictions, approximately 760 acres of new development is predicted to occur in the Galivants Ferry community boundary, due to the No-build Alternative. All the alternatives would add an additional amount of new development to the community, ranging from 171 to 312 acres, depending on alternative (Table 3.12, page 3-62).

Summary of impacts

Alternatives 1, 4, and 8 would have 7 residential and 2 business relocations, 1 impacted noise receiver, and accessibility affected by one-way frontage roads. Alternatives 3 and 6 would have no relocations, 1 impacted noise receiver, and no changes in accessibility. Alternatives 2, 5, and 7 would have no relocations, 2 impacted noise receivers, and no changes in accessibility.

Ketchuptown

Ketchuptown is a rural, family-farm community located in western Horry County between Lake Swamp and S.C. Route 917, near the Little Pee Dee River. By the late 1920's, the intersections of Lake Swamp Road and Nichols Highway had become known as a place for farmers to gather to "catch up" on the news. The local general store at Ketchuptown was built in 1927 and is now being used as a museum.

Of the surveys received, comments show that respondents feel it is a close-knit community, have a very high quality of life, feel very safe in their community, and have family nearby. Average length of residency was 48 years, with individual surveys ranging from 22 to 71 years. The majority of respondents did not support the project being built in the area and thought it would have a negative impact to the community. Issues that were important to the respondents were changes to their rural way of life, more traffic in the neighborhood, and living too close to an interstate. In addition, respondents expressed concern that family farms would be divided by the proposed project and they would not be able to pass the farms on to the next generation. Issues that were not of great importance to the community were faster routes in the community or regionally, bringing in new businesses, stores, and restaurants, and jobs during road construction into the area.

Former Ketchuptown Store

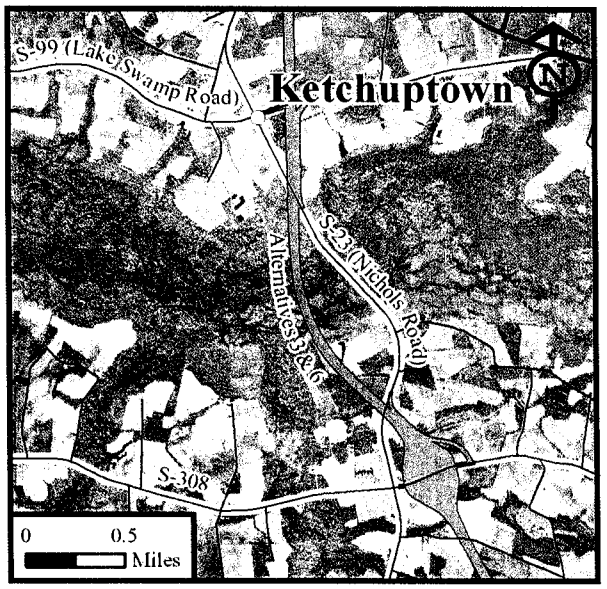


Figure 3-26: Ketchuptown

Alternatives 3 and 6 would cross the Ketchuptown area just east of the main crossroads at the center of the community, as defined by the survey. The other Build Alternatives would be over four miles to the west. The majority of Ketchuptown residents live to the south and west of Alternatives 3 and 6 and community cohesion would not be affected. The community area is primarily rural and agricultural and depending on the proximity of residences to the interstate, changes to the visual landscape and noise impacts could occur.

Access along local roads in the area would be maintained with overpasses at Road S-99 (Lake Swamp Road) and Road S-23 (Nichols Highway), (refer to Figure 3-26). Access to Mullins via Road S-23 to S.C. Route 917 would not be altered, although portions of the road would become frontage roads adjacent to the

roadway. Access to the south along Road S-23 toward Aynor and Conway would require motorists to travel along frontage roads and through an interchange at Road S-308 to reach these destinations. The interchange at Road S-308 would be located approximately two miles south of Ketchuptown and induced development is expected to be limited in the area. Alternatives 3 and 6 would result in two residential relocations; however, no businesses or emergency services would be affected. Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in Ketchuptown and would not be impacted by the alternatives.

The land use model predicted no new development in the Ketchuptown community with the No-build Alternative, although growth would be anticipated due to normal increases in population (refer to Section 3.1, Land Use). In addition, no new development was predicted from any of the alternatives. Therefore, no indirect or cumulative impacts would be anticipated to Ketchuptown.

Summary of impacts

Alternatives 1, 2, 4, 5, 7, and 8 would have no relocations, no noise impacts, and no changes in accessibility. Alternatives 3 and 6 would have two residential relocations, no noise impacts, and no changes in accessibility.

Poplar Hill

Poplar Hill is a rural, residential area located approximately seven miles east of Aynor and is the name for the local voting precinct at the Pleasant Union Baptist Church on Minnick Road. The landscape for the Poplar Hill area is characterized by farmland, widely scattered residential homes, forestland, and swamps. It also has a go-cart race track. Local churches include Pleasant Union Baptist Church, Cool Springs Southern Methodist Church, Salem Baptist Church, and Bakers Chapel Mission Baptist Church.

A Farm in Poplar Hill

Responses from the surveys indicate respondents of the Poplar Hill area enjoy a high quality of life, feel the area is very safe, feel that their community is close-knit, have family in the community, and often interact with their neighbors. Average length of residency is 50 years, with individual surveys ranging from 28 to 60 years. The majority of responses received did not support the project being built in the area and thought it would have a negative impact on the community. Important issues reported through the survey included changes to their rural way of life, living too close to an interstate, more air pollution and noise, and increased traffic in the neighborhood. Issues that were not important to the community were faster regional travel and bringing new stores and businesses to the area. Other comments included concerns about impacts to farms, the school district, and the displacement of family members and neighbors.

Alternatives 2, 3, 5, 6, and 7 would cross the extreme northeastern portion of the Poplar Hill area through wooded areas. Alternatives 1, 4, and 8 would be approximately seven miles to the west of Poplar Hill. Majority of residential development would be located to the south of the alternatives. Because the alternatives are located along the edge of the community, they are not likely to divide or isolate neighborhoods or residents. Community cohesion would not be affected.

The proposed alternatives pass through an area that is rural and predominantly agricultural, and most stores, public services, schools, and other facilities are located in Aynor and Conway. Access to these areas and travel patterns would remain unchanged. Overpasses at Road S-75 (Valley Forge Road) and Road S-569 (Good Luck Road) would also maintain access towards Mullins (refer to Figure 3-27). No residential or business relocations are expected and emergency services should not be affected. Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in Poplar Hill and would not be impacted by the alternatives.

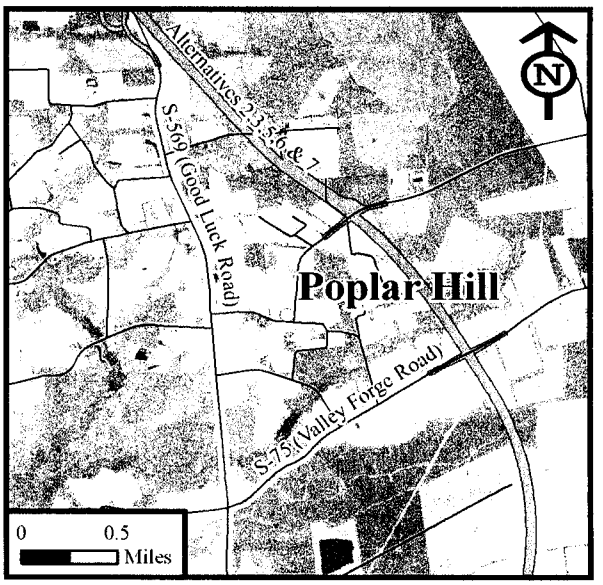


Figure 3-27: Poplar Hill

The land use model predicted 16 acres of new development in the Poplar Hill community due to the No-build Alternative (refer to Section 3.1, Land Use). However, no new development was predicted from any of the alternatives.

Summary of Impacts

Alternatives 1, 2, 3, 4, 5, 6, 7, and 8 would have no relocations, no noise impacts, and no changes in accessibility.

Joyner/Joiner

Joyner is a rural residential area located near Joyner Swamp, (Joyner has been spelled both ways on maps and signs throughout the CIA study area). This community was included because numerous survey respondents identified Joyner as the community with which they associate themselves. There is a Joyner Fire Station located near the intersection of Joyner Swamp Road (S-45) and Good Luck Road (S-569).

Based on the surveys, respondents feel that they have a high quality of life, that they live in a very safe environment, that it is a close-knit community, have other family members living within the same community, and regularly interact with the neighbors. Average length of residency among

survey respondents was 34 years (individual surveys ranged from 1 to 78 years). The majority of respondents did not support the project being built in this area and thought that it could have a negative impact on their community. The main concerns of respondents were possible changes to their rural way of life, living too close to an interstate, and creating dangerous routes for children to get to school. Other major issues that were noted include the potential change of school districts, separating families that live in the community, and separating churches from the community. Issues such as faster travel routes and bringing in new businesses were of low importance to the respondents.

The community of Joyner would be impacted by Alternatives 2, 3, 5, 6, and 7. Alternatives 3 and 6 cross through the center of the community boundary, as defined by the community surveys. An interchange would be located at Road S-308 (McQueen Road), to the north of the Joyner community (refer to Figure 3-28). Alternatives 2, 5, and 7 would cross through the southernmost portion of the community and an interchange would be located at Road S-23 (Nichols Highway), within the Joyner community. Alternatives 1, 4, and 8 would be over four miles to the west of Joyner.

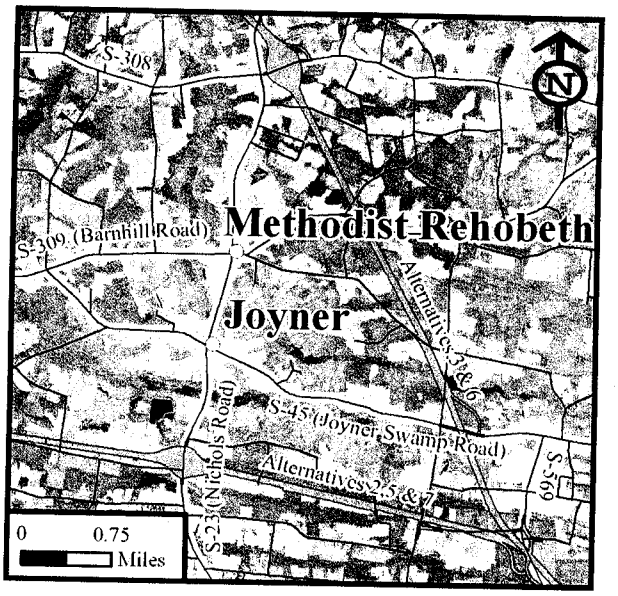


Figure 3-28: Joyner

Residential development is widely scattered throughout the community with some concentration along Road S-45. Connectivity of the existing roads in this area would remain intact and local travel patterns would remain the same. Interaction among the residents in the community would not be hindered. Development around the interchanges at Road S-308 or Road S-23 would more than likely be limited to the immediate area since they would be in isolated areas and are not near any existing development. Infrastructure such as water, electricity, and sewer are not readily available and the cost to supply this would be considerable.

This area is primarily wooded swamp, rural and residential. Construction of an interstate in this area could affect the visual landscape and the character of the area. Noise impacts could also occur in the area.

Alternatives 3 and 6 would relocate three residences, including one house and two mobile homes. Alternatives 2, 5 and 7 would require the relocation of several residential outbuildings such as garages, barns, and sheds, but no homes would be relocated. No emergency services would be affected. Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in Joyner and would not be impacted by the alternatives.

Although growth would be anticipated due to normal increases in population, the land use model predicted no new development in the Joyner community due to the No-build Alternative. In addition,

no new development was predicted from any of the alternatives. Although the land use model did not predict any new development in the Cool Spring Industrial Park as a result of the project, Alternatives 2, 5, and 7 would provide convenient access to the Park with the interchange at Road S-23. This improved access could potentially encourage new development in the industrial park.

Summary of Impacts

Alternatives 1, 4, and 8 would have no relocations, no noise impacts, and no changes in accessibility. Alternatives 3 and 6 would have three residential relocations, two impacted noise receivers, and no changes in accessibility. Alternatives 2, 5, and 7 would have two impacted noise receivers and no changes in accessibility.

Bakers Chapel

Bakers Chapel is a rural area located approximately 11 miles southeast of Aynor and approximately 10 miles north of Conway. It is located just north of the Conway Bypass along Road S-97, (Bakers Chapel Road) between S.C. Route 319 and U.S. Route 701. Local churches in the area include Cool Spring Southern Methodist Church, Salem Baptist Church, and Bakers Chapel Mission Baptist Church.

As noted in the responses from the surveys received, respondents of the Bakers Chapel area commented that they enjoy a very high quality of life and like living in a safe, quiet, country neighborhood. The majority of the respondents feel that the community is close knit, have family in the community, and interact often with their neighbors. The average length of residency for respondents is 22 years. The majority of responses received did not support the project being built in the area and thought it would have a negative impact on the community. Important issues reported through the survey included the potential for more air pollution and noise, friends or family having to move, and more traffic in the neighborhood. The respondents from Bakers Chapel considered faster travel routes within the community or regionally, construction related jobs or bringing in new stores and restaurants to be of lesser importance. Other concerns included dividing the school district, the affordability of replacement housing, impacts to property values, and an increase in speeding and crime in the area.

Alternatives 2, 3, 5, 6, and 7 would cross through the western portion of the Bakers Chapel, as defined by the community survey. A small residential area of approximately 10 to 12 houses along Road S-843 (Gasque Road) would be separated from the larger community by the interstate. This separation could potentially hinder interaction between residents, impacting the cohesion of the community. Access to other residential areas in the community would be changed. Residents would have to travel Road S-569 (Moores Mill Road) to S.C. Route 319 to Road S-97 (Bakers Chapel Road) to access the eastern portion of Road S-843, which could be viewed by residents as another division of their community (refer to Figure 3-29). Access to businesses and public services

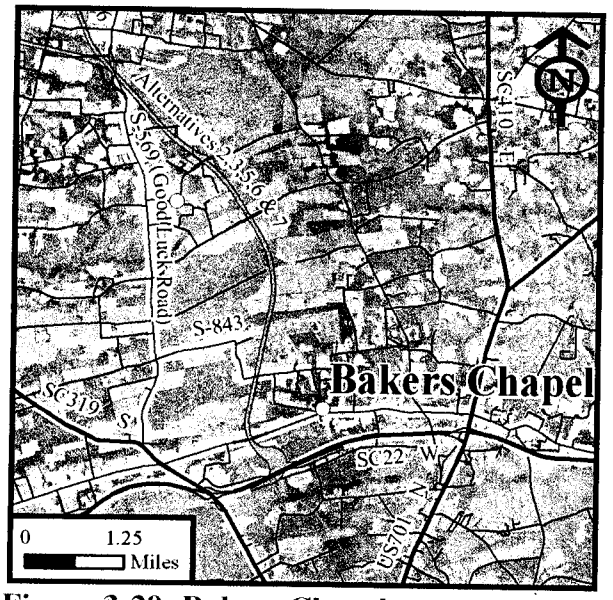


Figure 3-29: Bakers Chapel

in Conway via Road S-97 would be maintained with an overpass and no emergency services would be affected. Since this area is primarily rural and residential, the proposed project could impact the visual landscape of the area and create noise impacts.

As proposed, the existing S.C. Route 22 (Conway Bypass) would become part of Interstate 73. A fully controlled access interchange at S.C. Route 22 would be constructed to maintain access along S.C. Route 22 to Conway. No residential or business relocations are anticipated in the Bakers Chapel community. Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in Bakers Chapel and would not be impacted by the alternatives.

Based on the land use model, approximately 80 acres of new development is predicted to occur in the Bakers Chapel community with the No-build Alternative, regardless of this project (refer to Section 3.1, Land Use). Alternatives 1 and 4 would result in no additional development to the community, while Alternatives 2, 3, 5, 6, 7, and 8 would result in additional development, ranging from one to 107 acres, depending on alternative (Table 3.12, page 3-62).

Comments received from Bakers Chapel during the CIA process expressed that the community had been impacted previously due to the construction of S.C. Route 22, and that interactions between neighbors had been impacted due to the barrier of the road. Another controlled access facility routed through the community may further impact community interaction and cohesion in Bakers Chapel.

Summary of impacts

Alternatives 2, 3, 5, 6, and 7 would have no relocations, and no noise impacts, with one road bisected. Alternatives 1, 4, and 8 would have no relocations, no noise impacts, and no changes in accessibility.

Dog Bluff

Dog Bluff is a crossroads community located southwest of Aynor, between U.S. Route 501 and the Little Pee Dee River. It began in the middle of the 1700's as the Dimery Settlement at Dog Bluff Township near Brunson Swamp southwest of Aynor. Dog Bluff is reported to be the ancestral home of the Waccamaw Indian People, who acquired tribal grounds for their community along Bluewater Road.[62]

[62] Horry County Historical Society, www.hchsonline.org/places/dimery.html Last accessed March 13, 2006.

There is one recreational facility, the Dog Bluff Community Park, which has basketball and tennis courts. Local churches include the Holly Hill Free Will Baptist Church, Rehobeth Baptist Church, Mt. Herman Baptist Church, and the Pisgah Methodist Church.

Based on comments from the surveys received from Dog Bluff, respondents feel they have a good quality of life in the area and feel safe in their community. The majority of respondents interact with their neighbors, have family in the area, and feel the community is close-knit. Average length of residency is 21 years. Important issues reported through the survey included concerns of friends or family having to move because of the project, increased traffic in the neighborhood, and the possibility of bringing new long-term jobs and businesses into the area. Other comments included concerns about an increase in tourist traffic if the project were built in the area, which could make local travel to churches, jobs, and other facilities more difficult.

Alternatives 1, 4, and 8 pass to the east of the Dog Bluff community boundary, as defined by the survey, along U.S. Route 501. As such, Alternatives 1, 4, and 8 would not affect community cohesion.

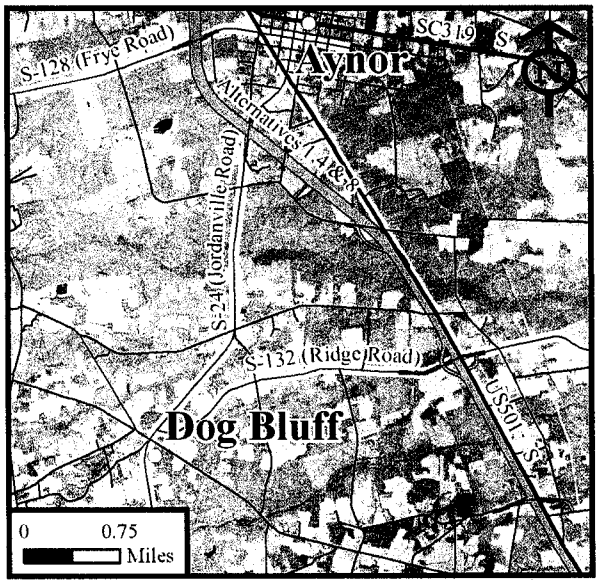


Figure 3-30: Dog Bluff

Travel within the community would not be affected by the alternatives. Access to Aynor would be maintained with overpasses on the main roads, such as Road S-24 (Jordanville Road) and Road S-128 (Frye Road), (refer to Figure 3-30). U.S. Route 501 would function as a frontage road in this area. However, accessing both directions of travel on U.S. Route 501 would not be available at every overpass. Motorists may have to travel in the opposite direction they want to go in order to reach an overpass with access to the direction in which they want to travel. There would be no residential relocations in the Dog Bluff area, nor would any businesses or public facilities be impacted. In addition, emergency services should not be affected. Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in Dog Bluff and would not be impacted by the alternatives.

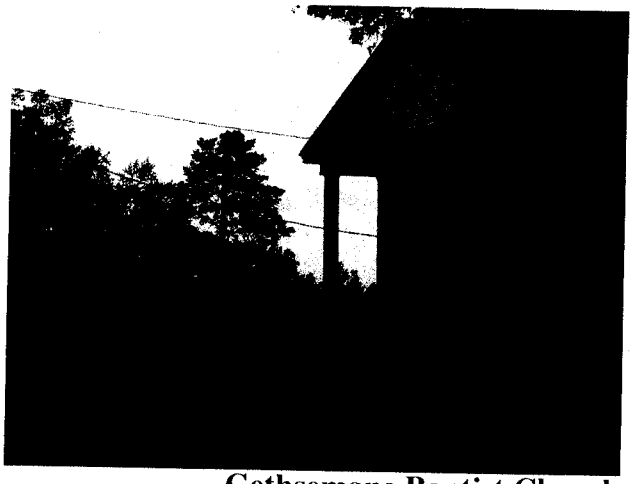
Potential for commercial development related to the interstate could occur at the proposed interchange at U.S. Route 501 and Road S-132 (Ridge Road), adjacent to the community. However, the land use model predicted that no new development would occur as a result of the project (refer to Section 3.1, Land Use). General growth in the area was predicted to result in 81 new acres of development, with the No-build Alternative.

Summary of impacts

Alternatives 1, 2, 3, 4, 5, 6, 7, and 8 would have no relocations, no noise impacts, and no changes in accessibility.

Methodist Rehobeth

Methodist Rehobeth is a rural, agriculture-based, family-farm area of western Horry County located between Joyner Swamp and Lake Swamp. The community takes its name from the Rehobeth United Methodist, Gethsemane Baptist, and Rehobeth Zoan United Methodist Churches, which are centrally located in the community. The nearest convenience store is Vaught's Grocery located on Road S-23 (Nichols Highway) at Road S-308 (McQueen Crossroads), which has served the community for several decades.



Gethsemane Baptist Church

Surveys received from Methodist Rehobeth indicate a close-knit community, with many respondents living here on farms that have been in their families for many generations. Respondents reported having a high quality of life and feeling safe in their community. The majority of respondents reported having family in the area and interacting with their neighbors. Average length of residency from survey responses was 43 years, with individual surveys ranging from 23 to 82 years. The majority of respondents did not support the project being built in the area and thought it would have a negative impact on their community. Changes to the rural way of life, living close to an interstate, more traffic in the neighborhood and more air pollution and noise were reported as important issues to the respondents. Of lesser concern to respondents were faster routes within the community or regionally and potential of jobs during road construction. Other comments received included concerns that the loss of farms could have a negative economic impact and the loss of churches which could hurt the community's heritage.

Methodist Rehobeth would be affected by Alternatives 3 and 6, which cross through the middle of the community boundary, as defined by the survey. The other Build Alternatives would be over four miles from Methodist Rehobeth.

Connectivity of the existing roadways in the area would remain intact and local traffic patterns would remain the same. Residential development is widely scattered throughout the area and interaction among the residents in the community should not be hindered. Overpasses at Road S-308 (McQueen Road) and Road S-309 (Barnhill Road) would maintain accessibility between Conway and Aynor, as such travel patterns would not be altered (refer to Figure 3-31, page 3-76). Both alternatives would include an interchange at Road S-308 within the community boundary. Although there is some potential for commercial development related to the project at the proposed interchange

at Road S-308, the location is not close to any existing development, nor is infrastructure currently available. Locally-owned businesses that serve the community near the proposed interchange, like Vaught's Grocery, may have to compete with any potential development at the interchange.

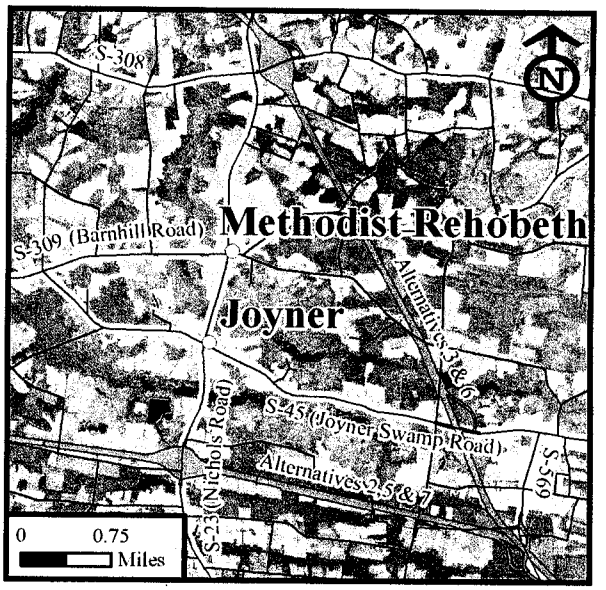


Figure 3-31: Methodist Rehobeth

Both Alternatives 3 and 6 would relocate three residences, including one house and two mobile homes within the community. No emergency services would be affected. Since the area is primarily rural and residential, construction of an interstate could affect the visual landscape and the character of the area and noise impacts could also occur. Specific elderly, handicapped, non-driving, or transit-dependant populations have not been identified in Methodist Rehobeth and would not be impacted by the alternatives (refer to Section 3.1, Land Use). Although growth would be anticipated due to normal increases in population, the land use model predicted no new development in the Methodist Rehobeth community due to the No-build Alternative. In addition, no new development was predicted from any of the Build Alternatives. Therefore, no indirect or cumulative impacts are anticipated to Methodist Rehobeth.

Summary of impacts

Alternatives 1, 2, 4, 5, 7, and 8 would have no relocations, no noise impacts, and no changes in accessibility. Alternatives 3 and 6 would have three residential relocations, one impacted noise receiver, and no changes in accessibility.

3.4 Are there any environmental justice concerns in the project study area?

3.4.1 What is Environmental Justice?

Executive Order 12898 requires that each Federal agency shall, to the greatest extent by law, administer and implement its programs, policies, and activities that affect human health or the environment so as to identify and avoid "disproportionately high and adverse" effects on minority and low-income populations. The following are FHWA definitions of minority and low-income populations:[63]

> "A minority means a person who is:
> (1) Black (having origins in any of the black racial groups of Africa);
> (2) Hispanic (of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race);
> (3) Asian American (having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or
> (4) American Indian or Alaskan Native (having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition)."
>
> "Minority population means any readily identifiable groups or minority persons who live in a geographic proximity, and if circumstances warrant, geographically dispersed/ transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed FHWA program, policy or activity."
>
> "Low-Income means a household income at or below the Department of Health and Human Services poverty guidelines."
>
> "Low-Income population means any readily identifiable group of low-income persons who live in a geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed FHWA program, policy or activity."

There are three fundamental principles of environmental justice:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations;
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

[63] FHWA. Order 6640.23. FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. December 2, 1998.

3.4.2 How were minority and low-income populations identified in the CIA study area?

To identify minority and low-income populations, information from the 2000 U.S. Census was collected for each block group within the CIA study area. Delineated by the U.S. Census Bureau, a block group is the smallest geographic unit for which demographic data are readily available. Demographic data are the physical characteristics of a population such as age, sex, race, marital status, family size, education, geographic location, and occupation. The information collected for each block group included the total population, total minority population, and total population living below the poverty level. From this data, the percentage of persons classified as minority and the percentage of persons below the poverty level were calculated. For the purposes of identifying low-income populations in the CIA study area, the U.S. Department of Health and Human Services poverty thresholds were used (Table 3.13).

Table 3.13
2000 Department of Health and Human Services Poverty Thresholds
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Size of Family Unit	Weighted Average Thresholds
1	$ 8,794
2	$ 11,239
3	$ 13,738
4	$ 17,603
5	[illegible]
6	[illegible]
7	[illegible]
8	$ 29,701
9	$ 35,060

Source U.S. Census Bureau, Housing and Household Economic Statistics Division. 2000 Census data.

Once the baseline minority and low-income populations were identified, the block group data was compared to the populations within the state, county, and the area of each county within the CIA study area. Executive Order 12898 states that the appropriate unit of analysis for environmental justice may be "a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as not to artificially dilute or inflate the affected minority population." Since the characteristics of the three counties vary, the percentage of minority and low-income populations within the CIA study area in each individual county was used as a threshold for determining if a block group contained high concentrations of environmental justice populations. The CIA study area was chosen as the unit of analysis so as not to artificially dilute or inflate the affected populations, as stated in Executive Order 12898.

Efforts were made to include low-income and minority populations located within the CIA study area in the project development process. The public involvement efforts are described more fully in Chapter 4, but include:

- Public information meetings in each county;
- Stakeholder meetings, including NAACP representatives;
- Coordination with local ministers and conducting church meetings; and,
- Door-to-door surveys within low-income and minority communities to ensure input.

3.4.3 Are there any minority populations in the CIA study area?

There are a total of 87 block groups within the CIA study area, including 30 block groups in Dillon County, 32 block groups in Marion County, and 25 block groups in Horry County.

Within the CIA study area in Dillon County, 52 percent of the population is minority. In Marion County, within the CIA area, 60 percent of the population is minority. In Horry County, within the CIA study area, 26 percent of the population is minority. Figure 3-32 identifies these block groups for each county. In total, there are 43 block groups in the CIA study area (14 in Dillon, 18 in Marion, and 11 in Horry) that have minority populations at or above the percentages of their respective counties. Total minority population in the CIA study area in 2000 was estimated at approximately 49 percent. This percentage is 14 percent higher than South Carolina (35 percent) and 24 percent higher than the U.S. (25 percent) (Table 3.14).

Table 3.14
2000 Minority Population
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	Total Population	Total Minority Population	Percent Minority Population
South Carolina	4,012,012	1,411,528	35%
CIA Study Area	200,865	89,600	45%
Dillon County	30,722	15,780	51%
Dillon County CIA Study Area	30,214	15,634	52%
Marion County	35,466	21,313	60%
Marion County CIA Study Area	32,892	19,759	60%
Horry County	196,629	42,323	22%
Horry County CIA Study Area	19,155	5,009	25%

Source: U.S. Census Bureau, 2000

3.4.4 Are there any low-income populations in the CIA study area?

In the Dillon County portion of the CIA study area, 24 percent of the population is low- income. Twenty-three percent of the population in the CIA study area portion of Marion County is considered to be low-income. In Horry County, 18 percent of the population within the CIA study area is low-income. Figure 3-32 identifies the low-income blocks for each county.

In total, 39 block groups represent areas of low-income populations within the CIA study area (13 in Dillon, 15 in Marion, and 11 in Horry). The total percentage of people in the CIA study area classified as living at or below the poverty level in 2000 was approximately 22 percent. This rate is eight percent higher than South Carolina as a whole (Table 3.15).

Table 3.15
2000 Low-income Population
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	Total Population	Total Low-income	Percent Low-income
South Carolina	4,012,012	547,869	22%
CIA Study Area	200,865	38,368	22%
Dillon County	30,722	7,311	24%
Dillon County CIA Study Area	30,214	7,225	24%
Marion County	35,466	8,117	23%
Marion County CIA Study Area	32,892	7,587	23%
Horry County	196,629	23,356	12%
Horry County CIA Study Area	19,155	3,432	18%

Source: U.S. Census Bureau, 2000

According to the FHWA definitions, there are minority and/or low-income populations that reside within the CIA study area. In total, 43 block groups represent areas of minority population and 39 block groups represent areas where the population is living below the poverty level in the CIA study area (Table 3.16). In the total CIA study area, there are 26 block groups that meet both the minority and the low-income thresholds, ten in Dillon County, nine in Marion County, and seven in Horry County.

Table 3.16
Total Number of Block Groups with Environmental Justice Populations
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	Total Block Groups	Low-Income Block Groups	Minority Block Groups
Dillon County	30	13	14
Marion County	32	15	18
Horry County	25	11	11
CIA Study Area	87	39	43

Source: U.S. Census Bureau, 2000

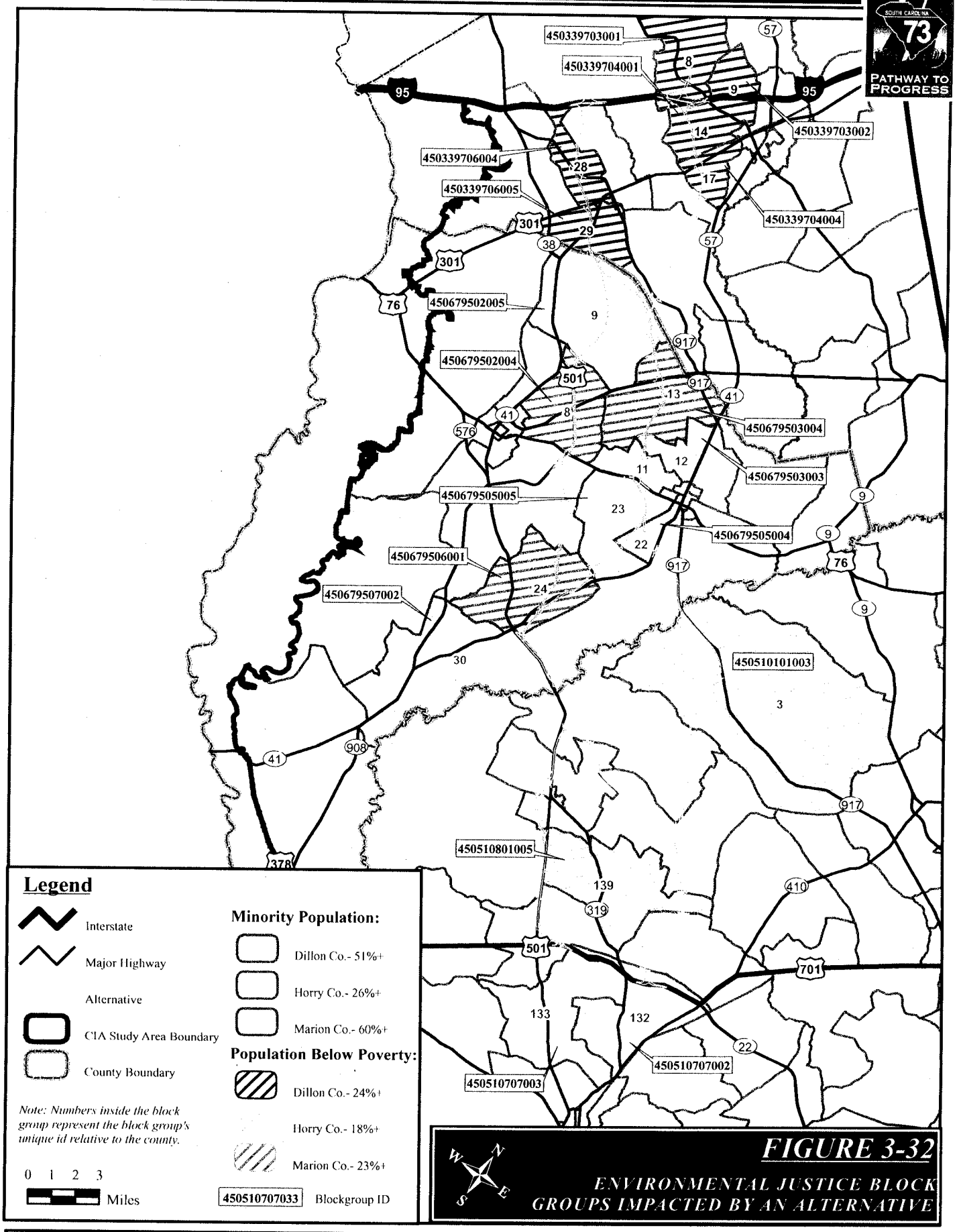


FIGURE 3-32

ENVIRONMENTAL JUSTICE BLOCK GROUPS IMPACTED BY AN ALTERNATIVE

3.4.5 How were potential environmental justice impacts evaluated?

Executive Order 12898 requires that the project be reviewed to determine if there are disproportionately high or adverse effects on minority or low-income populations. The goal is to achieve a fair distribution of benefits and burdens to all communities impacted by the proposed alternatives, while giving the populations within the CIA study area access to the transportation decision-making process.

> *What is disproportionate?*
>
> **Disproportionate is defined in two ways:**
>
> - **The impact predominately impacts a minority or low-income population group or,**
> - **The impact is "more severe" than that experienced by non-minority or non-low income populations.**

Areas with concentrations of environmental justice populations above the averages of the county and CIA study area were identified during project development. The proposed alternatives were shifted and modified to avoid or minimize these communities, including low-income and minority areas such as Cool Spring, Mullins, Latta, Dillon, and Emanuelville. However, it was impossible to avoid all low-income and minority block groups, since environmental justice populations are widely spread throughout the counties and compose 64 percent of all of the block groups within the CIA study area.

A block group analysis was conducted to identify the number of minority and low-income areas that would be impacted by each of the eight proposed alternatives. The alternatives were then examined to determine whether disproportionate patterns or concentrations of adverse effects would occur in areas with environmental justice populations when compared to impacts that would occur in other areas of the project.

3.4.6 Are there any minority and low-income populations impacted?

The effects of the No-build Alternative on populations within the CIA study area would be essentially the same for all environmental justice areas. No relocations or visual impacts would occur. However, under the no build scenario, traffic congestion on local routes would continue to increase during tourist season and local travel patterns and accessibility in environmental justice communities in the project study area could be affected. Other negative effects of the No-build Alternative could be the lack of increased development and employment opportunities for Dillon and Marion counties, along with increased traffic congestion on local roadways.

In total, there are 87 block groups in the CIA study area, of which 56 block groups meet the established thresholds for low-income and/or minority. The eight proposed alternatives pass through a total of 32 block groups (out of 87) within the CIA study area. Of these 32 block groups, 21 (66 percent) meet the established thresholds to qualify as low-income and/or minority, including six in Dillon County, ten in Marion County, and five in Horry County; this is consistent with the overall composition CIA study area (64 percent). Environmental justice populations also exist in 35 other block groups within the CIA study area that would not be affected by the proposed alternatives.

Table 3.17
Block Groups Impacted by Alternative
Interstate 73: I-95 to Myrtle Beach Region

	% minority	% low income	1	2	3	4	5	6	7	8
Dillon County	**52%**	**24%**								
Block Group 703001	51%	**35%**		X				X		
Block Group 703002	66%	**26%**		X				X		X
Block Group 704001	64%	**31%**		X				X		X
Block Group 704004	31%	**33%**		X				X		X
Block Group 706001	37%	19%	x	x	x	x	x	x	x	x
Block Group 706003	19%	16%	x		x	x	x		x	
Block Group 706004	**80%**	**33%**	X		X	X	X		X	
Block Group 706005	**65%**	**30%**	X		X	X	X		X	
Block Group 706006	19%	11%	x	x	x		x			x
Marion County	**61%**	**23%**								
Block Group 502004	**[illegible]**	**28%**				X			X	
Block Group 502005	**[illegible]%**	22%	X	X	X	X	X	X	X	X
Block Group 503002	56%	**23%**	X	X	X		X	X		X
Block Group 503003	**65%**	16%	X	X	X		X	X		X
Block Group 503004	**63%**	**27%**	X	X	X		X	X		X
Block Group 505002	42%	11%			x			x		
Block Group 505003	12%	14%	x	x	x	x	x	x	x	x
Block Group 505004	**63%**	18%	X	X	X		X	X		X
Block Group 505005	**73%**	21%	X	X	X	X	X	X	X	X
Block Group 506001	**71%**	**24%**	X	X		X	X		X	X
Block Group 506002	**60%**	21%				X			X	
Block Group 507002	**69%**	17%	X	X		X	X		X	X
Horry County	**26%**	**18%**								
Block Group 101003	**35%**	**20%**			X			X		
Block Group 707001	11%	**18%**		X	X		X	X	X	
Block Group 707002	**27%**	6%		X	X		X	X	X	
Block Group 707003	**32%**	10%	X			X				X
Block Group 801001	9%	14%	x	x	x	x	x		x	x
Block Group 801002	11%	7%		x	x		x		x	
Block Group 801003	19%	14%	x	x		x	x		x	x
Block Group 801004	24%	16%	x			x			x	x
Block Group 801005	14%	11%	X	X	X	X	X	X	X	X
Block Group 802001	14%	[illegible]	x			x			x	x
Block Group 802002	8%	[illegible]	x			x				x
Total number of block groups impacted per alternative			21	21	19	18	20	19	20	22
Total number of block groups that are minority/low-income that are impacted by alternative			12	15	12	10	13	14	11	14
% block groups per alternative that are EJ			57%	71%	63%	56%	65%	74%	55%	64%

Bolded text signifies an area that qualifies as an EJ area.

Of the 21 alternative-affected block groups that qualify as low-income and/or minority, 15 have a minority population over their respective thresholds: Dillon County has four minority population block groups, eight are in Marion County and three are in Horry County (refer to Table 3.17).

Of the 21 block groups that were low-income and/or minority, 13 block groups were identified as low-income, including six in Dillon County, four in Marion County, and three in Horry County (refer to Table 3.17).

Of the total block groups in the CIA study area that have been characterized as low-income/minority (56), any one of the Build Alternatives would impact between 17 and 26 percent of these block groups.

Alternative 7 has the lowest percentage of minority and/or low income block groups impacted, while Alternative 6 would have the highest percentage of minority and/or low-income block groups (Table 3.17). As previously stated, 64 percent of all block groups within the CIA study area qualify as environmental justice areas. The project alternatives will impact a similar percentage (within +/- 10%) of environmental justice block groups; therefore, the percentage of environmental justice census blocks impacted by the Build Alternatives would not be disproportionate when compared to the composition of the CIA study area, as a whole.

3.4.7 What other methods were used to consider Environmental Justice populations in the CIA study area?

Community-based Environmental Justice Study

Due to the rural nature of the area, block groups are very large and development within the block groups can be sparse. Alternatives could pass through block groups that are considered to contain environmental justice populations, but not impact these populations or communities. It also became evident, based on field observations, community impact studies, survey data, and block level census data, that some communities that fell within low-income or minority block groups were not actually environmental justice populations. Additionally, communities were identified that have concentrations of low-income and minority populations, but did not fall within low income and/or minority block groups. For this reason, a community-based analysis of impacts was conducted to identify the location of potential adverse effects associated with the eight alternatives. Issues that were considered when evaluating the potential for environmental justice impacts included relocations, affects on community cohesion, economic impacts, access and mobility issues, noise impacts, change of visual character, and impacts to parks and community facilities.

In general, comments and surveys received from environmental justice communities within Dillon and Marion Counties, expressed support for the project being built in their communities, in hopes that it would bring economic development. Horry County respondents were consistently opposed

Table 3.18
Community and Block Group Relocations
Interstate 73: I-95 to Myrtle Beach Region

	Community	Residential Relocations	1	2	3	4	5	6	7	8
Dillon County										
Block 704004	Dillon	1		x				x		x
Block 706004	Latta	10	x		x	x	x		x	
Horry County										
Block 801005	Aynor	2		x			x		x	
Marion County										
Block 503002	Mullins	9	x	x	x		x	x		x
Block 503003	Mullins	1	x	x	x		x	x		x
Block 505005	Mullins	8	x	x	x		x	x		x
Block 505004	Mullins	10	x	x			x			x
Block 505004	Gapway	3	x	x			x			x
Block 505005	Gapway	4	x	x			x			x
Block 503004	Zion	9	x	x	x		x	x		x
Block 506001	Rains	1	x	x			x			x
Block 506002	Marion	2				x			x	

to the project. This played an important part in establishing whether effects on the communities of concern were positive or negative, as well as determining the magnitude of the potential impacts.

Residential Displacements

Based on studies conducted during development of the DEIS, areas with known concentrations of environmental justice populations were identified. Concerted efforts were made to shift and modify alignments to avoid or minimize impacts to these communities, including low-income and minority areas such as Mullins, Latta, Dillon, Cool Spring, Zion and Emanuelville. Many times, alignments may be shifted from known environmental justice areas to adjacent, more diverse areas to avoid relocations and direct impacts to these communities and environmental justice populations contained within. Some impacts would still occur in these areas.

For the purpose of the community-based study, relocations that fell within both environmental justice block groups and community boundaries, as defined by the survey were included in Table 3.18. Total environmental justice relocations were tallied for each of the Build Alternatives.

Relocations in Table 3.18 fall within communities within block groups that have been identified as having environmental justice populations. However, it is unknown at this time if individual relocations are in fact low-income and/or minority impacts. A conceptual relocation study will be conducted for the Preferred Alternative to confirm relocation impacts on environmental justice

communities. Based on field studies and observations, there appears to be either housing and/or land available for the displacees to relocate within the affected communities.

Overall, the pattern of residential displacements is evenly dispersed throughout populations along the alternatives and relocations located within minority or low-income populations did not constitute a disproportionately high and adverse effect on any single community. Other non-environmental justice communities would experience similar relocation effects and no particular community would bear a disproportionate portion of the relocations.

Community Cohesion

Community cohesion is reduced when neighborhoods are divided or relocations reduce the number of residences in a community. As discussed in the community impact section, loss of community cohesion could occur with the construction of the proposed project. However, only one community (Aynor) with environmental justice populations in the CIA study area may experience more than minimal impacts to cohesion, depending on which alternative is selected. Non-minority and non-low income communities could also experience similar impacts to community cohesion and therefore, environmental justice populations would not bear a disproportionate impact. For additional discussion on community cohesion, refer to Chapter 3, Section 3.3 and the *Community Impact Analysis Technical Memorandum.*

Economic Impacts

The population of the CIA study area would be expected to benefit from economic opportunities resulting from the project. Economic benefits could be beneficial to low-income populations in terms of more jobs and business development opportunities.

Specific communities within the CIA study area have expressed support for the project and the potential economic opportunities that it could bring to their communities. These communities include Dillon (including New Town), Latta, Mullins, Marion, Spring Branch, Dog Bluff, and Rains.

Individually, no one environmental effect would cause a disproportionate high and adverse economic effect on any one environmental justice population area. Other non-environmental justice areas would experience similar beneficial and adverse effects. For additional discussion on economic impacts, refer to Chapter 2, Section 2.5 and Chapter 3, Section 3.3.

Access and Mobility

Each of the Build Alternatives could cause changes in local access and mobility in individual communities throughout the CIA study area. Therefore, environmental justice populations would not suffer a disproportionate impact from the changes. For additional discussion on impacts to access and mobility, refer to Chapter 3, Section 3.3 and the *Community Impact Analysis Technical Memorandum.*

Noise

All Build Alternatives have the potential to introduce traffic noise into neighborhoods, and there are multiple neighborhoods along each alternative that would experience noise levels above the existing conditions. Noise impacts appear to be distributed throughout the CIA study area; therefore, environmental justice populations would not experience disproportionate impacts.

Visual and Aesthetic Character

As discussed in the Community Impacts section, the alternatives would have the potential to change the visual environment of environmental justice communities. The effect in view and/or character depends on the existing characteristics of the area, the distance between homes and the road, and whether the facility is at-grade, contains an elevated overpass, and/or interchange. There are several areas where the Build Alternatives may alter the visual elements of environmental justice communities, including Zion, Aynor, Latta, and Emanuelville. However, non-minority and non-low income communities would also experience similar impacts to their visual and aesthetic character and therefore, environmental justice populations would not bear a disproportionate impact. For additional discussion on anticipated changes to visual and aesthetic character, refer to the *Community Impact Analysis Technical Memorandum.*

Parks and Community Facilities

No public parks or public facilities in the environmental justice communities would be impacted by the Build Alternatives. One church in Emanuelville could be relocated depending on what alternative is chosen as the Preferred Alternative.

3.4.8 What efforts have been made to ensure full and fair participation of environmental justice populations in the transportation decision-making process?

In order to engage and provide for the full and fair participation of potentially affected environmental justice communities, the following strategies were implemented:

- Public information meetings were held in each of the three counties, and advertised in the local newspapers and on television;
- Stakeholder meetings were held and included local leaders and NAACP representatives;
- Project website and toll-free hotline, which could be accessed at any time to learn the status of the project and information on times and locations of meetings;
- Outreach and coordination with community ministers and leaders to facilitate contact with locals;
- Church meetings were attended to provide project information, answer questions, hear local concerns and distribute community surveys;
- Customized public involvement techniques to local populations – visits to local convenience stores and gas stations;

- Distributed community surveys through various methods to ensure full participation of all populations, including school surveys, mail surveys, door-to-door survey distribution and/or interviews;

There will be a continual commitment to providing full and fair access to information throughout the project development process, including information of the design and construction phases, by:

- Local/county public hearings;
- Advertisement of hearings in local media (public service announcements, newspapers, etc.);
- Continuing stakeholder meetings;
- Updated information posted on websites; and,
- Project newsletters.

3.4.9 Summary

In general, it has been determined that all areas that contain environmental justice populations would experience beneficial and adverse effects similar to those of the overall CIA study area population. No environmental justice populations would bear a disproportionate impact from the project.

Avoidance and minimization of impacts to environmental justice and other communities has occurred throughout the development of the Build Alternatives. Project engineers adjusted the alignments of the eight alternatives to avoid municipal boundaries or dense residential areas. Beyond these initial efforts of impact avoidance, the proposed alignments were further shifted and "tweaked" to minimize relocations, community disruptions, and impacts to accessibility. Efforts to avoid any disproportionate impacts to environmental justice communities will continue through the refinement of the Preferred Alternative.

Mitigation opportunities may exist for impacts to low-income and/or minority communities in the project study area. Specific options for mitigating impacts of the Preferred Alternative on environmental justice communities will be explored further during public involvement and studied for the Final EIS.

3.5 What 4(f) Resources are in the project study area?

3.5.1 What are Section 4(f) properties?

Section 4(f) of the Department of Transportation Act of 1966 regulates how publicly-owned properties such as parks, recreational lands, wildlife and waterfowl refuges, and historic sites are used for transportation projects (refer to *Appendix D, Draft Section 4(f) Evaluation*). Historic sites that are privately-owned are also regulated under Section 4(f). If it can be demonstrated that no prudent or feasible alternative exists to avoid a 4(f) property, then it can be used for a project, provided there is a plan to minimize harm to the property. Section 4(f) uses can be any of the following:

- a direct use if it is permanently incorporating property into the transportation project;
- a temporary use when the temporary occupancy of the property is adverse to the property's purpose; or,
- a constructive use when the proximity impacts are severe enough that the features or activities that make the property a 4(f) resource are impaired.

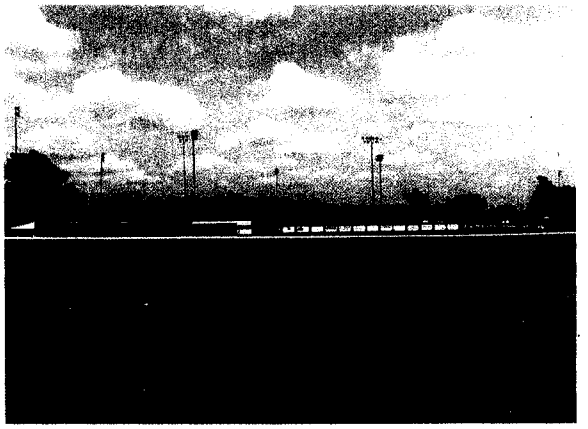
> *What is Section 4(f)?*
>
> **Section 4(f) is part of the Department of Transportation Act of 1966 which regulates the taking of publicly-owned properties for transportation projects.**
>
> **Section 4(f) properties are publicly-owned parks, recreational lands, and wildlife and waterfowl refuges under local, state, or federal ownership. Historic sites that are under public or private ownership are also considered under Section 4(f).**

SAFETEA-LU recently amended Section 4(f) of the Department of Transportation Act in an effort to streamline the approval of projects that have a *de minimis* impact to Section 4(f) property.[64] The word *de minimis* is defined by Black's Law Dictionary as something that is "minimal" or "(Of a fact or thing) so insignificant that a court may overlook it in deciding an issue or case." Under SAFETEA-LU, the USDOT will take into account any avoidance or minimization of impacts along with any mitigation or enhancement measures to determine whether there is a *de minimis* impact from the use of the property. If the use results in a *de minimis* impact, then an avoidance alternatives analysis is not required and the Section 4(f) evaluation process would be considered completed. For parks, recreational lands, wildlife and waterfowl refuges, the managing agency would have to state, in writing, that the project is not likely to "adversely affect the activities, features and attributes" of the Section 4(f) resource. A *de minimis* impact for historic properties would require SHPO to determine in writing that the project would have "no historic properties affected" or "no adverse effect" to historic properties.

3.5.2 What parks, recreational facilities, and wildlife/waterfowl refuges are found in the project study area?

There is one state park, one state heritage preserve (with several tracts), approximately 18 local parks and recreational facilities, and five boat landings throughout the project study area (Figure 3-33). Other recreational facilities in the project study area include ball fields, tennis courts, picnic areas, school playing fields, and playgrounds. There are no wildlife or waterfowl refuges located within the project study area.

Little Pee Dee State Park is located ten miles southeast of Dillon and four miles east of Floydale along S.C. Route 57. The 835-acre facility is managed by the South Carolina State Park Service, and offers camping, hiking, picnic areas, and fishing at the 54-acre Lake Norton.



Aynor High School ballfields

[64] 23 U.S.C. §6009(a) (2005).

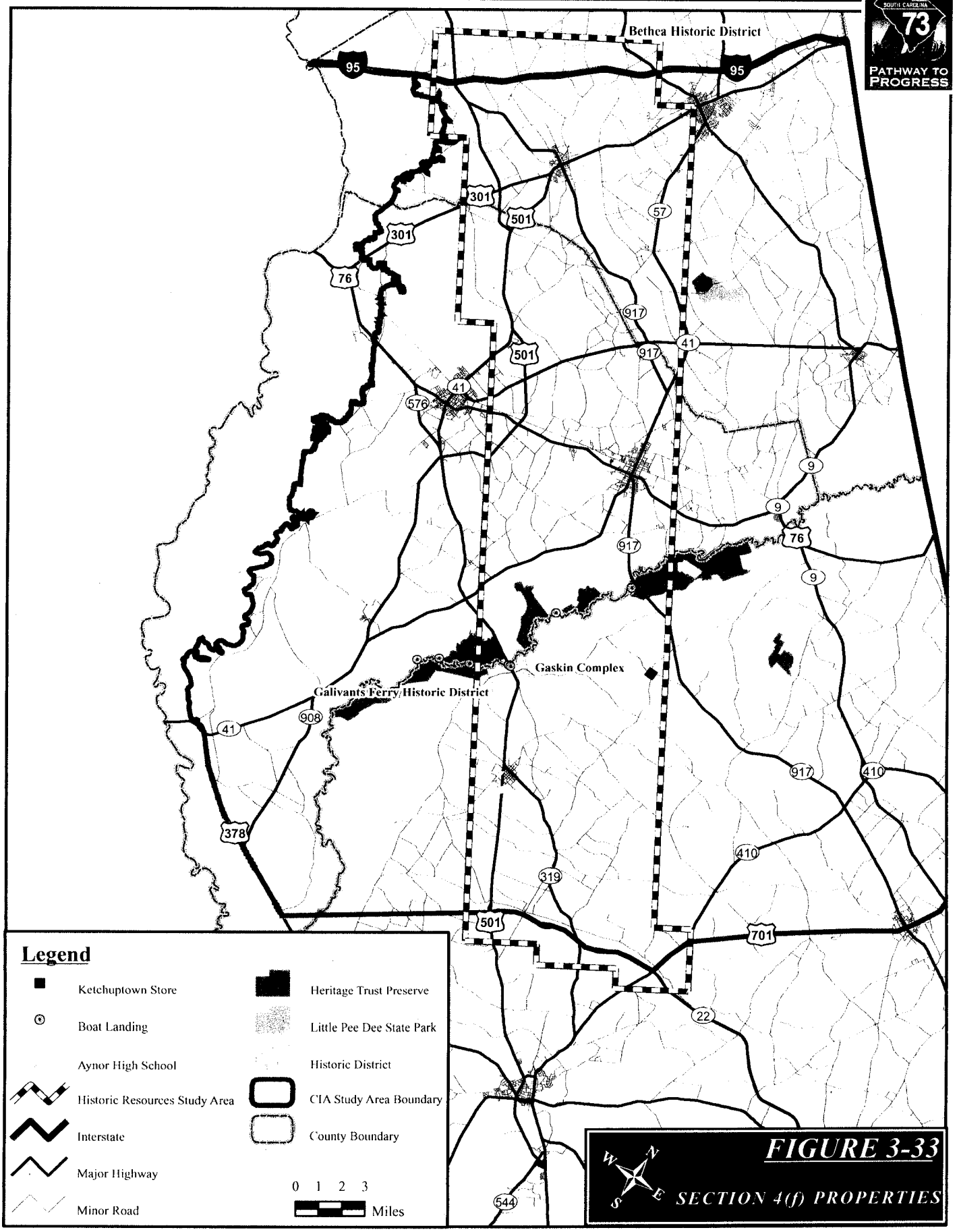


FIGURE 3-33

SECTION 4(f) PROPERTIES

Little Pee Dee River Heritage Preserve is a property owned by SCDNR's Heritage Trust Program. The preserve can be used by the public for various activities including fishing, hunting, boating, hiking, camping, and wildlife viewing. Due to the location of the preserve in relation to the Little Pee Dee River system, the property also protects wetlands and species' habitats. The Preserve contains approximately 10,238 acres and is split into five tracts of land: Dargan, Vaughn, Tilghman, Ward, and Johnson. Two of the Preserve's tracts, Dargan and Vaughn, are adjacent to an alternative corridor. The Dargan tract lies south of Galivants Ferry and is accessed from U.S. Route 501 and the Vaughn tract is to the north and accessible from S.C. Route 917.

Public boat landings located along the Little Pee Dee River include the Galivants Ferry Landing that is accessible by U.S. Route 501 and Sandy Bluff Landing, which is accessible from S.C. Route 917. Other public boat landings in the vicinity of the Little Pee Dee River include Cartwheel Landing, south of Mullins; Knife Island and Davis Landings, both off of S.C. Route 41; and Huggins Landing, off of Horry County Road 99.

3.5.3 Would the alternatives impact parks and recreational facilities under Section 4(f)?

Under the No-build Alternative, no parks or recreational areas would be impacted by the project. In addition, Alternatives 2, 5, and 7 would have no impacts to parks or recreational areas in the project study area (Table 3.19).

Table 3.19
Section 4(f) Impacts to Parks and Recreational Facilities by Alternative
Interstate 73: I-95 to the Myrtle Beach Region

Alternative	Resource Name	Use
[illegible]	Aynor [illegible]	[illegible]
[illegible]	None	[illegible]
[illegible]	Little Pee Dee Heritage [illegible]	[illegible]
[illegible]	Aynor Ball Fields	[illegible]
[illegible]	None	None
[illegible]	Little Pee Dee Heritage Preserve	Direct Use
[illegible]	None	None
[illegible]	Aynor Ball Fields	Direct Use

Alternatives 1, 4, and 8 would impact property with the ball fields at Aynor High School. Aynor High School's fields are open to the public after school and are sometimes used by the public during school for special events, which qualifies them for consideration under Section 4(f).

Alternatives 3 and 6 would impact the Vaughn Tract of the Little Pee Dee Heritage Preserve. Approximately 30 acres of the preserve would be taken to construct a crossing of the Little Pee Dee River that would be parallel to the existing S.C. Route 917 crossing. Access to the preserve would be maintained; however, recreational activities may be temporarily disrupted due to construction. Mitigation would occur for the impacted property. This would include locating and purchasing compensatory acreage, which would be done in coordination with SCDNR through a Memorandum of Agreement prior to issuance of the Record of Decision.

There is not anticipated to be indirect or cumulative impacts to parks and recreational spaces as there would be no additional or reduced access to the facilities within the project study area.

3.5.4 What are the potential impacts to historic resources under Section 4(f)?

Table 3.20 lists the historic resources that may be impacted under Section 4(f). Alternatives 1, 2, 3, 5, 6, and 8 would have no impacts to historic properties under Section 4(f) while Alternatives 4 and 7 would potentially have a direct use impact to Archaeological Site 38MA0126 since the alternatives traverse a portion of the site.

Table 3.20
Potential Impacts to Historic Properties under Section 4(f)
Interstate 73: I-95 to the Myrtle Beach Region

Alternative	Site Number/Resource Name	Type of Use
1	None	None
2	None	None
3	None	None
4	38MA0126	Direct Use
5	None	None
6	None	None
7	38MA0126	Direct Use
8	None	None

3.6 What are Section 6(f) Resources and would any be impacted by the project?

The Land and Water Conservation Fund Act of 1965 assists states in planning, acquiring, and developing outdoor recreational land and water area. Section 6(f) of the Act prohibits conversion of property acquired or developed with this fund to anything other than public outdoor recreational use.

There are eight Section 6(f) resources that are in the project study area in Dillon County, which include playgrounds, city parks, the Little Pee Dee State Park, and the Little Pee Dee River boat ramp. [65]

[65] http://waso-lwcf.ncrc.nps.gov/public/index.cfm

Marion County has 14 sites that are mainly parks and swimming pools, all of which are located in the Cities of Mullins and Marion. Horry County has 21 known Section 6(f) resources including city parks, pools, ball fields, and boat landings. All the alternatives avoid Section 6(f) resources, therefore no impacts are anticipated.

3.7 What are historic resources and how would they be affected by this project?

3.7.1 What are historic resources?

Section 106 of the National Historic Preservation Act of 1966 requires federal agencies to review the effects of any proposed actions on historic resources. Prior to undertaking a project, federal agencies conduct archival research and field surveys to assess resources that are currently listed or might be eligible for listing on the National Register of Historic Places (NRHP) within a project study area.

> *What are historic resources?*
>
> **Historic resources are districts, buildings, sites, structures, or objects that are significant in American history, architecture, archaeology, engineering, and culture. – (16 U.S.C. §470(a)(1)(A))**

Based on their findings, agencies make recommendations on resources in the project study area to SHPO. SHPO makes determinations as to whether a resource is eligible for listing on the NRHP and what effect the project would have on eligible or listed resources in the area. The NRHP is a list of all historic resources that have been determined to be significant. There are four criteria to determine if a resource should be listed on the NRHP:[66]

- Association with a significant event or broad pattern of history;
- Association with significant person;
- Conveys unique or distinctive architecture of high artistic value; or
- Has the potential to yield information important to history or prehistory.

In addition to the criteria, most sites are generally required to be at least fifty years of age for listing on the NRHP.

The historic resources study area for the project consists of an approximately eight mile wide and 40-mile long corridor that begins just north of I-95 in Dillon County, extends through Marion County, and ends at S.C. Route 22 north of Conway in Horry County. The historic resources study area encompasses the eight potential alternatives for this project (refer to Figure 3-33, page 3-90).

3.7.2 How was the historic resources survey conducted?

An intensive above-ground historic resources field survey was completed between July and September 2005 following guidelines established by SCDAH. The guidelines were followed to identify and document architectural resources over fifty years of age for NRHP eligibility consideration. Archival

[66] National Park Service. (1990). *National Register Bulletin #15*, "How to Apply the National Register Criteria for Evaluation".

research was conducted and included a literature review and records check at SCDAH and the South Carolina Institute of Archaeology and Anthropology. The South Carolina Historical Society in Charleston, various public libraries in the respective counties, and the University of South Carolina's Caroliniana Library were consulted to identify, assess, and interpret the above-ground historical resources located in the historic resources study area. Once their historic contexts were developed, local and regional resources were also consulted to identify persons and events significant to local history and to uncover their associations with potential archaeological sites or historic resources.

In addition, a GIS-based archaeological predictive model was developed as part of the alternatives analysis. The model was designed to assess the probability of possible archaeological sites within the project study area. The known environmental and cultural attributes typical of the area were evaluated according to the different subsistence and mobility patterns of people within each prehistoric and historic time period. Environmental variables taken into consideration included soil type, the slope of the land, and the presence of water. In addition, the locations of previously recorded archaeological sites were considered. The model ranked each land unit (100 square foot portion of the landscape) with 1 for lowest probability to 10 for highest probability of encountering archaeological sites (Table 3.21). Upland sites near surface water make up the majority.

Table 3.21
Archaeological Predictive Model: High Probability Acreage
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Alternative	Acreage	Percent of Alternative
1	1,086	43%
2	1,144	44%
3	1,032	45%
4	991	42%
5	1,149	44%
6	1,028	44%
7	1,057	44%
8	1,078	42%

The archaeological predictive model determined that all of the alternatives contained areas with a high probability rating. This meant that sites with a high potential for containing artifacts could be found in any of the alternatives during a Phase I shovel testing process. These sites would be evaluated for NRHP eligibility. If a site is determined to be eligible, then SHPO will decide if further excavation would be warranted. If any eligible site is threatened by the project, then mitigation measures will be coordinated with FHWA, SCDOT, and SHPO.

What is a Phase I Archaeological Shovel Test?

A small test pit is dug at regular intervals in high probability areas. If a significant number of artifacts are found then it is considered a site. This site must then be evaluated for eligibility for listing on the NRHP.

Table 3.21 shows the amount of acreage within each alternative that have high probability areas and the percent of the total acreage of each alternative that those areas encompass. None of the alternatives, when compared to each other, had substantially greater or less acreage of high probability rating.

3.7.3 What above-ground historic resources were found during the survey?

Table 3.22 details the 21 known above-ground historic resources that are listed on the NRHP within the historic resources study area. An additional 30 sites that are located in the historic resources study area have been previously determined by SHPO as eligible for the NRHP, but are not yet listed. During the development of alternatives, properties listed on the NRHP or determined eligible for listing were considered constraints and efforts were made to avoid these known resources (refer to Chapter 2). For more details on those sites, refer to the *Cultural Resources Technical Memorandum.* A total of 947 historic structures were recorded during the above-ground historic resources survey of the historic resources study area. Of these, 254 were recommended eligible for the NRHP, some as part of five recommended eligible historic districts. These resources have not been formally evaluated for eligibility by SHPO but this step will be conducted prior to the Final EIS. For more information refer to the *Cultural Resources Technical Memorandum.*

Table 3.22
NRHP Sites in the Historic Resources Study Area
Interstate 73 EIS: I-95 to the Myrtle Beach Region

County	Resource Name	Location
Dillon	Early Cotton Press	S.C. Route 38
Dillon	John Hayes Farmstead	S.C. Route 38
Dillon	Catfish Creek Baptist Church	Catfish Church Rd
Dillon	Joel Allen House	Latta
Dillon	Latta Historic Districts (3)	Latta
Dillon	McMillan House	Latta
Marion	Old Ebenezer Church	S.C. Route 38
Marion	Marion Historic District	Marion
Marion	Rasor and Clardy Company Building	Mullins
Marion	AH Buchanan Company Building	Mullins
Marion	Imperial Tobacco Company Building	Mullins
Marion	Liberty Warehouse	Mullins
Marion	Neal and Dixon's Warehouse	Mullins
Marion	Old Brick Warehouse	Mullins
Marion	Dew Barn	Zion
Marion	Mt. Olive Baptist Church	Mullins
Marion	JC Teasley House	Mullins
Marion	Marion High School	Marion
Marion	Mullins Commercial Historic District	Mullins
Marion	Dillard Barn	Mullins area
Horry	Galivants Ferry Historic District	Galivants Ferry

3.7.4 What archaeological resources are anticipated within the historic resources study area?

There are 102 previously recorded archaeological sites in the historic resources study area. While the majority have not been evaluated for NRHP eligibility, a formal evaluation will take place for those previously recorded sites and any new sites discovered during field testing for the Preferred Alternative prior to the Final EIS.

3.7.5 What are the differences between Section 106 and Section 4(f), in terms of analyzing historic resources?

Section 106 of the National Historic Preservation Act of 1966 evaluates the direct or indirect adverse effects of an alternative upon historic resources, while Section 4(f) of the Department of Transportation Act of 1966 takes into account impacts that are a use of the historic property, whether it is of a direct, temporary, or constructive nature. Section 4(f) does not always include visual intrusion impacts or impacts that are not of an adverse nature, which are accounted for under Section 106. SPHO would evaluate the FHWA determination as to whether an eligible site would be or would not be adversely impacted. Archaeological sites eligible for the NRHP are only considered Section 4(f) properties if they warrant preservation in place, which indicates that the sites contain unique features or information that would be of value only if they are preserved in place.

An adverse affect refers to the diminishment of a property's integrity, with respect to its location, design, setting, materials, workmanship, feeling, or association.

3.7.6 What would be the potential impacts to historic resources?

A historic resource was considered directly impacted if it was partially or completely located within an alternative's right-of-way. A visual impact occurs when the project can be seen from the historic resource. Each alternative's 400-foot right-of-way was buffered by 300 feet on both sides and examined to determine other potential impacts on historic resources. Other impacts may occur to resources located outside of the right-of-way, including lack of access to the resource, a change in the resource's setting, or indirect and cumulative impacts.

The No-build Alternative would not affect any known historic resources. Table 3.23 shows what sites would potentially be impacted by each alternative and what type of impact would be anticipated. Locations of the impacted sites, with the exception of the archaeological site 38MA0126, are shown on Figure 3-33, page 3-90. Archaeological sites are not shown for their protection.

Alternatives 1, 2, 5, 7, and 8 have the potential to cause a visual impact to the James Thomas and Fanny Edwards Gaskin Homestead Complex. The Gaskin Homestead Complex is a part of the Galivants Ferry Historic District, and is a circa 1907 farmstead containing a farmhouse and associated outbuildings plus surrounding agricultural land. Galivants Ferry Historic District is historically significant to local and state history and is representative of the agricultural history of the area. In addition, for over 100

Table 3.23
Potential Impacts to Historic Resources under Section 106
Interstate 73: I-95 to the Myrtle Beach Region

Impacted Site	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
Gaskin Complex/ Galivants Ferry Historic District	Visual	Visual			Visual		Visual	Visual
Bethea Historic District		Visual				Visual		Visual
Ketchuptown Store			Visual			Visual		
Archaeological Site 38MA0126				Direct			Direct	
Total Impacted Sites	1	2	1	1	1	2	2	2

years, candidates of the State's Democratic Party have spoken in an area near the general store in what is known as "The Stump" gathering, which is now the beginning of the local Democratic campaign season.

Alternatives 2, 6, and 8 would potentially have a visual impact to the agricultural lands of the Bethea Historic District. The Bethea Historic District is a collection of plantations belonging to the Bethea family, and includes three historic homes, tenant houses, farm outbuildings, and surrounding agricultural lands. Alfred W. Bethea was an important person in state and regional history as a signatory of South Carolina's Ordinance of Secession, in which South Carolina repealed the U.S. Constitution and removed itself from the Union prior to the start of the Civil War.

Alternatives 3 and 6 would have a potential visual impact to the Ketchuptown store. It was constructed in 1927 and became the gathering point for local farmers in the area west of Lake Swamp in Horry County and now is the community center and a museum.

Alternatives 4 and 7 would potentially have a direct impact to a portion of an archaeological site containing artifacts of the Woodland and 19th century periods located in the Marion area. This site is potentially eligible and is currently pending further evaluation by SHPO.

There may be potentially eligible archeological resources currently unknown in the historic resources study area, which could be affected by future development. Negative indirect and cumulative effects may occur in the vicinity of an alternative, particularly in the area of interchanges, due to future development that may be of a commercial, residential, or industrial nature. This is due to the lack of historic resource investigations required when a private company or individual develops a tract of land.

Induced development near aboveground historical resources could diminish the rural setting that contributes to the historical significance and may lead to physical destruction of sites. Based on predicted land use modeling, the potential for development in relation to Alternatives 1, 2, 4, 5, 7, and

8 exists in the vicinity of Galivants Ferry Historic District, primarily along U.S. Route 501 in that area (Figure 3-33, page 3-90). Potential for development also exists in the vicinity of the Bethea Historic District in relation to Alternatives 2, 6, and 8. However, development is limited at the interchange of I-95 and I-73 due to controlled access. Limited development is predicted to occur at the interchange of S.C. Route 9 and I-95 for all the Build Alternatives. While special protections are required by federal agencies to avoid and minimize impacts to NRHP listed sites, there are no such requirements on private developers to do so. Development in the areas of the historic districts could change the rural nature of the viewshed and diminish the historical significance of the properties. Any adverse effects will be mitigated through coordination with SHPO.

3.8 What Hazardous Materials and Waste Sites are in the project study area?

3.8.1 What are hazardous materials and waste?

A hazardous material is generally defined as any material that has or will have, when combined with other materials, a harmful effect on humans or the natural environment. Characterized as reactive, toxic, infectious, flammable, explosive, corrosive, or radioactive, a hazardous material may be in the form of a solid, sludge, liquid, or gas. Hazardous waste would be a hazardous material that has been used and discarded. Hazardous materials and waste sites are regulated primarily by the Resource Conservation and Recovery Act (RCRA) of 1976, as amended; the Comprehensive Environmental Response, Compensation, and Liability Act of 1980; and the Superfund Amendments and Reauthorization Act of 1986.

> *What are examples of potential hazardous material and waste sites?*
>
> **Potential hazardous material and waste sites include service stations, landfills, salvage yards, and industrial sites, as well as aboveground and underground storage tanks.**

3.8.2 Are there any hazardous waste sites located within the project study area?

Potential hazardous waste sites were inventoried based on a review of federal records of regulated sites. In addition, SCDHEC records were reviewed to identify potential hazardous material sites. Table 3.24 below provides a summary of the 516 sites identified within the project study area.

Table 3.24
Summary of Hazardous Material and Waste Sites Identified within the Project Study Area
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Landfills[1]	64
Treatment, Storage, and Disposal Facilities[2]	1
Hazardous Material Facilities[3]	404
Toxic Release Inventory[4]	47
Total Number of [illegible] Study Area	516

[1] Landfills and [illegible] regulated under Resource Conservation and Recovery Act. SCDHEC maintains the inventory of [illegible] in South Carolina.

[2] Treatment, Storage, [illegible] regulated under RCRA. These facilities treat, store or dispose of hazardous waste from permitted [illegible]

[3] Hazardous Material [illegible] waste sites, hazardous waste generators, aboveground storage tanks, underground storage [illegible] storage tanks, groundwater contaminated sites, releases of oil and hazardous substances and sites [illegible] Inventory List.

[4] The Toxic Release Inventory [illegible] releases from federal and industrial facilities. The inventory provides information [illegible] elements from facilities in any given area.

3.8.3 Would the proposed alternatives impact any known potentially contaminated sites?

Identified potentially contaminated sites were overlaid onto existing maps to determine if they may be affected by the proposed alternatives. These known sites include previously identified hazardous materials and hazardous waste sites within the vicinity of the 400-foot corridor for each alternative. Additional field investigations would be completed prior to construction to identify suspected hazardous waste sites and to characterize the extent of possible contamination from all known or suspected sites. Table 3.25 provides a summary of sites identified within the vicinity of the 400-foot corridor for each alternative. For detailed information about hazardous material and waste sites within a half-mile vicinity of each alternative, please refer to the *Hazardous Material Technical Memorandum.*

Alternative 3 would have the least number of potentially impacted hazardous material or waste sites at one, while Alternative 6 would have the greatest at four sites that could be potentially impacted. However, only two of the eight sites are known to have had releases. Given the potential that exists for each alternative to impact these sites, there is little difference between the alternatives.

3.9 Noise

3.9.1 What is noise?

Noise is "any sound that is undesired or interferes with a person's hearing of something".[67] Noise or sound is a pressure on the ear drum and that is measured on a scale from one to one billion. To simplify this scale, engineers and scientists have established a decibel scale (dB) of 1 to 180 through a mathematical process called a logarithm, which is easier to use. The human ear can only hear certain frequencies of noise, so, in order to show only the level or frequencies that can be heard by the human ear, the scale is given an A-weighting, designated by dBA. The scale of 1 to 180 dB provides a range for the sound levels that fall within a human's normal range of hearing for various types of noises. Table 3.26, (page 3-102), provides an overview of several different types of noises and what the sound level is in dBA. The scale provides a better representation of the actual sound levels and how a person would be affected.

Traffic noise, defined as unwanted sound, is associated with highway traffic usually in form of loud or persistent noises from cars and trucks. Traffic noises are generated from engines, mufflers, and from tire contact with the roadway.

3.9.2 How are noise impacts estimated?

Noises affect people differently due to their environment and other various factors. Loud noises such as a car honking its horn would bother most people while they were trying to sleep, while a softer noise during the day might bother certain individuals if they were trying to study or concentrate on a difficult task. The FHWA has developed the Noise Abatement Criteria (NAC) to determine how noise from roadway traffic affects the

[67] Webster's New Collegiate Dictionary, 1975. G&C Merriam Company. Springfield, Massachusetts.

Table 3.25
Hazardous Materials and Waste Sites Potentially Impacted, by Alternative
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Site	Description	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Exxon Mobile and Rogers Oil Co., Inc. 725 U.S. Route 76 E, Mullins	One gasoline UST with [illegible] capacity, currently in use.	X							
Kunjan Mitting Mill, 36300 [illegible] Route 76 E, Mullins (Now Southeastern Millwork, Inc.)	Unknown, it was listed on the S.C. Environmental Facility Information System and [illegible] RCRA Info database.	X							
Stuckey's Gas Station at I-95 and S.C. Route 34 Interchange, Dillon	Two gasoline USTs with an 8,000 gallon capacity and one gasoline UST with a 4,000 gallon capacity, all of which are currently in use.		X						X
Carousel Amoco Gas Station at I-95 and S.C. Route 34 Interchange, Dillon (Now a media/video store)	Two gasoline USTs with an 8,000 gallon capacity, one gasoline UST with a 3,000 gallon capacity, and one gasoline UST with a 1,000 gallon capacity, all abandoned and have been removed.		X				X		X
Webster's 66 Service at I-95 and S.C. Route 34 Interchange, Dillon (Now an auto service shop)	One gasoline UST with an 8,000 gallon capacity, one 8,000 gallon capacity diesel UST, and one 3,000 gallon capacity gasoline UST, all of which have been abandoned and filled with foam. An investigation and risk assessment is being conducted on the site due to a leak reported in December 1991 from an UST which contained gasoline.		X				X		X
Luther Martin Grocery and C&M Convenience, 3842 Joiner Swamp Rd, Galivants Ferry (Now Harold's Convenience Store)	One 3,000 gallon capacity gasoline UST, and two 2,000 gallon capacity gasoline USTs, all of which have been removed. A LUST was reported in June 2001, but received a status of no further action in November 2001. Currently there are four fuel ASTs present and in use.			X			X		
Marion County Airport, 225 Airport Court, Mullins	One 8,000 gallon capacity gasoline UST and one 8,000 gallon capacity kerosene UST were present, but have been removed. There is one 10,000 gallon capacity gasoline UST and one 10,000 gallon [illegible] fuel UST which are both currently in use.				X			X	
Wellman Incorporated Marion Plant, U.S. Route 76 and U.S. Route 501 Bypass in Marion (now [illegible])	Unknown, but the site was listed on the South Carolina Environmental Facility Information System and the Aerometric Information Retrieval System/Air Facility Subsystem databases, which is related to tracking the compliance of stationary sources of air pollution.				X				
Total Number of Sites by Alternative		2	3	1	2	2	4	2	3

Table 3.26
Common Noises and dB Levels
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Outdoor Noise	dBA	Indoor Noise
	110	rock band at 16.4 feet
jet flyover at 984.3 feet		
pneumatic hammer	100	subway train
gas lawn mower at 3.3 feet		
	90	
downtown area of large city	80	garbage disposal at 3.3 feet
		shouting at 3.3 feet
lawn mower at 6.6 feet	70	
commercial area		normal speech at 3.3 feet
air conditioning unit	60	clothes dryer at 3.3 feet
babbling brook		large business office
quiet urban area during the daytime	50	dishwasher in the next room
quiet urban area during the nighttime	40	library
	30	
	20	
	10	
		threshold of hearing
	0	

surrounding environment. NAC were developed through noise level studies, determinations of land uses, and various types of daily activities. These analyses developed a table for determining what dBA levels of noise would disturb people during various activities and at various locations. When dBA levels reach the point that it creates a disruption for an activity, it is considered an impact.

The NAC separates land uses into five categories, which are grouped by the type of activity and includes how sensitive this activity is to noise (Table 3.27). All five types of land uses are located within the project study area; however, the first three land uses (A, B, C) were used for analysis since they compare exterior noises and apply to all types of land uses.

3.9.3 How was background noise determined in the project study area?

Sources of the background noise include cars, trucks, farm equipment, and trains. An established network of roadways and, as a result, background traffic noises already exist throughout the project study area. Existing traffic and background noises were measured at 14 different locations within the project study area using a dosimeter. The time and resources it would take to provide existing noise level readings for each receptor in the project study area would be very expensive. In view of this, the FHWA-developed Traffic

Table 3.27
FHWA Noise Abatement Criteria
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Activity Category	dBA	Description of Activity Category
A	57 (exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (exterior)	Developed lands, properties, or activities not included in categories A or B above.
D		Undeveloped lands.
E	52 (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: 23 CFR §772, USDOT, FHWA.

Noise Model (TNM) was used to take into account the factors from current and future traffic volumes and composition, topography, buildings, and roadways. The three-dimensional model calculates noise levels for an entire area and can predict both existing and future noise levels using various criteria and information included in the model.

3.9.4 How was TNM tested to ensure accuracy?

The model was tested to ensure that it was accurately predicting noise levels for the project study area. To test the model, existing noise levels were predicted using existing traffic data and were compared to the same locations where ambient noise levels were measured in the field. The comparisons of these measurements determined the accuracy of the model and are shown in Table 3.28, (page 3-104). In most cases, the predicted noise levels were higher than those taken in the field. There were a few locations where the existing noise levels were higher than the predicted noise levels. Additional background noises beyond traffic, such as a train passing, were noted for these locations. On average, the TNM over estimated by approximately 1 dBA what was measured in the field. Generally, it would take at least a 5 dBA difference for the human ear to perceive a difference in sound in most exterior environments. Due to this, the TNM should accurately predict noise levels within 1 dBA or slightly higher than what should occur, which is a reasonable margin of variation.

A noise analysis was performed for the project study area. This analysis was completed in accordance to FHWA's 23 CFR §772.15 "Procedures for Abatement of Highway Traffic Noise and Construction Noise." Noise impacts from roadway traffic can occur in two ways. When noise levels approach, or are within 1 dBA of the NAC criteria for each land use category or meet/exceed the NAC level, then it would be considered to impact a receptor. The second type of noise impact would occur when there has been a substantial increase (by 15 dBA or greater) in the future noise levels to when compared to existing levels.

Table 3.28
Ambient Noise Levels
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Site	Location	Field Measured Noise Level (dBA)	TNM Predicted Noise Level (dBA)	Difference (TNM minus Field Measurement.)	Comments
Site 1	4 miles S of S.C. Route. 9 on U.S. Route 301	67.1	67.0	-0.1	
Site 2	2.4 miles S of S.C. Route 917 on U.S. Route 301	62.4	61.5	-0.9	Locomotive passed nearby
Site 3	1.2 miles S of U.S. Route 301 on U.S. Route 501	62.6	63.9	1.3	
Site 4	1 miles S of exit U.S. Route 76 on U.S. Route 501	64.1	66.0	1.9	
Site 5	1.25 miles E of U.S. Route 501 on U.S. Route 76	61.7	64.1	2.4	
Site 6	On I-95 just south of Exit 190	74.1	74.1	0.0	
[illegible]	1.2 miles E of S.C. Route 38 on S.C. Route 917	61.0	63.2	2.2	
Site 8	6 miles S of U.S. Route 301 on S.C. Route 917	60.9	60.9	0.0	
Site 9	3.6 miles W of S.C. Route 917 on S.C. Alt. Route 41	58.1	61.5	3.4	
Site 10	6.2 miles S of U.S. Route 76 on S.C. Route 41	62.4	63.3	0.9	
Site 11	4.5 miles S of U.S. Route 76 on S.C. Route 917	64.8	63.6	-1.2	Joints on Bridge Deck added to measurement
Site 12	3 miles S of State Route 23 on S.C. Route 917	54.8	58.4	3.6	Very low traffic volume
Site 13	6 miles N of State Route 319 on U.S. Route 501	67.0	70.0	3.0	
Site 14	1.1 miles W of U.S. Route 501 on Middle School Rd.	58.0	52.4	-5.6	Very low traffic volume
Site 15	2 miles N of Horry Rd on U.S. Route 501	69.1	70.9	1.8	
Site 16	1 miles E of U.S. Route 501 on Horry Rd	60.3	60.3	0.0	

3.9.5 What happens when impacts occur?

When traffic noise impacts occur, an evaluation must be completed to determine if minimization is possible. Methods used to reduce noise levels must be practicable to build, as well as cost effective. Methods cannot be used if they are determined to be unsafe to construct or if the methods are too costly when compared to the benefits. The most common method of reducing noise is construction of a noise wall, which is built parallel to a roadway to minimize the amount of noise. SCDOT and FHWA have determined that a noise wall or other noise reduction methods are practicable if they would reduce the noise by at least 5 dBA and cost-effective if it would not cost more than $25,000 per benefited receiver. In addition, if a noise wall is constructed, the wall cannot be higher than 25 feet based on specifications by SCDOT and FHWA. The 5 dBA reduction is used since it usually takes at least a 5 dBA change in the noise level for the average person to hear the difference in an exterior setting.

Traffic data for 2005 and 2030 peak-hour volumes, which would generate the most noise, were used to provide a worst-case scenario. Noise levels were predicted for all of the alternatives, including the No-build Alternative, and compared to the NAC and the existing noise levels to determine if there were potential impacts.

Since the project study area was so large, locations were picked throughout to provide a uniform representation as to what the sound levels would be and what potential areas would be impacted. These sites were chosen because of their distance to the existing and proposed roadways and due to the number of structures that were around them and the types of land uses for each of the locations. The approximate distance to the different land use categories in the NAC are shown in Table 3.29, (page 3-106). Table 3.30, (page 3-107) lists the approximate distances to each of these land uses for the various alternatives.

3.9.6 What are the anticipated noise impacts for the proposed alternatives?

Detailed land use data and structural information for the project study area has been collected in a GIS format. In order to analyze and compare specific categories of noise impacts associated with the eight Build Alternatives, contour distances were extrapolated from the TNM model and applied to the GIS data. This provided the ability to calculate the number and types of structures that fell within the contours associated with each NAC category for each of the proposed alternatives. The two contours of concern are the 66dB contour (Category B) and the 71 dB contour (Category C); no Category A receivers were identified adjacent to the proposed alignments. The GIS analysis provided a more detailed picture as to where impacts are located along the alignments. Noise impacts from this analysis are summarized in Table 3.31, (page 3-108) and shown on Figure 3-34 (page 3-109).

Table 3.29
Approximate Distance to Activity Category Impact
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Roadway	A (56 dBA) (feet)	B (66 dBA) (feet)	C (71 dBA) (feet)
I-95			
Existing (2005)	1,300	380	220
No-build (2030)	1,350	410	230
Build (2030)	1,400	440	250
U.S. Route 301			
Existing (2005)	300	110	80
No-build (2030)	420	160	100
Build (2030)	420	160	100
U.S. Route 501 (North of S.C. Alt. Route 41)			
Existing (2005)	250	90	60
No-build (2030)	350	120	75
Build (2030)	380	130	80
U.S. Route 501 (North of U.S. Route 76)			
Existing (2005)	320	125	75
No-build (2030)	430	160	100
Build (2030)	580	260	130
U.S. Route 501 (South of U.S. Route 76)			
Existing (2005)	470	150	90
No-build (2030)	540	170	100
Build (2030)	630	220	140
U.S. Route 501 (South of S.C. Route 41)			
Existing (2005)	560	180	110
No-build (2030)	560	180	110
Build (2030)	550	170	100
U.S. Route 76			
Existing (2005)	380	140	90
No-build (2030)	430	160	100
Build (2030)	480	180	110
S.C. Route 41			
Existing (2005)	180	70	50
No-build (2030)	240	100	60
Build (2030)	260	110	70
S.C. Route 917 (Near Little Pee Dee River)			
Existing (2005)	80	n/a	n/a
No-build (2030)	120	n/a	n/a
Build (2030)	320	60	20

Table 3.30
Approximate Distance to Activity Category Impact (feet)
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Location	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
I-95 to U.S. Route 301								
A (56 dBA)	440	540	490	390	460	[illegible]	[illegible]	490
B (66 dBA)	150	180	160	130	150	180	[illegible]	170
C (71 dBA)	90	110	100	80	90	110	[illegible]	100
U.S. Route 301 to S.C. Alt. Route 41								
A (56 dBA)	510	530	510	520	520	540	520	530
B (66 dBA)	160	180	160	180	160	190	180	180
C (71 dBA)	90	120	90	110	90	120	110	110
S.C. Alt. Route 41 to U.S. Route 76								
A (56 dBA)	530	430	540	580	540	540	[illegible]	430
B (66 dBA)	190	170	190	130	190	[illegible]	[illegible]	170
C (71 dBA)	120	110	120	70	120	120	70	110
U.S. Route 76 to S.C. Route 41								
A (56 dBA)	570	460	650	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
B (66 dBA)	190	170	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

A more detailed analysis of noise impacts will be complete for the Preferred Alternative when more detailed design and survey information is available

3.9.7 How could impacts be mitigated?

Due to the rural setting of the project study area, areas of high density development were avoided to the extent possible during the development of the Build Alternatives. Alternatives were adjusted to avoid, as much as possible, the smaller communities and neighborhoods. The avoidance of developed areas reduced potential noise impacts.

Table 3.31
Noise Impacts Based on GIS Analysis
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Location	Category	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
I-95 to US 301	66 dBA	0	2R	0	0	0	2R	0	2R
	71 dBA	0	[illegible]	[illegible]	0	0	0	0	0
US 301 to SC 41-Alt.	66 dBA	[illegible]	[illegible]	R	5R	3R	5R	5R	5R
	71 dBA	0	[illegible]	0	0	0	0	0	0
SC 41-Alt. to US 76	66 dBA	2R	[illegible]	2R	0	[illegible]	2	[illegible]	0
	71 dBA	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	0
US 76 to SC [illegible]	66 dBA	10R, 1C	5R	1R	[illegible]	10R, 1C	[illegible]	[illegible]	4R
	[illegible] dBA	0	0	0	[illegible]	0	0	[illegible]	0
SC 41 to S-99/S-3[illegible]	[illegible]	1R	2R	25R	2R	2R	25	[illegible]	2R
	[illegible] dBA	0	0	0	0	0	[illegible]	0	0
S-99/S-308 to S[illegible]	66 dBA	2R	5R	6R	2R	5R	[illegible]	5R	2R
	71 dBA	0	0	0	0	0	[illegible]	0	0
Total Impacts		18R, 1C	[illegible]	37R	17R	22R 1C	41R	20R	15R

Note: R=residence, C=church

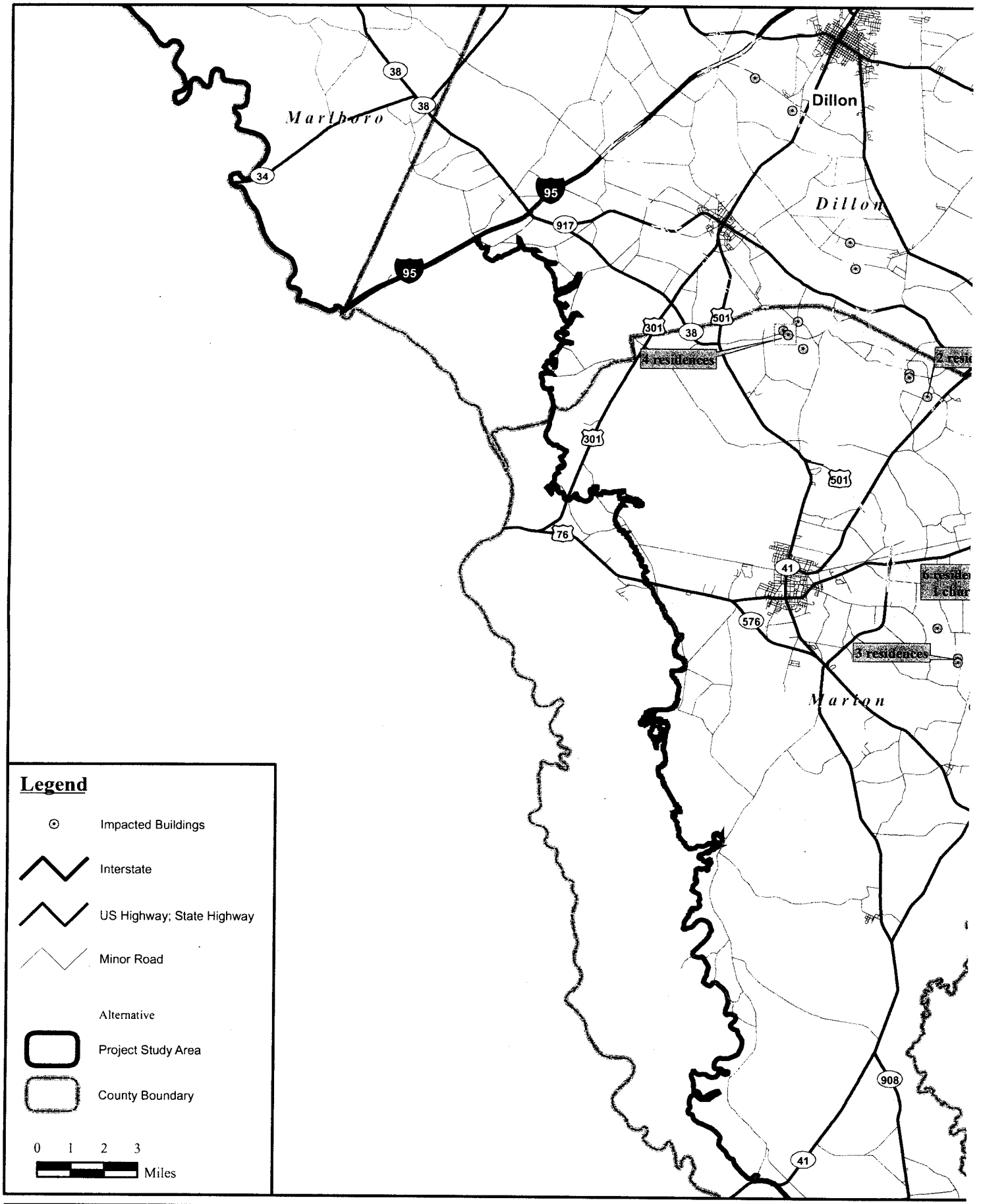
The following noise abatement measures were evaluated for areas with the highest potential for noise impacts. The various noise abatement measures were studied to determine the feasibility and reasonableness of their implementation.

Highway Alignment

Highway alignment selection involves the horizontal or vertical orientation of the proposed project in such a way as to minimize impacts and costs. The selection of alternative alignments for noise abatement purposes must consider the balance between noise impacts and other engineering and environmental parameters. For noise abatement, a horizontal alignment selection is primarily a matter of placing the roadway at a sufficient distance from noise sensitive areas. As stated above, this method was used during the development of Build Alternatives and has been implemented through the entire process.

Noise Barriers

Noise barriers involve constructing solid barriers to effectively diffract, absorb, and/or reflect highway traffic noise. These may include earth berms and/or noise walls. The evaluation of the reasonableness and feasibility of noise wall construction is based on many factors, some of which include constructability, cost, height, anticipated noise increase, noise reduction obtained, number of receptors benefited, residents' views, land use type, and whether land use changes are expected. For this analysis, noise barriers were studied for areas where there are more than two or three isolated receptors located within approximately 400 feet of a potential alternative. Table 3.32, (page 3-110), explains the potential cost and benefit information


Marlboro
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38
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501
301
501
76
41
576
908
41
4 residences
3 residences
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Impacted Buildings
Interstate
US Highway; State Highway
Minor Road
Alternative
Project Study Area
County Boundary
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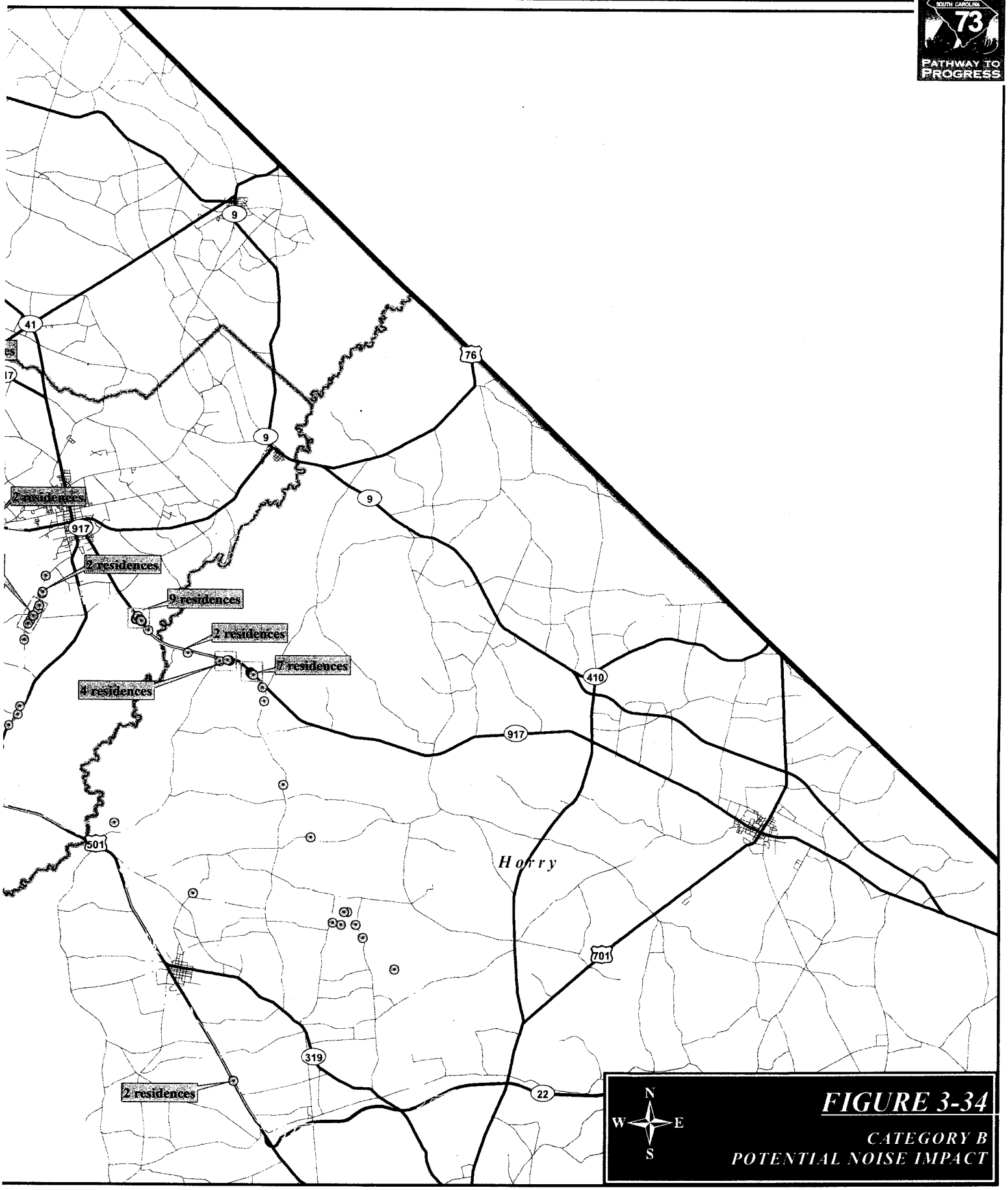


FIGURE 3-34

CATEGORY B POTENTIAL NOISE IMPACT

about the barriers analyzed. A construction cost of 20 dollars a square foot was used for the cost analysis, with the exception of barrier number 6 which was priced at $28 per square foot since it would be located on a bridge. The cost of the benefited receptors was calculated by dividing the cost of the noise wall by the number of receptors benefited by the wall.

A review of Table 3.32 shows that, based on preliminary analysis, none of the noise barriers would be reasonable based on cost per benefited receptor. A more detailed analysis may be needed in the Final EIS. SCDOT has defined a reasonable cost for noise abatement as $25,000 dollars per benefited receptor. In order to be effective, a noise wall must be tall enough to block the "line of sight" between the

Table 3.32
Noise Barrier Analysis
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Barrier Number	Location	Alt.	Impacted Receptors Studied	Number of Receptors Benefited	Length (feet)	Average Height (feet)	Cost	Cost per Benefited Receptor
1	North of U.S. Route 301	2, 6, 8	10	10	2,[illegible]	14	$769,000	$[illegible]6,900
2	South of U.S. Route 301	2, 6, 8	10	10	2,[illegible]5	14	$783,000	$[illegible]3,300
3	North of S.C. Alt. Route 41	5, 6, 8	[illegible]	7	1,200	21	$496,000	$[illegible]0,900
4	North of S.C. Alt. Route 41	1, 2, 5, 6,	12	12	1,750	22	$754,000	$[illegible]2,800
5	North of U.S. Route 76	1, 2, 5, 6,	23	13	1,856	17	$612,000	$[illegible]7,100
6	South of S.C. Route 41	3, 6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$[illegible],500
7	South of S.C. Route [illegible]8	3, 6	11	5	3,223	[illegible]	$986,000	$1[illegible],200
8	North of U.S. Route [illegible]1	1, 3, 4, 5, 7	7	3	2,627	[illegible]	$702,000	$2[illegible],000
9	South of U.S. Route [illegible]i	4, 7	7	4	2,197	[illegible]	$796,000	$19[illegible],000
10	North of U.S. Route [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$860,000	$286,700
11	South of U.S. Route 76	4, 7	14	12	2,855	13	$[illegible]68,000	$59,100
12	South of S.C. Route 308	1, 4, 8	7	6	2,100	16	$652,000	$108,700
13	South of S.C. Route 308	1, 4, 8	10	[illegible]	2,588	19	$985,000	$134,200
14	South of U.S. Route 76	1, 2, 3, 8	7	6	[illegible]	13	$385,000	$64,200
15	South of S.C. Route 308	2, 5, 7	26	11	[illegible]	20	$878,000	$79,800

Note: Barrier 6 includes cost for a portion of the barrier on a bridge.

human ear and the noise source, and long enough to block the "line of sight" from a length of roadway approximately six to eight times the distance between the receptor and roadway. The distance between receptors and the distance between the roadway and many of the receptors studied, contribute to the need for the noise walls to be of such great length and height as to render them cost ineffective. The lowest cost obtained for any wall studied was over $42,000 dollars per benefited receptor, and is not considered reasonable due to cost.

3.10 How is air quality measured?

The USEPA established the National Ambient Air Quality Standards (NAAQS) for atmospheric pollutants that are considered harmful to public health in accordance with the Clean Air Act of 1970 (as amended). The SCDHEC Bureau of Air Quality is responsible for regulating and ensuring compliance with the Clean Air Act in South Carolina.

The criteria pollutants that are measured under NAAQS are carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide.[68] In Table 3.33, these pollutants are listed, along with their attainment standards, description, sources, and the potential effects they may have on human health. Transportation projects only contribute to four of the six criteria pollutants listed: ozone, carbon monoxide, particulate matter, and nitrogen dioxide.[69]

The United States is divided into geographical areas that are classified as either in non-attainment or attainment for air quality. If an area has exceeded the NAAQS levels for any of the six criteria pollutants, then it is in non-attainment. In these areas, the USEPA requires states to develop a State Implementation Plan to address regional goals for attaining NAAQS. Each plan includes measures to reduce transportation pollutant emissions. Geographic areas that have all six criteria pollutants below NAAQS standards are considered to be in attainment. All three counties in the project study area are considered to be in attainment of the NAAQS.

In 1997, the USEPA determined that the 1-hour "peak" NAAQS standard for ground-level ozone was not adequately protecting human health and changed it to an 8-hour average standard of 0.08 parts per million.[70] This standard would be phased in, and once an area has reached this 8-hour average standard for three years, it would continue using it. However, if geographical areas were already meeting the 1-hour standard, they could voluntarily enter into an Early Action Compact with the USEPA through their state's State Implementation Plan to set milestones to meet the more stringent 8-hour standard. As long as these areas worked to reach milestones set in the compact, then the USEPA would defer requiring the ozone 8-hour average standard. Geographical areas, consisting of local, county, and state officials, worked to develop milestones and submitted them in 2002. Once the USEPA approved these compacts, and the milestones were reached, these areas would receive deferrals from the 8-hour average standard.

[68] USEPA. What are the Six Common Air Pollutants? http://www.epa.gov Last accessed March 16, 2006.
[69] FHWA. Air Quality Planning for Transportation Officials. http://www.fhwa.dot.gov Last accessed March 17, 2006.
[70] USEPA. USEPA's Revised Ozone Standards. http://www.epa.gov Last accessed March 16, 2006.

Table 3.33
Criteria Pollutants Measured Under the NAAQS
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Pollutant	Standard				Description	Possible Effects to Human Health
	Averaging time	PPM[†]	µG/M³ *	Type of standard[¥]		
Carbon monoxide	1 hour	35	40,000	Primary	Carbon monoxide forms when carbon is not completely burned in fuel. It is an odorless and colorless gas that is mainly formed from vehicle exhaust.	Breathing carbon monoxide reduces the body's ability to deliver oxygen to vital organs in the body. It can affect the heart, lungs, and central nervous system. Inhaled in high amounts, it can cause poisoning or death.
	8 hours	9	10,000	Primary		
Lead	1 quarter	-	1.5	Primary & Secondary	Lead is usually released into the environment as a result of processing metals. Utilities, waste incinerators, and lead-acid battery manufacturers are sources of lead.	Lead can cause damage to major organs such as the brain, liver, and kidneys. It can cause seizures, mental disorders, reproductive problems, high blood pressure, anemia, and osteoporosis.
Nitrogen dioxide	1 year	0.053	100	Primary & Secondary	Nitrogen dioxide is an odorless and colorless gas that comes from various sources such as vehicle, industrial, and utility emissions.	It is a component of ozone, which causes numerous respiratory problems.
Ozone	8 hours	0.08	157	Primary & Secondary	Ozone is created when nitrogen oxide compounds mix with volatile organic compounds in the presence of sunlight. Sources of the compounds creating ozone include vehicle and industrial emissions, gasoline vapors, and chemical solvents.	Ozone causes respiratory problems such as decreased lung function, asthma, wheezing, coughing, pain when breathing, and higher susceptibility to respiratory illnesses such as pneumonia and bronchitis.
Particulate Matter diameter less than/equal to 10 µm	24 hours	-	150	Primary & Secondary	Particulate matter forms when small solid particles combine with liquid droplets to form dust, dirt, haze, soot, or smoke. These can be emitted from primary sources such as unpaved roads, construction sites, fields, or smokestacks. They can also be emitted as a result of secondary reactions of gases released from automobiles and industrial plants.	Particulate matter causes a variety of respiratory problems, from asthma and bronchitis, to decreased lung capacity and function. If particulate matter is very small, it can be transferred to the cardiovascular system and cause irregular heartbeat and even non-fatal heart attacks.
	1 year	-	50	Primary & Secondary		
Particulate Matter diameter less than/equal to 25 µm	24 hours	-	65	Primary & Secondary		
	1 year	-	15	Primary & Secondary		
Sulfur oxides	3 hours	0.50	1,300	Secondary	Sulfur dioxide is formed when fuel such as coal and oil is burned and sulfur is released into the atmosphere and mixes with oxygen. Main sources of sulfur dioxide include fuel burning utility plants, petroleum refineries, large ships and locomotives, and metals processing plants.	Sulfur dioxide can cause respiratory illnesses such as asthma, decreased lung function, and susceptibility to other illnesses such as pneumonia and bronchitis. It can also aggravate existing heart diseases.
	24 hours	0.14	365	Primary		
	1 year	0.03	80	Primary		

[†]PPM = parts per million. * µG/M³ = micrograms per cubic meter. [¥] Primary standards are set to protect public health. Secondary standards are designed to protect public welfare. Source: USEPA, Air and Radiation Section, http://www.epa.gov/air/criteria.html Last accessed March 16, 2006.

3.10.1 How is air quality regulated?

In 2002, SCDHEC developed an Early Action Compact State Implementation Plan for implementing measures to attain the 8-hour average standard so that areas in the state could develop Early Action Compacts. Early Action Compacts were submitted for both the Pee Dee Region (containing Dillon and Marion Counties) and the Waccamaw Region (containing Horry County) in December of 2002 and resubmitted in 2004.[71] Two monitoring stations exist for the Pee Dee and Waccamaw Regions to monitor the 8-hour ozone standard. Neither station (the Pee Dee Region station is located in Darlington County and the Waccamaw Region station is located in Williamsburg County) has exceeded the 8-hour standard for ozone in the past three years.[72]

As part of the Early Action Compact State Implementation Plan, transportation conformity is not required. However, through interagency meetings, air quality and transportation officials agreed on the importance of considering air quality goals in transportation planning. As a result, FHWA, Federal Transit Authority, and SCDOT met with SCDHEC, USEPA, and local and county officials (known as Metropolitan Planning Organizations) signed a memorandum of agreement outlining consultation procedures for transportation conformity and developing a Smart Highways Checklist to be used when developing Long Range Transportation Plans and Transportation Improvement Programs to meet state and federal air quality standards, as well as goals set forth in the Early Action Compacts.[73]

With the approval of the 2004 SIP revision, when an area in South Carolina is deemed nonattainment, it is then required to implement transportation conformity and the necessary consultation procedures, outlined in the MOA. Areas in South Carolina that were designated nonattainment for the 8-hour ozone standard but had the effective date of the designation deferred as a result of the Early Action Compact are not required to implement transportation conformity.

Under this guidance, no further action to evaluate air quality is required for the I-73 project.

3.10.2 Would air quality be impacted by the proposed project?

Air quality is not likely to be impacted by this project. The three-county area is currently in attainment of the NAAQS standards. In general, the project should improve traffic congestion along existing routes to the Myrtle Beach region, which would have positive effects on the region's air quality. In addition, the counties have entered into Early Action Compacts to set goals for cleaner air in the three-county area. This project also has been included in the South Carolina Transportation Infrastructure Program, which is reviewed for air quality compliance. With the Early Action Compacts in place, and standard review of the project as part of the South Carolina Transportation Infrastructure Program, the project is not likely to impact air quality in the three-county area.

[71] USEPA. Ozone Early Action Compacts. http://www.epa.gov/ttn/naaqs/ozone/eac/ Last accessed March 17, 2006.
[72] SCDHEC. Bureau of Air Quality, Ambient Air Quality Summaries. http://www.scdhec.nec Last accessed March 17, 2006.
[73] SCDHEC. Bureau of Air Quality, South Carolina Early Action Compact SIP. http://www.scdhec.net/eqc/baq/html/eap_sip.html Last accessed March 17, 2006.

3.11 What impacts could construction of the Build Alternative have?

During the construction of the project, several potential environmental impacts may occur, but these would be mitigated through careful attention to construction methods. Construction methods would follow the current edition of SCDOT's *Standard Specifications for Highway Construction* to minimize potential impacts. Appropriate mitigation measures would be incorporated into the design plans and construction specifications to reduce, and, possibly eliminate, the associated impacts.

3.11.1 Air Quality

Air quality impacts may occur during construction due to the dust and fumes from equipment, earthwork activities, and vehicles accessing the construction site. Air quality impacts may also occur from an increase of vehicle emissions from traffic delays due to construction activities. Construction activities could include staging of construction for interchange locations, delivery of equipment and materials, and longer waiting times at traffic signals.

Best management practices that limit dust generation are described in the *South Carolina Stormwater Management and Sediment Control Handbook For Land Disturbance Activities*[74] and *A Guide To Site Development and Best Management Practices For Stormwater Management and Sediment Control.*[75] These methods include vegetative cover, mulch, spray-on adhesive, calcium chloride application, water sprinkling, stone, tillage, wind barriers, and construction of a temporary graveled entrance/exit to the construction site.

In accordance with Section 107.07 of the South Carolina Highway Department Standard Specifications for Highway Construction,[76] the contractor would comply with *South Carolina Air Pollution Control Laws, Regulations and Standards.*[77] The contractor would also comply with county and other local air pollution regulations. Any burning of cleared materials would be conducted in accordance with applicable state and local laws, regulations and ordinances and the regulations of the South Carolina's State Implementation Plan for air quality, in compliance with Regulation 62.2, Prohibition of Open Burning.

3.11.2 Noise

Areas along the Build Alternatives could be affected by noise generated from various construction activities. The major construction elements of this project are expected to be earth moving, hauling, grading, and paving. General construction noise impacts to individuals living or working near the project would be expected,

[74] South Carolina Department of Health and Environmental Control's Office of Ocean and Coastal Resource Management, *South Carolina Stormwater Management and Sediment Control Handbook for Land Disturbance Activities* (2003), Appendix E.

[75] South Carolina Department of Health and Environmental Control's Office of Ocean and Coastal Resource Management, A Guide to Site Development and Best Management Practices for Stormwater Management and Sediment Control.

[76] SCDOT Standard Specifications for Highway Construction (2000).

[77] South Carolina Department of Health and Environmental Control, Bureau of Air Quality Control, *South Carolina Air Pollution Control Laws, Regulations, and Standards.*

particularly from noise generated by paving operations and from earth moving equipment. Overall, construction noise impacts are expected to be minimal since construction noise would be relatively short in duration and could be restricted to daytime hours.

3.11.3 Water Quality

Potential impacts to water quality from construction activities could be related to surface water runoff, accidental release of fuel or hydraulic fluids, sedimentation from soil erosion, and changes in stream channel grades. *The South Carolina Stormwater Management and Sediment Control Handbook for Land Disturbance Activities,*[78] provides information regarding stormwater management and sediment control during construction. Several Best Management Practices (BMPs) that could be possibly used during construction include the following:

- land grading;
- construction of temporary diversions to dispose of runoff to control erosion and sedimentation;
- construction of diversion dikes to prevent sediment-laden runoff from exiting the construction site;
- construction of temporary sediment traps which would detain sediment-laden runoff and trap the sediment to prevent impacts to surrounding water bodies;
- construction of sediment basins;
- straw bale dikes; and,
- rock dams to retain sediment on the construction site and prevent sedimentation of off-site water bodies.

The contractor would be required to comply with Section 107.26, SCDHEC's Environmental Protection and Water Pollution Control from the *South Carolina Highway Department Standard Specifications for Highway Construction.*[79] In addition, the contractor would be required to comply with current federal and state laws, as well as regulations regarding water quality and stormwater management.

3.11.4 Wildlife

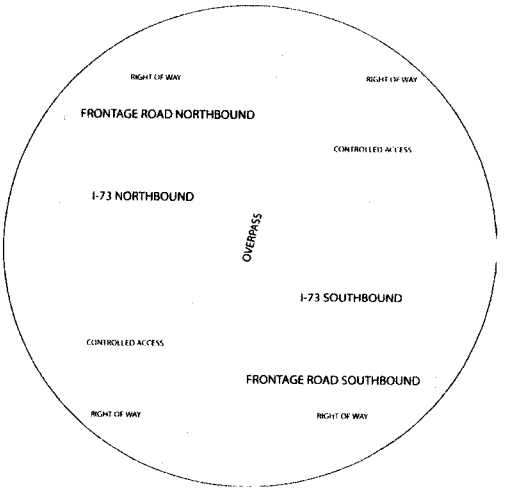
Staging and stockpiling operations during construction could result in possible disruption to the resident wildlife population. Both the clearing of habitats, as well as the noise and vibration from construction operations could displace mobile wildlife species. Construction activities would stimulate competition between displaced species and the resident wildlife population adjacent to the construction site. Biotic impacts would be temporary, since staging and stockpiling areas would be abandoned after construction.

3.11.5 Maintenance of Traffic

The construction of I-73 on sections of existing U.S. Route 501 will be more complex than sections on new location. At several sections construction will be performed in the median of U.S. Route 501.

[78] Ibid.
[79] Ibid.

The segment of I-73 on the Marion Bypass would require construction in the median of existing U.S. Route 501. One side of U.S. Route 501 would stay in place while the other side would be relocated to allow for I-73 to be placed in the center. U.S. Route 501 would become a pair of one-way frontage roads on the outside of each side of I-73 (refer to graphic of the frontage roads). I-73 would then be constructed between the lanes of U.S. Route 501. Because of the one-way frontage roads the traffic circulation would be changed. People wanting to get onto U.S. Route 501 from the western side would have to get on the frontage road heading south. If they wanted to travel north they would have to stay on the southbound side until they reached a location to pass under I-73 and make a U-turn to go north. Likewise the people on the eastern side would have to turn north onto U.S. Route 501. Those wanting to proceed south would have to travel north until they reached a turn around under I-73 and head south.



One-way Frontage Roads

This situation would occur again at the U.S. Route 501 crossing of the Little Pee Dee River. One side, the northern side, of U.S. Route 501 would be shifted farther north to allow for construction of I-73 between the travel lanes. Again, U.S. Route 501 would be come a pair of one-way frontage roads on the outside of both sides of I-73. The situation here would be more complex because there are several bridge structures that would have to be replaced. Again, people would have to travel in one direction on U.S. Route 501 on either side of I-73 until they reached a place to make the turn around to go in the opposite direction.

This situation would arise a third time on U.S. Route 501 from Aynor south to S.C. Route 22. The one-way frontage roads would maintain access to adjacent properties but would require the same circulation patterns for local trips on U.S. Route 501 as described for the other segments.

Extreme caution must be taken during the design and construction of the project to ensure that proper measures are met to provide a safe facility to the traveling public. These considerations would be necessary due to the existing high volume of traffic which uses U.S. Route 501 as the primary route from I-95 to the Myrtle Beach area, especially during the peak season summer months. A minimum design speed of 45 mph would have to be maintained in the construction area in order to minimize undue traffic backups and delays.

Shifting of traffic during the various phases of construction would be required. This would cause a potential for accidents due to motorists unfamiliarity with the facility as it changes. A conflict that would occur between the construction traffic, such as large hauling trucks and construction tractors, and the traveling public that would increase the risk of accidents and potential fatalities in the work zone area. The construction activity would warrant the placement of more rigid traffic control apparatus such as temporary concrete barriers which would create an undue obstacle, but reduce the potential for injury or fatalities should an accident occur.

In addition, the construction in the areas of U.S. Route 501 will cause a burden on the existing businesses and residents adjacent to the existing roadway. During certain phases of construction, access will be affected

to these properties to the extent that a vehicle wanting to gain access to specific property may have to be detoured several miles.

A similar situation would exist on the eastern crossing of the Little Pee Dee River, along S.C. Route 917. However, in that situation the existing road would be maintained as a two-lane frontage road, with traffic in both directions. I-73 would be built on the southwestern side of the existing road. Again, shifting of traffic during phases of construction would be increase the potential for accidents and rigid traffic control would be needed to make a safe work and travel environment. The traffic volumes at this crossing are substantially less than at the U.S. Route 501 crossing, making the maintenance of traffic at this location easier to perform.

A higher number of people live in the vicinity of U.S. Route 501 and in turn any alternatives that utilize this existing facility would impact more people by altering the existing traffic patterns. As such, Alternative 4 would have the greatest impact to mobility and constructability since it follows existing U.S. Route 501 for the greatest length. Alternatives 1 and 8 would have the second highest impacts to construction and mobility since their alignments follow the existing U.S. Route 501 corridor south of Aynor. Alternative 6 would connect to I-95 near the Gateway Industrial Park and would require a complex system of collector and distributor roads. Alternative 3 would have the least impacts for construction and mobility because it is primarily on new alignment.

Traffic congestion could occur, particularly in areas where new construction would be in the vicinity of existing facilities. Temporary detours could be needed as part of maintenance of traffic during construction, particularly at interchanges. Existing facilities could be closed for brief periods of time, as approved by SCDOT. Detours could also be utilized in areas where construction activities would lead to a reduced number of lanes on an existing facility. This would help reduce traffic congestion in the vicinity of construction. Any detours and maintenance-of-traffic layouts proposed by the contractor would be reviewed and approved by SCDOT. Temporary detours and closures of facilities could lead to more inconveniences for local residents and travelers throughout the areas of construction. Businesses along these roadways could experience a loss of revenue during construction due to the inconvenience placed on customers to access these businesses.

Access roads would be needed to maintain existing connections that would otherwise be lost due to construction of the project. Measures that could be incorporated to provide maintenance of traffic include temporary lane closures, temporary relocation of roads, or construction of temporary structures. The speed limits in the construction work zone areas should generally be lower than the posed speed limit on the existing facility. The construction of the interchanges may be completed in stages and the contractor would be required to use typical maintenance of traffic layouts or submit site-specific layouts for review. The contractor would also be required to comply with Section 104.07, Maintenance and Maintaining Traffic, 107.06, Sanitary Health and Safety Provisions, and Section 107.09, Public Convenience and Safety of the *South Carolina Highway Department Standard Specifications for Highway Construction.*[80]

[80] *Ibid.*

3.11.6 Estimated Costs

Table 3.34 lists the estimated costs to construct each alternative. The costs are shown in 2006 dollars, and then factored up by six percent per year to the Years 2011 and 2016.

Table 3.34
Potential Cost Per Alternative
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
Total Estimated Cost in Billions (2006 Dollars)	1.115	1.156	0.964	1.040	1.069	1.051	1.008	1.192
Total Estimated Cost in Billions (2011 Dollars at 6% Annually)	1.492	1.547	1.290	1.392	1.431	1.406	1.350	1.595
Total Estimated Cost in Billions (2016 Dollars at 6% Annually)	1.997	2.070	1.726	1.863	1.915	1.882	1.806	2.134

3.12 What considerations have been analyzed relating to pedestrians and bicyclists?

The proposed project would provide facilities for bicyclists and pedestrians where bridges are constructed to elevate roadways over the interstate. The bridges constructed at these locations would have 10-foot shoulders, which would accommodate pedestrian and bicyclists more safely. The existing road system within the project study area is comprised primarily of secondary roadways including U.S. Route 501, U.S. Route 76, S.C. Route 41, and S.C. Route 22. The secondary roadways have limited or no shoulders making it difficult to accommodate pedestrians or bicyclists.

The SCDOT has developed policies to ensure that pedestrians and bicyclists are taken into consideration when planning to widen existing roadways or for new road construction projects. "Accommodating Bicycle and Pedestrian Travel: A Recommended Approach" is a policy statement adopted by the USDOT to guide the integration of bicycling and walking facilities into the transportation mainstream.[81] Along with input from public agencies, professional associations, and advocacy groups, the USDOT drafted the policy statement in response to Section 1202 (b) of the TEA-21. The policy statement states that facilities for bicyclists and pedestrians in urbanized areas should be established in new construction and reconstruction projects, unless bicyclists and pedestrians are prohibited by law from using the roadway, as they would be for the proposed project.

Due to the fact that access to the facility would be fully-controlled, in designated locations secondary roadways would be elevated and constructed over the interstate. The frontage roadways would be considered for bike and pedestrian facilities based on SCDOT policies. Although the proposed project

[81] http://www.fhwa.dot.gov/environment/bikeped/design.htm

would require the modification of several local roads, it would not reduce the routes available for travel by pedestrians or bicyclists. The proposed project is not anticipated to affect pedestrian or bicycle traffic.

3.13 What is the relationship of local short-term uses versus long-term productivity for the proposed project?

The potential impacts of the proposed project must be weighted against the need for the interstate facility. Although potential adverse impacts may occur, the implementation of various mitigation measures would limit the extent of impacts that are deemed unavoidable. The local short-term impacts would be primarily associated with site preparation and construction of the interstate facility. Many of the potential impacts would only occur during construction and would be considered short-term, including run-off from cleared areas. Other potential impacts such as permanent changes to the existing land use, loss of wetlands, loss of farmlands, and loss of habitat would be considered long-term. As discussed previously, the proposed project would provide long-term enhancement opportunities for economic development and provide transportation system linkage.

Natural Resources

3.14 Why is farmland an important consideration?

South Carolina has a long history of farming and agricultural significance, especially within the project study area. Drawn by its abundant resources, this area was first settled by Native Americans who were later followed by English settlers who traveled inland from the Carolina Coast.[82] In Horry County, pine trees supported an industry centered on the production of tar, turpentine, and rosin from 1830 until the beginning of the twentieth century. The timber and turpentine industry were replaced by the tobacco industry which was initiated in this region in the 1890's. The project study area was known as a successful tobacco-growing region; however, due to new federal legislation limiting the amount of tobacco farmers can produce, other crops are now being grown.

Farming in South Carolina produces crops valued at over 1.5 billion dollars annually. Dillon, Horry, and Marion Counties produce crops valued over 147.9 million dollars, representing 10 percent of South Carolina's overall crop value.[83] The top five crops in the three counties are soybeans, cotton, wheat for grain, corn for grain, and tobacco (Table 3.35, page 3-120). Hog and poultry farming, along with producing landscape flowers and plants, are also important elements of South Carolina's agricultural industry in Dillon, Horry, and Marion Counties.

3.14.1 How is farmland protected?

Congress recognized the importance of farmlands and passed the Farmland Protection Act in 1981. The purpose of this statute is to prevent the conversion of farmlands to non-agricultural uses by minimizing the impacts that federal programs have on farmlands. Prior to farmland being used for a federal project, an

[82] http://www.marioncountysc.com/profile.html
[83] Source: U.S. Department of Agriculture, 2002 Census of Agriculture.

Table 3.35
Top Five Crops in Dillon, Horry and Marion Counties in 2002
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Crop	Dillon County	Horry County	Marion County
Soybeans (acres)	38,770	35,700	18,304
All Cotton (acres)	19,434	[illegible]	[illegible]
Wheat for Grain (acres)	20,983	6,777	[illegible]
Corn for Grain (acres)	6,676	13,813	5,028
Tobacco (acres)	2,763	7,636	3,868

Source: U.S. Department of Agriculture, 2002 Census of Agriculture.

assessment must be completed to determine if prime, unique, or statewide or locally important farmlands would be converted to non-agricultural uses. If the assessment determines the use of farmland is in excess of the parameters defined by the Natural Resources Conservation Service (NRCS), which is an agency of the U.S. Department of Agriculture (USDA), then the federal agency must take measures to minimize the impacts to these farmlands.

The Farmland Protection Act was passed in 1981 to protect farmlands from conversion to non-agricultural uses by minimizing the impacts that federal programs have on farmlands.

3.14.2 What are the different types of protected farmlands?

The NRCS is the lead agency that determines the suitability of farmlands. NRCS characterizes eligible farmland as being "prime", "unique" or of "statewide or local significance". The designations are based on NRCS soil type and are protected by federal legislation.

There are three different types of farmlands, Prime, Unique, and Statewide or Locally Important.

<u>Prime farmlands</u> are those lands that produce normal crops and require the least amount of inputs (i.e. fertilizer, pesticides, labor).

<u>Unique farmlands</u> are those lands other than prime farmlands used for production of specific high-value food or fiber crops such as nuts, fruits, or vegetables.

<u>Statewide or Locally Important farmlands</u> are those lands designated by state or local agencies as important for the production of crops in the area.

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, or oil-seed and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor without intolerable soil erosion (7 U.S.C. §4201(c)(1)(A)). Prime farmland includes land that possesses the above characteristics and may include land currently used as cropland, pastureland, rangeland, or forestland. Prime farmland does not include land already in or committed to urban development or water storage.

Unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops (7 U.S.C. §4201(c)(1)(B)). It has the special combination of soil quality, location, growing season, and moisture supply needed to

economically produce high quality or high yields of specific crops when treated and managed according to acceptable farming methods. Examples of such crops include lentils, nuts, annually cropped white wheat, cranberries, citrus and other fruits, olives, and vegetables.

Statewide or locally important farmland is land that has been designated of state or local importance for the production of food, feed, fiber, forage, or oil-seed crops, but is not of national significance (7 U.S.C. §4201(c)(1)(C)).

3.14.3 What are the types and amounts of farmland in the project study area?

The project study area represents 942,000 acres of Dillon, Horry and Marion Counties. The project study area consists of 225,915 acres of prime farmland and 293,676 acres of farmland of statewide importance.[84] No unique farmland soils exist in the project study area.

In Dillon County, within the project study area, there are 11 soil types that have been designated as prime farmland and 15 soil types designated as farmland of statewide importance by the NRCS. These 26 soil types consist of approximately 191,117 acres, which equals 74 percent of Dillon County's total land area (Table 3.36).

In Horry County, within the project study area, there are 12 soil types designated as prime farmland and 11 soil types designated as farmland of statewide importance by the NRCS. These 23 soil types consist of approximately 472,464 acres, which is 65 percent of Horry County's total land area (Table 3.36).

In Marion County, within the project study area, there are 12 soil types designated as prime farmland and 12 soil types designated as farmland of statewide importance. These 24 soil types consist of approximately 190,640 acres, which comprises 61 percent of Marion County's total land area (Table 3.36).

Table 3.36
Summary of Prime and Farmland of Statewide Importance Soils
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	Project Study Area	Dillon County	Horry County	Marion County
Prime Farmland (acres)	[illegible]	[illegible]	[illegible]	[illegible]
Farmland of Statewide Importance (acres)	[illegible]	[illegible]	[illegible]	[illegible]

Source: GIS data from NRCS, 2006

[84] GIS data, NRCS 2006

3.14.4 What are the typical farm sizes in Dillon, Horry, and Marion Counties?

Data from the Census of Agriculture is only available at the county level; therefore, Dillon, Horry, and Marion County data is being used to characterize the project study area. Aerial photography specific to the project study area was also used to assess the agricultural land uses.

South Carolina's overall average of total land area in farms is approximately 25 percent. As shown in Table 3.37, Dillon County has a total land area in farms that is well above South Carolina's overall average, while Horry County has a total land area in farms that is roughly equal to the state's overall average and Marion County has approximately 29.8 percent of its land area in farms, just above the state's average.

The USDA classifies all farms into size groups according to the total land area of the farm. The land area of a farm includes land owned and operated as well as land rented from others. Therefore, land rented was considered part of the tenant's farm and not part of the owner's. In the three-county region, farm size ranges from as small as one acre to over 1,000 acres or more. In 2002, the majority of farms in the three county-region ranged between 50 to 179 acres in size. The trends in the size and number of farms within Dillon, Horry, and Marion Counties from 1992 to 2002 trends show the number farms in all three counties have decreased between 6 and 34 percent.

Table 3.37
Total Land Area in Farms, 2002
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	Dillon County	Horry County	Marion County	3-County Area Total
Approximate Land Area (acres)	259,099	725,556	313,000	1,297,655
Land in Farms (acres) (% of total area)	112,262 (43.3%)	188,311 (26.0%)	93,262 (29.8%)	393,835 (30.3%)
Number of Farms	197	988	213	1398
Average Size of Farm (acres)	570	191	438	400
Average Value of Land and Buildings (farms), dollars	$768,990	$439,723	$617,759	$608,824

Source: U.S. Department of Agriculture, 2002 Census of Agriculture.

3.14.5 What methodology was used to determine farmland impacts?

The average size of local farms, amount of prime and statewide important farmlands in the project study area corridor, and percentage of farmland to be converted by the alternatives were used to determine the *relative value* of the farmland to be converted.

Formal consultation with the NRCS for compliance with the Farmland Protection Act was completed. An evaluation utilizing the Farmland Impact Conversion Rating form for Corridor Type Projects form (NRCS-CPA-106) was performed for the proposed eight Build Alternatives. The purpose of the farmland conversion impact rating form is to help identify and

approximate the amount of farmland conversion that would be associated with each of the proposed alternatives.

Potential impacts to farmlands have been quantitatively assessed for each of the alternatives based on the three counties' prime and farmland of statewide importance. The NRCS required that a separate farmland conversion impact rating form be submitted for each county, since each has different ratings for their prime and statewide important soils. As explained previously, no unique farmland is located within the project study area.

For each alternative, two values, the relative value and the corridor assessment value, were determined. The *relative value* category was completed by the NRCS, on a scale of 0-100, the relative value of farmland to be converted by the alternatives ranged from 44 to 87 points. The *corridor assessment value* pertains to the use of land, the availability of farm support services, investments in existing farms, and the amount of land that could be rendered non-farmable due to construction of the corridor. The corridor assessment value had a scale of 0-160 points, the alternatives ranged from 53 to 70.

A "divided" farm parcel is an area divided either diagonally or laterally by the proposed right-of-way, thus dividing a single area of land into two or more plots.

3.14.6 What were the results of the Farmland Impact Conversion Evaluation?

By totaling the relative value and the corridor assessment value, it was determined that the total threshold, 160 points overall, set by NRCS, was not exceeded by the Build Alternatives in any of the three counties(refer to Table 3.38). The highest total value was 157 for Alternative 4 in Dillon County. The lowest value was 107 points for Alternative 7 in Marion County (refer to Table 3.38). Since the 160 threshold was not exceeded for any of the alternatives, mitigation actions that could reduce adverse impacts associated with the Build Alternatives would not be required.

Table 3.38
NRCS Farmland Conversion Evaluation
Point Total by Alternative
Interstate73: I-95 to Myrtle Beach Region

	Alt 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
Dillon County	156	149	153	157	155	149	155	147
Horry County	131	130	134	128	138	139	134	128
Marion County	117	109	117	110	117	112	107	116

3.14.7 How would the proposed project impact farmlands?

The No-build Alternative would have no effect on farming operations since existing conditions would remain unchanged. Construction of the Build Alternatives would result in the direct conversion of farmland to a transportation facility. Alternative 8 would incur 2,155 acres of impact to prime and statewide important farmland soils, the highest of all proposed alternatives (refer to Table 3.39). Alternative 3 would have the least amount, 1,708 acres, of prime and statewide important farmland soils directly impacted, (refer to Table 3.39). Overall, while the difference between the highest (Alternative 8) and the lowest (Alternative 3) may be enough to differentiate it is not a substantial difference.

The Build Alternatives would also result in other impacts, such as divided farm parcels. If farm buildings or land were divided from farming operations, inaccessibility to fields or pastureland may result if access were not provided. If access is not provided, the farm operator may experience increased time requirements and expenses in order to conduct normal farming operations. The increased expenses could include the need to transfer equipment, feed, and livestock between the divided parts of the farm.

Impacts to parcels that could potentially be divided by the alternatives were identified. Given that farm size in the project study area ranges from 1 acre to 1,000 acres or more, it was determined that no parcel would

Table 3.39
Prime and Farmland of Statewide Importance Soils
Interstate73: I-95 to Myrtle Beach Region

Alternative	Total Farm-land (acres)	Dillon		Horry		Marion	
		Prime (acres)	Statewide Importance (acres)	Prime (acres)	Statewide Importance (acres)	Prime (acres)	Statewide Importance (acres)
1	1,993	417	227	261	294	368	426
2	2,009	526	321	490	129	294	240
3	1,708	420	223	422	130	252	261
4	1,717	420	222	270	278	178	349
5	2,136	486	236	490	130	368	426
6	1,835	522	331	422	140	203	217
7	1,781	360	277	498	130	178	338
8	2,155	571	331	280	285	308	380

be too small to farm. For every parcel that an alternative traversed, three areas were calculated: the area within the 400-foot corridor and the two remaining areas on either side of the corridor. The area within the 400-foot corridor was calculated as direct impacts. It is assumed that the parcels divided by an alternative could be acquired by a neighboring farm, so the farmland, even though it may be split, may not be removed from active production. Maintaining access to farms that have been split or severed by I-73 is an issue that will be further investigated for the Preferred Alternative in the Final EIS.

Table 3.40
Divided Farmland Parcels in the Project Study Area
Interstate73: I-95 to Myrtle Beach Region

Alternative	Total Corridor (acres)	Total (acres)	Dillon County (acres)	Horry County (acres)	Marion County (acres)
1	2,519	209	65	27	117
2	2,578	275	80	103	92
3	2,273	257	65	110	82
4	2,336	169	65	23	81
5	2,530	281	65	99	117
6	2,821	261	86	111	64
7	2,347	243	65	99	79
8	2,567	207	86	23	98

Alternative 5 would incur the greatest potential impact to farmland via divided parcels (281 acres) while Alternative 4 would incur the least amount of impacts via divided parcels (169 acres), (Table 3.40).

Overall, farming operations would be directly impacted as a result of the construction of the proposed project. No farmlands, besides those acquired for right-of-way, should be rendered un-farmable and access issues to divided parcels would be addressed during the right-of-way acquisition process. The conversion of farmland to right-of-way due to the construction should not cause a significant disruption of agricultural activities in the project study area.

3.14.8 What would be the potential indirect and cumulative impacts on farmland?

Impacts from induced development and cumulative impacts were calculated with the use of GIS. Spatial data layers containing acreages of projected growth by alternative (which were determined in the land use study, Section 3.5) were overlaid on the soils data (obtained from the NRCS) within the project study area. The acreages of projected growth that fell within prime farmland or farmland of statewide importance were identified and calculated.

How would development that is expected to occur with the No-build Alternative impact farmlands?

Development that would be expected under the No-build Alternative would impact approximately 20,426 acres of farmlands, including prime farmland and farmland of statewide importance. These impacts would include: in Dillon County, 28 acres of prime farmland and 20 acres of farmland of statewide importance; in Horry County, 3,373 acres of prime farmland and 1,309 acres of farmland of statewide importance; and in Marion County, 3,173 acres of prime farmland and 12,523 acres of farmland of statewide importance. Approximately 16,000 acres of this development in Marion County would be located at the site of a proposed inland port that is currently in the planning stage, located north of the City of Marion. The inland port would encompass: one acre of both prime farmland and farmland of statewide importance in Dillon

County; and 2,993 acres of prime farmland and 12,405 acres of farmland of statewide importance in Marion County. The No-build Alternative was used as a baseline to compare development that was projected as a result of the construction of I-73.

What would be the potential impacts from induced development on farmland?

In addition to the direct conversion of farmland to roadway right-of-way and indirect impacts, impacts from development induced by the construction of the project would be anticipated in the project study area. Listed in Table 3.41 are acres of impacts from induced development to farmland, based on the land use model. Alternative 2 would have the highest acres of impacts from induced development with 1,362 acres, while Alternative 3 would have the least acres of impacts with 1,014 acres.

Table 3.41
Impacts from Induced Development on Prime and Farmland of Statewide Importance Soils in the Project Study Area by Alternative
Interstate73: I-95 to Myrtle Beach Region

Alternative	Total Impacts	Dillon Prime	Dillon Statewide Importance	Horry Prime (acres)	Horry Statewide Importance (acres)	Marion Prime (acres)	Marion Statewide Importance (acres)
1	1,157	69	[illegible]	[illegible]	[illegible]	349	[illegible]
2	1,362	93	33	420	241	353	222
3	1,014	42	47	336	164	230	194
4	[illegible]	39	55	264	135	296	239
5	1,284	36	31	456	213	300	228
6	1,152	77	28	384	182	279	202
7	1,118	[illegible]	50	393	173	262	194
8	[illegible]	78	32	387	229	377	240

What would be the potential cumulative impacts on farmland?

Cumulative effects on farmland are caused by the aggregate of past, present and reasonably foreseeable future actions. Cumulative impacts would include development in the project study area that would be expected under the No-build Alternative, development that may result from the project, as well as other development in the project study area that may affect farmlands. Listed in Table 3.42, page 3-127, are cumulative impacts to farmland in the project study area from development that is projected from the land use model. Alternative 2 would have the most acres of cumulative impacts with 21,906 acres, while Alternative 7 would have the least acres of cumulative impacts with 21,144 acres. However, the relatively small magnitude of the difference between alternatives means that they are essentially the same.

Table 3.42
Cumulative Impacts on Prime and Farmland of Statewide Importance Soils in the Project Study Area by Alternative
Interstate73: I-95 to Myrtle Beach Region

Alternative	Total Cumulative Impact to Farmland (acres)	Dillon Prime (acres)	Dillon Statewide Importance (acres)	Horry Prime (acres)	Horry Statewide Importance (acres)	Marion Prime (acres)	Marion Statewide Importance (acres)
1	21,648	70	95	3,677	1,445	3,522	12,839
2	21,906	121	53	3,793	1,550	3,526	12,863
3	[illegible]	71	67	3,709	1,473	3,403	[illegible]717
4	[illegible]	87	75	[illegible]	1,444	3,496	[illegible]762
5	21,710	84	71	[illegible]	1,522	3,473	[illegible]
6	21,578	105	48	[illegible]	1,491	3,452	12,725
7	21,144	74	70	3,766	1,482	3,035	12,717
8	21,729	106	52	3,760	1,538	3,510	12,763

In addition to projected growth and land use changes, other transportation projects in the project study area contribute to the cumulative impacts on farmlands. In 2000, construction of the Conway Bypass from U.S. Route 501 in Conway to U.S. Route 17 in North Myrtle Beach was completed. The Conway Bypass was 28.5 miles of new location roadway and its construction impacted farmlands directly and/or by bisecting parcels, which created access problems for some farm owners. The widening of S.C. Route 38 from I-95 to Marion is currently under construction. This project widened an existing route from two to four lanes, which have impacted minor amounts of farmlands adjacent to the road.

3.14.9 What Federal/USDA farmland programs are active or found in the project study area and how would they be impacted by the proposed alternatives?

In addition to prime, unique, and statewide or locally important farmlands, the NRCS and USDA have developed other programs for farmlands that provide incentive for landowners to protect, enhance, or conserve their properties. Below are the different types of programs being used in the project study area (refer to Figure 3-35, page 3-128). Table 3.43, page 3-129 lists the amount of acreage for each program within the project study area.

Farm and Ranch Lands Protection Program

The Farm and Ranch Lands Protection Program (FRPP) is a voluntary program managed by NRCS that helps farmers and ranchers keep their land in agriculture. Matching funds are provided by the program to State, Tribal, or local governments and non-governmental organizations with existing farm and ranch land

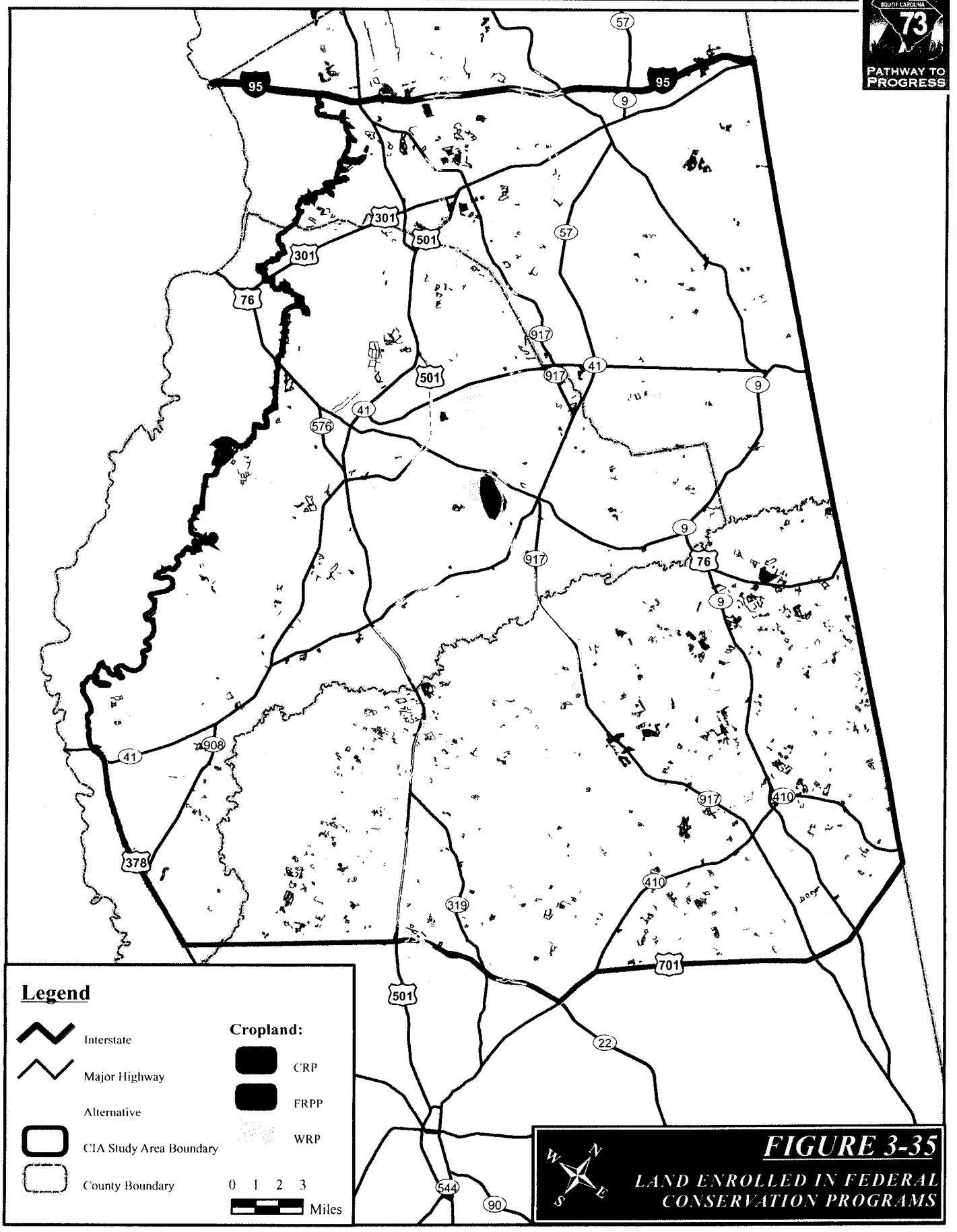


FIGURE 3-35
LAND ENROLLED IN FEDERAL CONSERVATION PROGRAMS

Table 3.43
Land Enrolled in Federal Conservation Programs
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	Dillon County	Horry County	Marion County
Conservation Reserve Program (acres)	1,083	2,374	[illegible]
Farm and Ranch Lands Protection Program (acres)	74	698	[illegible]
Wetland Reserve Program (acres)	409	1,660	[illegible]

Source: USDA, NRCS South Carolina Office

protection programs to purchase conservation easements. The Farm and Ranch Lands Protection Program was reauthorized in the Farm Bill to protect working agricultural land from conversion to non-agricultural uses.[85]

Alternatives 1, 2, 5, and 8 would intersect only one of the easements, while Alternative 3 and Alternative 6 would intersect both sites. Alternative 4 and Alternative 7 would not affect either of the easements. If the proposed alternative would traverse through these easements, the remainder of the land in the affected parcels would remain in the program and no mitigation would be required.

Conservation Reserve Program

The Conservation Reserve Program (CRP) was established in 1985 and takes land prone to erosion out of production for 10 to 15 years and devotes it to conservation. In return, farmers receive an annual payment for applying approved conservation practices on the conservation acreage. Under Conservation Reserve Program contracts, farmers are compensated for planting permanent covers of grass and trees on land subject to erosion. This vegetation can improve water quality or habitat for wildlife in the area. The USDA's Farmland Service Agency administers this voluntary program.

Wetlands Reserve Program

The Wetlands Reserve Program (WRP) is another voluntary program administered by the NRCS, which offers landowners financial incentives to enhance wetlands by retiring marginal agricultural land. To be eligible, land must be restorable and provide significant wetland and wildlife habitat. The program offers landowners three options: restoration cost-share agreements of a minimum 10-year duration, 30-year easements, or permanent easements.

Even though there is land in the Wetland Reserve Program within the project study area, none would be impacted by any of the proposed alternatives.

[85] Farm Bill, 2002.

There are over 200 Conservation Reserve Program easements in the project study area. All of the proposed alternatives would intersect multiple easements, ranging from 15 to 34 easements (Table 3.44). Alternative 6 would intersect the fewest easements (15), which contain approximately 58 acres of land. The alternatives with the most impacts to easements are Alternative 1, which intersects 34 sites and Alternative 8, which intersects 27 sites. Both alternatives would impact approximately 213 acres of land. If the proposed alternative would traverse through an easement, the remainder of the land in the affected parcels would remain in the program and no mitigation would be required.

Table 3.44
Impacts to Land in the Conservation Reserve Program
Interstate73: I-95 to Myrtle Beach Region

	Total acres	Total Number of Sites	Dillon County	Horry County	Marion County
Alt. 1 acres (sites)	213	34	26 (11)	52 (6)	135 (17)
Alt. 2	184	17	26 (6)	52 (4)	106 (7)
Alt. 3	77	22	39 (11)	16 (4)	22 (7)
Alt. 4	177	29	39 (11)	3 (1)	135 (17)
Alt. 5	205	24	39 (11)	59 (6)	107 (7)
Alt. 6	58	15	26 (6)	10 (2)	22 (7)
Alt. 7	149	19	39 (11)	3 (1)	107 (7)
Alt. 8	213	27	26 (6)	52 (4)	135 (17)

3.15 What types of uplands are found in the project study area?

3.15.1 What are upland communities?

Upland communities generally are dry areas with the water table at one foot or more below ground during the growing season. These areas support plant and animal species that are adapted for survival in dry conditions, such as plants that have developed long tap roots to reach deep water tables and burrowing mammals that make their homes underground. South Carolina's coastal plain contains many types of natural upland communities. Each community is characterized by its vegetative composition, landscape position, soil type, and hydrologic regime. To gather baseline data for potential impacts to natural communities, uplands were identified in an 8-mile wide corridor extending from I-95 to S.C. Route 22 known as the upland study area (Figure 3-1).

Upland biotic communities identified within the upland study area were classified based on their vegetative composition as described in *The Natural Communities of South Carolina.*[86] Nelson lists the following six natural upland communities that occur in the uplands study area:

- Levee;
- Mesic mixed hardwood forest;
- Oak-hickory forest;
- Pine-scrub oak sandhill;
- Upland pine-wiregrass woodland; and,
- Xeric sandhill scrub.

3.15.2 Why are uplands important?

Upland communities can provide a variety of benefits for both the human and natural environments. Based on a review of the aerial photography, vast amounts of land within the uplands study area are currently used for crop and timber production. Most industrial, commercial, and residential development occur on uplands, especially since the advent of the Section 404 permitting program. Furthermore, naturally vegetated uplands serve as recreational areas for outdoor activities such as hunting, hiking, camping, bird watching, and nature photography.

While natural, unaltered upland communities are sparsely scattered throughout the uplands study area, they provide essential habitat for wildlife to nest, raise young, forage, and hide from predators. Forested areas along the major waterways such as the Little Pee Dee River and Buck Swamp provide safe corridors for animal species that move frequently in search of food sources. Continuous or un-fragmented natural corridors are the most beneficial to these mobile species. Upland communities also provide resting and foraging habitat for migratory bird species that move through South Carolina on their way to northern summer nesting areas or southern over-wintering areas.

Forested and other permanently vegetated upland habitats located adjacent to wetlands and streams also provide water quality enhancement. Stormwater runoff from roadways, farm fields, and parking lots flows through these areas before reaching the waterbodies, which helps filter sediments and other pollutants. These vegetated buffer areas also stabilize the soils adjacent to wetlands and streams, reducing the likelihood of erosion that degrades or destroys aquatic species habitat. In addition, shading from upland communities along streams allow for cooler water temperatures, which some aquatic species require.

What does overstory, shrub layer, and herbaceous layer mean?

The overstory is composed of plants that are mature trees, and are typically the top layer of leafy growth.

The shrub layer and herbaceous layer make up the understory. The shrub layer consists of plants that are small woody species or saplings of larger trees.

The herbaceous layer includes plants that are not made up of woody material, and include herbs and grasses.

[86] Nelson, J.B. (1986). *The Natural Communities of South Carolina.* South Carolina Wildlife and Marine Resources Department.

3.15.3 How were upland communities identified for this project?

Initially, the SCDNR's Gap Analysis Program (GAP) data and the National Wetland Inventory (NWI) maps were used to identify the upland community types within the uplands study area. The 2005 infrared aerial photography was reviewed within a 600-foot wide corridor for each alternative and the GAP database was updated based on the current land use conditions depicted. Field visits were conducted to verify changes and the GAP data was corrected to correlate the GAP habitat designations with the Nelson habitat descriptions. Changes made to the mapping included updating agricultural fields that were converted to pine plantations or housing developments; changing former pine dominated forests that have transitioned to mixed pine/hardwood forests; and revising forested areas that have been clear-cut and are in early successional condition.

What is GAP?

The Gap Analysis Program (GAP) is a nationwide program in which dominant natural vegetation is mapped using satellite imagery, as well as other sources, and native vertebrate species are mapped based on museum and agency collection records. GAP data can be used in conjunction with GIS as a planning tool to identify the distribution of plants communities and animals.

3.15.4 What upland natural community types were identified within the upland study area?

During the review of GAP data, NWI maps, aerial photography, and results of the field visits, the following natural upland communities were identified in the 600-foot wide corridors along the alternatives:

- Levee;
- Mesic mixed hardwood forest;
- Oak-hickory forest; and,
- Pine-scrub oak sandhill.

Since the upland study area has a rich history of agriculture and timber production, only a few upland communities were identified that could be considered natural. In addition, many of the natural communities have been fragmented by agricultural practices and development.

Levee

A levee is defined as a natural overflow barrier that occurs parallel to major brown- or blackwater river channels. Levees are periodically flooded, and sometimes destroyed as a result. The early "cane bottoms" (areas dominated by cane, *Arundinaria gigantea*) in South Carolina were probably associated with levees, but are now essentially gone. Typical overstory species include sycamore *(Platanus occidentalis)*, river birch (*Betula nigra*), laurel oak (*Quercus laurifolia*), various willows (*Salix* spp.), swamp chestnut

oak (*Quercus michauxii*), tulip-poplar (*Liriodendron tulipifera*), sweet-gum (*Liquidambar styraciflua*), water ash (*Fraxinus caroliniana*), water hickory (*Carya aquatica*), red maple (*Acer rubrum*), box-elder (*Acer negundo*), water-elm (*Planera aquatica*) and hornbeam (*Carpinus caroliniana*). The shrub layer includes parsley hawthorn (*Crataegus marshallii*), and swamp haw (*Crataegus viridis*). The herbaceous layer may include cane (*Arundinaria gigantea*) and false nettle (*Boehmeria cylindrica*).[87]

Mesic mixed hardwood forest

A mesic (moist soils) mixed hardwood forest is described as an upland forested slope or ravine. In the coastal plain, it is most frequently found on north-facing river banks. It may be difficult or impossible to recognize a single dominant species since the vegetation is so diverse. Typical overstory species include tulip-poplar, sweet-gum, red maple, black gum (*Nyssa sylvatica*), white oak (*Quercus alba*), black oak (*Quercus velutina*), beech (*Fagus grandifolia*), flowering dogwood (*Cornus florida*), hornbeam, American holly (*Ilex opaca*), and witch-hazel (*Hamamelis virginiana*). The shrub layer includes numerous species such as horse-sugar (*Symplocos tinctoria*) and pinxter-flower azalea (*Rhododendron nudiflorum*). The herbaceous layer may include partridgeberry (*Mitchella repens*) and green-and-gold (*Chrysogonum virginianum*).[88]

Soybean Field

Oak-hickory forest

Oak-hickory forests are described as diverse mixtures of hardwoods (primarily oaks) with some pines, found on upland slopes between rivers and tributaries on the coastal plain. Typical overstory species include white oak, black oak, blackjack oak (*Quercus marilandica*), post oak (*Quercus stellata*), scarlet oak (*Quercus coccinea*), mockernut hickory (*Carya tomentosa*), pignut hickory (*Carya glabra*), red maple, flowering dogwood, tulip-poplar, loblolly pine (*Pinus taeda*), and black gum. The shrub layer includes strawberry-bush (*Euonymus americana*), various viburnums (*Viburnum* spp.), horse-sugar, and several blueberries (*Vaccinium* spp.). The herbaceous layer may include crane-fly orchid (*Tipularia discolor*), spotted-wintergreen (*Chimaphila maculata*), dollar-leaf (*Rhynchosia reniformis*), and pencil-flower (*Stylosanthes biflora*).[89]

Pine-scrub oak sandhill

Pine-scrub oak sandhills are found on flat or hilly terrain on lower slopes of sandhills, on sandhills with relatively high amounts of organic matter, or on higher spots with more moisture. The overstory is characterized by longleaf pine, blackjack oak, bluejack oak (*Quercus incana*), post oak, and scrubby post oak (*Quercus margaretta*).

[87] *Ibid.*
[88] *Ibid.*
[89] *Ibid.*

The shrub layer typically includes deerberry (*Vaccinium stamineum*) and dwarf huckleberry (*Gaylussacia dumosa*). The herbaceous layer is dominated by grasses in the genera *Andropogon* and *Aristida*. Other herbaceous species include goat's-rue (*Tephrosia virginica*), various blazing-stars (*Liatris* spp.), trailing-arbutus (*Epigaea repens*), and bracken fern (*Pteridium aquilinum*).[90]

Three upland communities that are not formed naturally, and two formerly functioning as a wetland system, were identified. These are:

- Agricultural fields;
- Timberlands;
- Developed land;
- Drained bottomland hardwoods; and,
- Drained pine flatwoods.

Although timberlands and bottomland hardwoods are altered areas, they continue to provide the wildlife habitat and recreational opportunities as described earlier. Selective harvesting of trees from forested areas provides openings in the overstory, which allows sunlight to reach the ground. This promotes growth of herbaceous and shrub plant species, thereby making the forest habitat more diverse, which in turn provides additional nesting and foraging opportunities for wildlife such as small mammals and birds.

Agricultural fields and timberlands

Agricultural fields and timberlands are not natural communities. However, these upland communities are significant elements within the study area and therefore have been added. Agricultural fields are lands either currently planted with crops or fallow fields that have not yet succeeded to another community type. Timberlands include pine plantations, and are managed primarily for pulpwood. Typically, these areas are planted with loblolly pine or slash pine (*Pinus elliottii*).

Developed land

Although not natural communities, a category classified as "developed land" was added to describe industrial, commercial, residential, or otherwise developed upland areas.

Drained bottomland hardwoods

A bottomland hardwood is typically defined as a forested wetland area occurring on floodplains and in drainage areas. However, many bottomland hardwoods identified during the upland community study have had their hydrology altered and no longer function as wetlands. Typical tree species include sweetgum, red maple, swamp gum (*Nyssa sylvatica* var. *biflora*), water oak (*Quercus nigra*), laurel oak, cottonwoods (*Populus* spp.),

[90] *Ibid.*

willows (*Salix* spp.), river birch, and loblolly pine. The shrub layer consists of gallberry (*Ilex coriacea*), fetterbush (*Lyonia lucida*), sweet-bay (*Magnolia virginiana*), red-bay (*Persea borbonia*), and arrowwood (*Viburnum dentatum*).

Drained pine flatwoods

Pine flatwoods are found on flat or rolling terrain with a canopy of pines and a well-developed understory of several tall shrub species, and are usually defined as a wetland area. However, many of the pine flatwoods identified during the upland community study area have had their hydrology altered and no longer function as wetlands. Longleaf pine (*Pinus palustris*) is the most common overstory species, but loblolly and slash pine are also found. The understory and shrub layers may include sweet-gum, sweetbay (*Magnolia virginiana*), loblolly-bay (*Gordonia lasianthus*), inkberry (*Ilex glabra*), sweet gallberry (*Ilex coriacea*), wax-myrtle (*Myrica cerifera*), various fetterbushes (*Lyonia* spp.), dwarf huckleberry (*Gaylussacia dumosa*), low-bush blueberry (*Vaccinium tenellum*), ti-ti (*Cyrilla racemiflora*), possum-haw viburnum (*Viburnum nudum*), and running oak (*Quercus pumila*). The herbaceous layer is dominated by grasses in the genera *Andropogon* and *Aristida*.[91]

3.15.5 What impacts to upland natural community would occur?

Impacts to upland natural communities would consist of clearing and grubbing of vegetation within the construction limits in preparation of construction of the road. Excavation and/or the placement of fill material would occur to construct the road bed. Each of the Build Alternatives would impact upland natural communities. Table 3.45, page 3-136, provides the forested upland community impacts by community type that would result from the construction of each Build Alternative.

The Build Alternatives can be grouped together in four groups with each alternative having similar impacts, and one alternative occupying a group by itself. Alternatives 3 and 7 would have basically the same impacts, as would Alternatives 4, 5, and 6. The next highest impact group would be Alternatives 1 and 2, followed by Alternative 8 with the highest amount of upland impacts. Each alternative in a group would have less than 20 acres of impacts separating the lowest from the highest impact for that group. Each group would have less than 30 acres of impact between highest impact of that group and the lowest impact of the next group. The total impacts to forested uplands would range from a low of approximately 439.9 acres for Alternative 7, to a high of 562.9 acres for Alternative 8. The majority of the upland impacts from each Build Alternative would occur to agricultural and developed lands. The portion of forested uplands that would potentially be impacted would range from 23 to 26 percent of the total upland impacts for the Build Alternatives (refer to Section 3.1, Land Use, and Section 3.14, Farmlands).

[91] *Ibid.*

Table 3.45
Potential Upland Community Impacts in Acres
Interstate73: I-95 to the Myrtle Beach Region

Upland Type	Alternatives							
	1	2	3	4	5	6	7	8
Oak-Hickory Forest	134.1	159.3	98.5	101.2	122.7	135.1	89.7	170.8
Pine Flatwoods	147.1	107.8	112.8	133.2	134.9	85.7	121.0	120.0
Pine-Scrub Oak	18.4	34.1	33.6	12.8	24.9	42.7	19.4	27.5
Timberlands	233.9	212.8	201.7	241.6	202.1	212.4	209.3	244.6
Total Upland Impacts	533.5	514.0	446.6	488.8	484.6	475.9	439.3	562.9

Source: HDR LEA & KCI INCORPORATED, 2006

Upland community impacts would result in the removal of wildlife habitat as discussed in Section 3.21. Of the forested uplands that would be impacted, the oak-hickory forest would support the most wildlife diversity due to the presence of mast producing species, on which animal species such as turkey, squirrels, and white tailed deer feed.

Alternative 7 would have the least impact to oak-hickory forests followed by Alternatives 3, 4, 5, 1, 6, 2, and 8 in ascending impacts. Pine flatwoods typically have a dense understory and provide cover and browse for white tailed deer. These areas also provide nesting and forage habitat for a variety of perching bird species. Alternative 6 would have the least impact to pine flatwoods followed by Alternatives 2, 3, 8, 7, 4, 5, and 1 in ascending order.

Pine-scrub oak forests are the least diverse of the upland habitats from a wildlife standpoint, however Pickering's morning-glory and crestless plume orchid, both state listed species, occur in this habitat type. None of the federally-listed species occur in pine-scrub oak communities. Alternative 4 would have the least impacts to this community type followed by Alternatives 1, 7, 5, 8, 3, 2, and 6 in ascending impacts.

The largest portion of the upland forest impacts would occur to timberlands, or managed pines, which typically have relatively low wildlife diversity when compared to the other upland types that would be impacted. Also, these forested areas are frequently disturbed by logging operations during which wildlife is displaced to adjoining upland communities. Timberlands could provide foraging habitat for red-cockaded woodpeckers. However, these forests generally are harvested before they reach maturity which is required for suitable red-cockaded woodpecker nest colonies. Impacts to timberlands would be basically the same for all the Build Alternatives with 43 acres difference between the lowest impact, Alternative 3, and the highest impact, Alternative 8.

3.16 What types of Wetlands are found in the project study area?

3.16.1 What are wetlands?

The USACE and USEPA define wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands typically include swamps, marshes, bogs, and similar areas."[92]

The USACE, through Section 404 of the Clean Water Act, has regulatory authority over waters of the United States, including wetlands. This authority empowers the USACE to identify wetland/upland boundaries and to regulate alterations of jurisdictional wetlands. These boundaries are established in accordance with the methodology in the *1987 Corps of Engineers Wetlands Delineation Manual.*[93] An area must exhibit evidence of wetland vegetation, wetland soil, and wetland hydrology to be considered a wetland.

3.16.2 Why are wetlands important?

Wetlands are specifically protected by law because of the functions and values they provide with respect to:

- Hydrology (e.g., flood control, groundwater recharge and discharge, and dissipation of erosive forces);
- Water quality (e.g., removal of sediments, toxins, and nutrients);
- Food chain support and nutrient cycling (e.g., primary production and nutrient export/utilization);
- Wildlife habitat (e.g., breeding, rearing, and feeding grounds for fish and wildlife species); and,
- Socioeconomics (e.g., recreational, educational, aesthetic, and consumptive uses).

3.16.3 How were wetlands identified for this project?

The following GIS data layers were obtained for the purpose of identifying wetlands within the project study area:

- National Wetland Inventory (NWI) Maps;
- Soil data layers;
- U.S. Geological Survey (USGS) topographic maps;
- GIS data layer of the first and second order streams (obtained from SCDNR);
- 1999 false-color infrared aerial photography; and,
- 2005 false-color infrared aerial photography.

[92] U.S. Army Waterways Experimental Station Environmental Laboratory, *Corps of Engineers Wetlands Delineation Manual* (Washington, D.C.: Department of the Army, U.S. Army Corps of Engineers, 1987) Technical Report Y-87-1; (33 CFR §328.3[b]) and USEPA (40 CFR §230.3[t])
[93] *Ibid.*

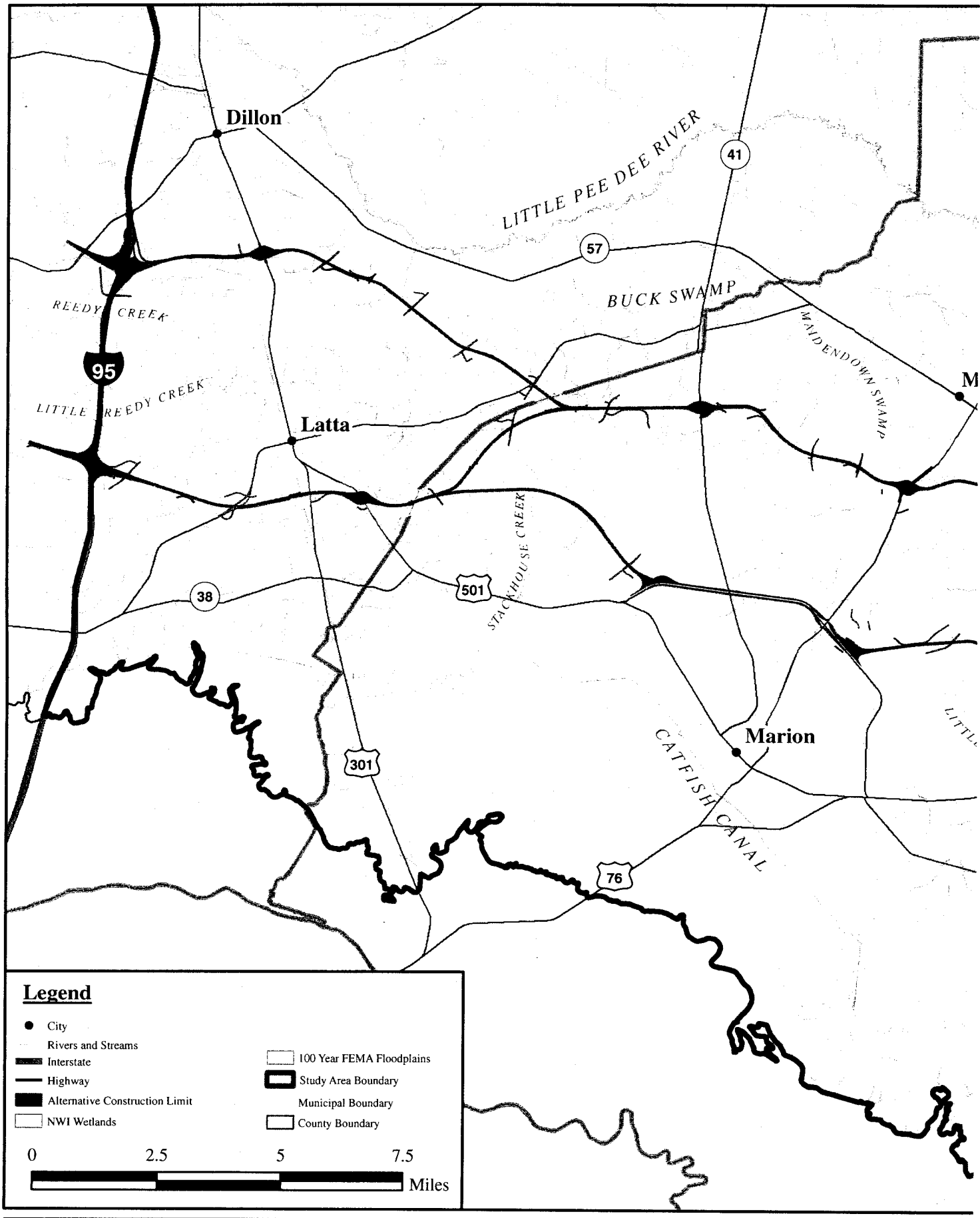
The NWI wetland layer was used to define wetlands until the reasonable alternatives were developed. At that point, the wetland boundaries were re-evaluated. For the eight alternatives, NWI mapping was overlain onto the aerial photography and a desktop review was performed using the soil maps, NWI maps, and aerial photography. Questionable areas that were indicated as wetland on the NWI map, but did not exhibit typical wetland signatures on the aerial photography were identified. The USGS topographic maps and the SCDNR stream data layer were used to map second and third order streams within the project study area. Field visits were then performed and the questionable areas were groundtruthed. During the field visit it was noted that some former wetland areas were effectively drained by ditches. Field notes were recorded at these locations and the project wetland map was revised to reflect these changes. Likewise, areas that were identified as upland on the NWI map, but were found to be wetland during the field visits, were revised on the wetland map accordingly. Additional information collected during the field visit included other impacts to wetland communities such as changes in the vegetative communities (i.e., former forested wetlands that have been cut and are currently secondary growth communities) and areas that have been ditched, but still meet the three basic criteria of jurisdictional wetlands.

Areas must have the following three characteristics to be considered wetlands:

- **Wetland vegetation**
- **Wetland soil type**
- **Wetland hydrology**

As discussed in Chapter 2, each NWI wetland type within the project study area was assigned a numerical value between 1 and 10 by the ACT. This value was based on the potential quality of the wetland type. Areas that had been altered were also given a different value based on the wetland type and extent of impact in accordance with the values assigned to wetland types by the ACT members and changes were made to the database accordingly. The values of the wetlands were updated on the mapping when observations from the field visits concluded that the vegetative composition of a wetland had been altered by practices such as conversions to maintained utility corridors or silviculture. Once the updates to the wetland mapping were completed, the CAT used the resulting wetland base map to avoid and minimize impacts as well as quantify impacts. Wetlands and streams identified within the alternatives are indicated on Figure 3-36, page 3-139.

A field delineation will be performed within a 600-foot wide corridor along the Preferred Alternative. Wetland boundaries will be determined using the methodology described in the *1987 Corps of Engineers Wetlands Delineation Manual*, and marked with surveyors flagging labeled "Wetland Boundary". The wetland boundaries will be mapped using sub-meter accuracy Global Positioning System (GPS) equipment and a wetland map for the corridor will be produced. The wetland map and supporting documentation will be submitted to the USACE and a request for a wetland approximation will be provided.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Marion
CATFISH CANAL
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Legend
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Rivers and Streams
Interstate
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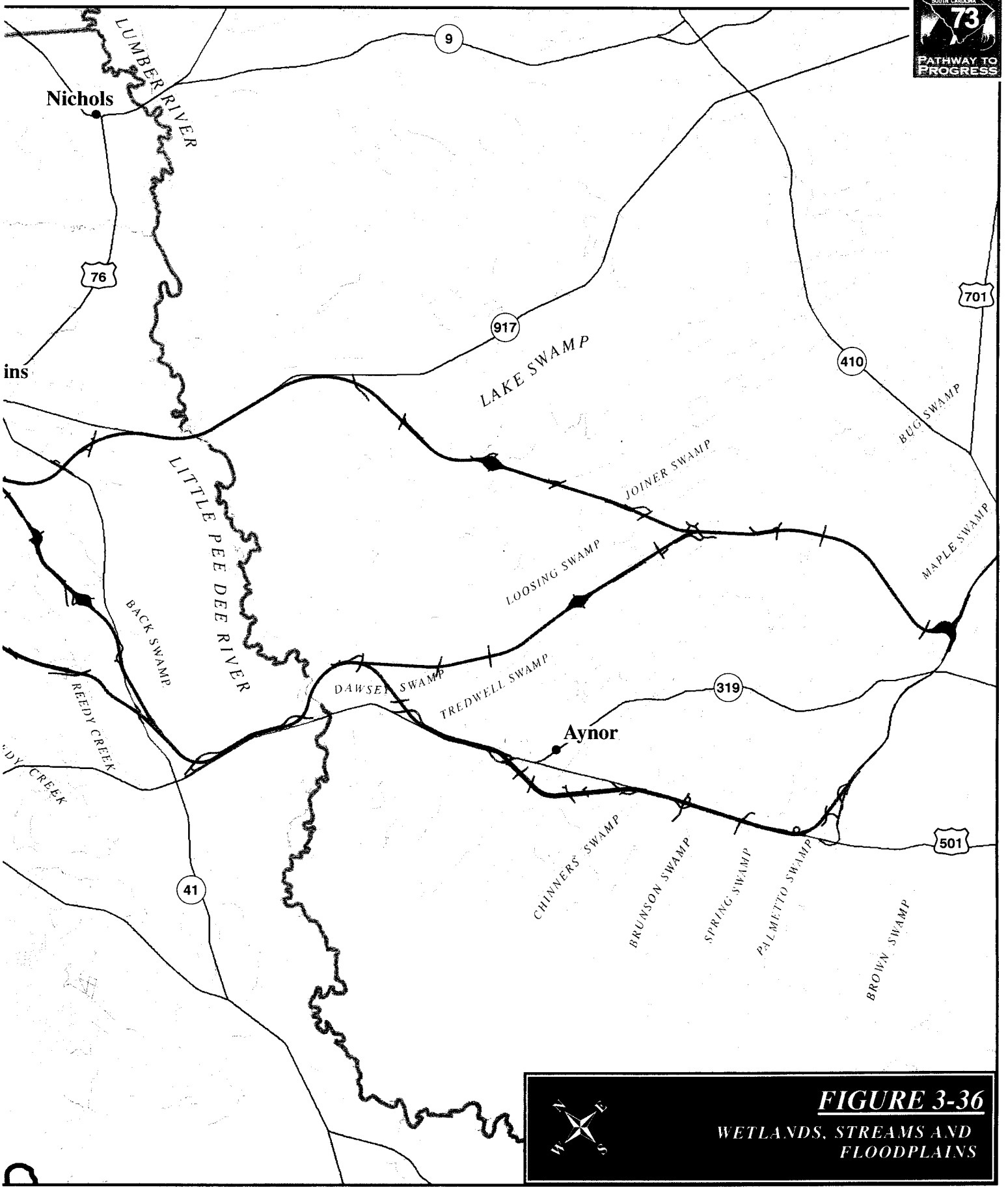


FIGURE 3-36

WETLANDS, STREAMS AND FLOODPLAINS

3.16.4 What wetland types were identified along the alternatives?

Wetlands and waters of the United States were categorized by general types according to various standard classification systems including *The Classification of Wetlands and Deepwater Habitats of the United States.*[94] The types of areas identified along the alternatives are described in the following subsections.

Aquatic beds

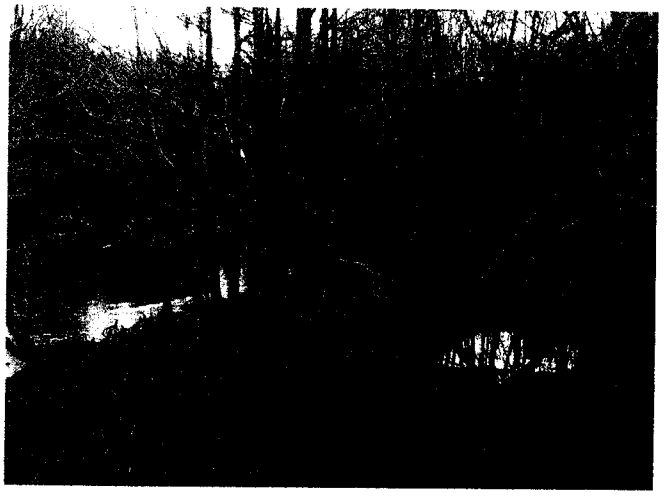
Aquatic beds are mostly permanently inundated areas that contain dense mats of vegetation. The vegetation may be rooted in the substrate or free-floating. Typical plant species found in aquatic beds include watermilfoil (*Myriophyllum* spp.), pondweed (*Potamogeton* spp.), bladderworts (*Utricularia* spp.), duckweed (*Lemna* spp.), and water-lily (*Nymphaea odorata*). Fully functional aquatic beds were assigned a value of 10, whereas partially drained systems received a value of 2.

Bay forests

Bay forests are wetlands that have high organic content in their soil and remain saturated or are frequently saturated during the growing season. Loblolly-bay (*Gordonia lasianthus*), sweet-bay (*Magnolia virginiana*), and red-bay (*Persea borbonia*) are the "bay" species typically found in the bay forest. Other species typically found in bay forests include swamp tupelo (*Nyssa sylvatica* var. *biflora*), red maple (*Acer rubrum*), bald-cypress (*Taxodium distichum*), and pond pine (*Pinus serotina*). This description also applies to Carolina bays, which are elliptical depressions that are roughly oriented from southeast to northwest. Fully functional Carolina bays were identified as a constraint and were avoided during alternative development. Fully functional bay forests were assigned a value of 7, whereas partially drained systems received a value of 4.

Bottomland hardwoods

Bottomland hardwoods are typically associated with floodplains of streams, but may also occur in low areas and along small surface drainages and are temporarily flooded or saturated during the growing season. Flooding or saturation usually occurs in the winter or early spring. Typical tree species include hickories (*Carya* spp.), overcup oak (*Quercus lyrata*), water oak (*Quercus nigra*), laurel oak (*Quercus laurifolia*), sweetgum (*Liquidambar styraciflua*), cottonwoods (*Populus* spp.), willows (*Salix* spp.), river birch (*Betula nigra*), and loblolly pine (*Pinus taeda*). Fully functional bottomland hardwoods were assigned a value of 9, whereas partially drained systems received a value of 6.



Bottomland hardwood

[94] Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe (1979), *Classification of Wetlands and Deepwater Habitats of the United States*, prepared for the USDI-FWS. FWS/OBS-79/31, Washington, D.C.

Deciduous shrub swamps

Deciduous shrub swamps are low lying areas dominated by woody vegetation typically less than twenty feet in height. Deciduous shrub swamp habitats are often formed due to some type of disturbance, either natural or man-made. They may be an early successional stage of the forested swamp, or they may be in a stable system. Typical woody plant species include alder (*Alnus serrulata*), button-bush (*Cephalanthus occidentalis*), willows, red maple, and sweetgum. Fully functional deciduous shrub swamps were assigned a value of 5, whereas partially drained systems received a value of 3.

Deciduous shrub swamp

Evergreen shrub bogs/pocosins

Evergreen shrub bogs are commonly referred to as pocosins. They are typically depressions or flat areas that are dominated by evergreen species such as sweet gallberry (*Ilex coriacea*), fetterbush (*Lyonia lucida*), titi (*Cyrilla racemiflora*), sweet-bay, red-bay, and zenobia (*Zenobia pulverulenta*). Fully functional pocosins were assigned a value of 7, whereas partially drained systems received a value of 4.

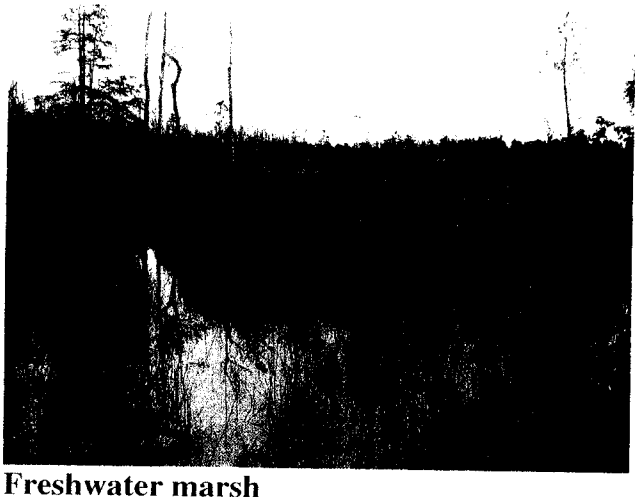
Hardwood swamp

Hardwood swamps

Hardwood swamps are defined as being associated with floodplains, occurring on low flats, sloughs, oxbows, and in isolated ponds. They may be flooded for several months during the growing season to nearly year round. Typical tree species include water ash (*Fraxinus caroliniana*), red maple, water hickory (*Carya aquatica*), overcup oak, bald cypress, swamp tupelo, sweetgum, sweet-bay, red-bay, and willow oak (*Quercus phellos*). Fully functional hardwood swamps were assigned a value of 9, whereas partially drained systems received a value of 6.

Flooded swamps/beaver ponds

Flooded swamps/beaver ponds generally contain a combination of hardwood swamps and aquatic beds that are a result of beavers altering the flow of perennial streams. These vegetative communities are the same as the previously described hardwood swamps and aquatic beds. Fully functional flooded swamps/beaver ponds were assigned a value of 5, whereas partially drained systems received a value of 3.



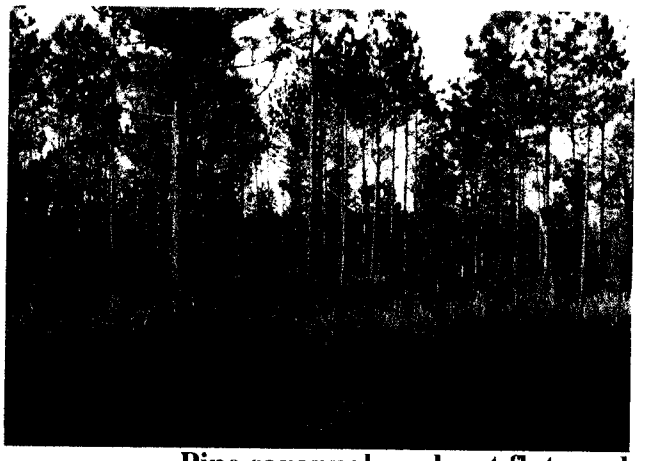
Freshwater marsh

Freshwater marshes

Freshwater marshes are defined as areas which are flooded for extended periods during the growing season and are dominated by herbaceous plant species. This includes freshwater tidal marshes, marshes within managed impoundments, and naturally occurring nontidal marshes. Typical plant species include sedges (*Carex* spp.), rushes (*Juncus* spp.), maidencane (*Panicum hemitomon*), arrow-arum (*Peltandra virginica*), smartweeds (*Polygonum* spp.), pickerelweed (*Pontederia cordata*), arrowhead (*Sagittaria latifolia*), and cattails (*Typha* spp.). Fully functional freshwater marshes were assigned a value of 10, whereas partially drained systems received a value of 7.

Pine savannahs and wet flatwoods

Pine savannahs and wet flatwoods are wetland areas that have a high water table for a period of time during the growing season and are dominated by pine species, including slash pine (*Pinus elliottii*), pond pine, and loblolly pine. Generally no understory is present, or if present, it is very sparse. Typical herbaceous species include *Aristida* spp., toothache grass (*Ctenium aromaticum*), nutrushes (*Scleria* spp.), and beak rushes (*Rhynchospora* spp.). Fully functional pine savannahs and wet flatwoods were assigned a value of 8, whereas partially drained systems received a value of 4.



Pine savannah and wet flatwood

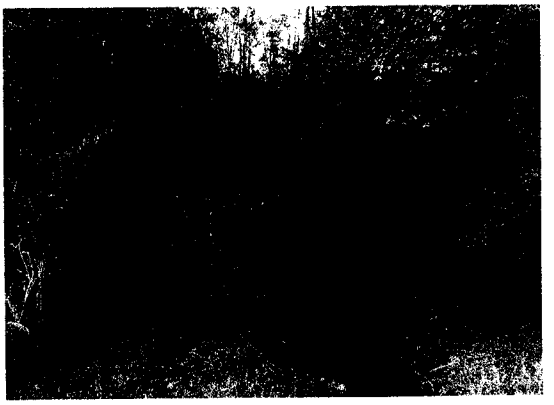
Ponds and borrow pits

Ponds and borrow pits are typically manmade, open water, or freshwater habitats. These water bodies are generally created by excavation activities, or altering stream or surface drainage flow. According to NWI mapping, and for purposes of this project, water bodies less than 20 acres in size fall into this category. Other freshwater systems are often found associated with ponds and borrow pits in the form of fringe wetlands. Fully functional ponds and borrow pits were assigned a value of 8, whereas partially drained systems received a value of 2.

Rivers and canals

Perennial streams and rivers are riverine systems that are permanently flooded. In general, however, the open water areas are either unvegetated, or include occasional beds of submerged or floating aquatic plants such as parrot's feather (*Myriophyllum* spp.), alligator weed (*Alternanthera*

philoxeroides), duckweed, and algae. Intermittent streams are riverine systems that consist of streambeds that are seasonally flooded.



Perennial stream

Rivers and canals within the vicinity of the alternatives include meandering and channelized unnamed intermittent streams and their tributaries along with the perennial streams and rivers. Some of the streams include Back Swamp, Brown Swamp, Brunson Swamp, Catfish Canal, Chinners Swamp, Cypress Branch, Dawsey Swamp, Joiner Creek, Lake Swamp, Little Pee Dee River, Loosing Swamp, Maidendown Swamp, Palmetto Swamp, Reedy Creek, Savannah Creek, Smith Swamp, Spring Swamp, Tredwell Swamp, and their tributaries. Natural streams were assigned a value of 8, and artificial canals received a value of 5.

Savannahs & Wet Meadows

Savannahs & wet meadows are herbaceous areas which are flooded only briefly but which may be saturated for long periods during the growing season. Species include pitcher plants (*Sarracenia* spp.), sundews (*Drosera* spp.), pipeworts (*Eriocaulon* spp.), meadow-beauties (*Rhexia* spp.), orchids, yellow-eyed-grasses (*Xyris* spp.), asters (*Aster* spp.), and goldenrod (*Solidago* spp.). Fully functional savannahs and wet meadows were assigned a value of 10, whereas partially drained systems received a value of 7.

3.16.5 What kind of impacts would occur to wetlands as a result of this project?

Clearing and grubbing is the process of cutting and removing vegetation, including stumps, and then raking the soil to remove roots.

Wetland impacts associated with the project would include the placement of clean fill material into wetlands, temporary clearing of vegetation along the proposed roadway, and permanent clearing and grubbing of vegetation within the limits of the project. The fill material would be required to construct the roadbed and would result in the permanent conversion of the portion of the wetlands to uplands within the construction limits. Temporary clearing of wetlands would be required along the toe of the fill material to allow for maintenance of the required silt fencing which protects the adjacent wetlands from siltation during the construction period. The cleared areas would be allowed to re-vegetate with native wetland vegetation after the side slopes of the road are stable and the silt fencing has been removed.

Permanent clearing of vegetation would be performed where wetlands would be bridged. This would be done to prevent trees from growing under the bridges and potentially damaging the structures. Additional permanent clearing would be performed for a width of approximately 30 feet along both sides of the bridge for the same reason. This type of impact does not destroy the wetland, but does change the wetland type. For example, if a bridge is constructed through a hardwood swamp, the hardwood swamp could become a deciduous shrub swamp or a fresh water marsh after the removal of the trees.

3.16.6 How were the potential wetland impacts calculated?

To calculate the potential impacts associated with each Build Alternative, the conceptual construction limits for each of the alternatives was overlain onto the GIS wetland mapping and the areas of the "footprint" of the road within wetlands were calculated. The conceptual construction limits included: the main lines and associated frontage roads of the alternatives; the proposed interchanges; crossover roads, and other roads necessary to maintain access to property. It was assumed that all wetlands within the footprint would be filled, unless they are located within the 100-year floodplain associated with a stream or river, in which case an approximate bridge length was used to estimate the potential clearing impacts associated with bridges. Upon completion of the hydraulic studies for the Preferred Alternative, appropriately sized pipes or bridges would be installed at wetland crossings to maintain the historic hydrologic connections.

3.16.7 How many acres of wetland would be impacted by the project?

Table 3.46 provides the wetland types that would be impacted, the type of impact, and the wetland value for each alternative. As indicated in Table 3.46 on page 3-145, Alternative 3 would have the least amount of total wetland impacts, with Alternatives 1, 5, and 6 having basically the next lowest total wetland impacts. Alternatives 6 and 3 rank 1st and 2nd, respectively, in lowest wetland values. Many of the wetlands that would be impacted by the Build Alternatives consist of remnants of what were historically larger wetlands that have been reduced in size by the installation of drainage ditches in or near the wetlands, and drainage tile systems. These remnant wetlands received lower values as decided in consultation with the ACT. However, wetland systems associated with the larger streams and rivers that flow through the project study area were considered to be higher value wetlands.

Although wetlands are distributed all along the alternative alignments, there are wetland crossings on some of the alternatives that appear to account for the higher impact totals. All of the alternatives would cross Back Swamp and the Little Pee Dee River swamp. However, Alternatives 3 and 6 would have lower impacts to these systems than the others, which would result in less impacts to these high value hardwood swamp systems than at the U.S. Route 501 crossing of these same systems. A portion of the U.S. Route 501 crossing would be constructed on the existing alignment, however the increase in impacts would be the result of the curve in I-73 at Back Swamp that is required to get onto the existing U.S. Route 501 alignment, and the shift off of U.S. Route 501 through the swamp to avoid impacts to the Galivants Ferry Historic District.

Table 3.46
Potential Wetland Impacts in Acres and Wetland Values
Interstate73: I-95 to the Myrtle Beach Region

Wetland Type	Alternatives							
	1	2	3	4	5	6	7	8
Aquatic Beds								
Bridge Impact								
Fill Impact				0.3			0.3	
Bay Forests								
Bridge Impact	1.7		0.1	2.0		0.1	0.3	1.7
Fill Impact	63.4	52.9	49.5	71.5	49.3	53.1	57.4	67.1
Bottomland Hardwoods								
Bridge Impact	1.4	8.0	0.2	1.3	0.2	8.2	0.1	9.4
Fill Impact	50.3	53.0	34.6	44.6	44.4	43.3	38.8	58.9
Deciduous Shrub Swamps								
Bridge Impact		6.2	1.1			7.2		6.2
Fill Impact	4.1	6.0	14.5	8.1	3.0	17.5	7.0	7.1
Evergreen Shrub Bogs/Pocosins								
Bridge Impact		0.3		0.2		0.3	0.2	0.3
Fill Impact	44.3	37.9	34.2	57.6	142.6	29.5	55.9	39.5
Flooded Swamp/ Beaver Ponds								
Bridge Impact	1.8	1.8	1.8	0.2	1.8	1.8	0.2	1.8
Fill Impact	5.5	5.5	2.2	2.8	5.5	2.2	2.8	5.5
Hardwood Swamp								
Bridge Impact	33.3	34.0	26.8	33.2	32.6	27.8	32.4	34.8
Fill Impact	167.9	151.7	171.2	176.1	175.0	145.9	187.2	142.7
Pine Savannas & Wet Flatwoods								
Bridge Impact				[illegible]			0.2	
Fill Impact	18.5	58.8	37.3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ponds & Borrow Pits								
Bridge Impact								
Fill Impact	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Rivers & Canals								
Bridge Impact	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
Fill Impact								
Savannas & Wet Meadows								
Bridge Impact	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
Fill Impact		[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
Total Bridge Impact	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
Total Fill Impact	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
Total Wetland Impact	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
Wetland Values								
Bridge Impact	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
Fill Impact	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
Total Wetland Value	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]	[illegible]
Source: [illegible] CORPORATED								

Alternatives 4 and 7, which rank last with the highest wetland impacts and impacted wetland values, both would follow a portion of the U.S. Route 501, located east of Marion. A previously impacted Carolina bay is situated on the west side of the bypass and a partially drained bay forest wetland is situated on the east side of the bypass. Because of the poor quality of these wetlands, they received low wetland values, however there is a substantial impact acreage associated with these systems. Alternatives 4 and 7 would not only impact these large wetlands, but would also cross Back Swamp and the Little Pee Dee swamp at U.S. Route 501.

Each of the Build Alternatives would cross high quality riparian wetland systems; however two significant systems that would be crossed by some of the alternatives are Buck Swamp and Lake Swamp. Buck Swamp would be crossed on new alignment by Alternatives 2, 6, and 8. However, these alternatives rank 5th, 3rd, and 6th, respectively, in wetland impacts, with only five acres between Alternatives 2 and 8. They rank 5th, 2nd, and 3rd in wetland values. Although the impacts associated with the Buck Swamp crossing do not significantly increase the total wetland impacts for these alternatives, Buck Swamp is listed on the 303(d) list as an impaired waterbody and avoiding the crossing of this system would help minimize or avoid further degradation of the system. Although this crossing of the wetland system would be bridged, the opinion of the resource agencies suggested avoiding this crossing as it would contribute to habitat fragmentation.

Lake Swamp would be crossed on new alignment by Alternatives 2, 3, and 6. This crossing would be situated downstream of the existing S-23, and because the proposed new crossing would not be perpendicular to the wetland system, impacts associated with this crossing would increase wetland impacts for these alignments. This crossing would be on new alignment due to a shift in the alignment to avoid impacts to the community of Ketchuptown and a historic structure within it. As with the crossing of Buck Swamp on new alignment, the resource agencies have indicated that the crossing on new alignment would contribute to habitat fragmentation of this riparian wetland system.

All of the Build Alternatives would have impacts to wetlands. However, several alternatives can be grouped together based the similar potential impact acreage. For example, for the increase in impacts from Alternative 3 (the lowest impacts) to the next group of alternatives with lower impacts (Alternatives 5, 6, and 1, respectively), there is a range of impacts of approximately 8 percent. The next group of alternatives with similar impacts (Alternatives 2 and 8) would have a range of approximately 10 percent, and the two alternatives with the highest potential wetland impacts (Alternatives 7 and 4, respectively) would be approximately 10 percent apart. Overall, there is an approximately 30 percent difference in the wetland impacts between the lowest, Alternative 3, and the highest, Alternative 4.

As mentioned earlier, most of the impacts associated with the Build Alternatives would be to remnants of larger wetlands that have been previously impacted either by ditching or have been converted to managed timberland. Although these wetlands have been impacted and still meet the basic criteria for jurisdictional wetlands, many of the important functions that wetlands provide, such as flood storage and water quality functions have been diminished. The riparian wetland systems associated

with streams that would be impacted consist of fully functional bottomland hardwoods and hardwood swamps, which were assigned the higher wetland values, and would result in the greatest loss of wetland functions. All of the alternatives would cross riparian wetland systems. As previously mentioned the Little Pee Dee River swamp, and Back Swamp would be impacted by all of the alternatives.

Alternative 1 would impact 12 riparian wetland systems, eight of which would include bridge impacts. Little Reedy Creek, Dawsey Swamp, Tredwell Swamp, Brunson Swamp, and Spring Swamp would be crossed at existing crossings which would minimize impacts, particularly habitat fragmentation. Two unnamed tributaries to Catfish Canal, The Gulley, Maidendown Swamp, Back Swamp, and Mill Branch would be constructed on new alignment and would contribute to habitat fragmentation. The Little Pee Dee River swamp crossing would be constructed partially on existing and new alignment.

Alternative 2 would impact 10 riparian wetland systems, eight of which would include bridge impacts. Cypress Branch and Loosing Swamp impacts would occur at existing crossings. Old Mill Creek, an unnamed tributary to the Little Pee Dee River, Buck Swamp, Back Swamp, and Dawsey Swamp would all be crossed on new alignment. The Little Pee Dee River swamp crossing would be constructed partially on existing and new alignment.

Alternative 3 would impact 9 riparian wetland systems, five of which would include bridge impacts. The crossings that would occur at existing alignments include Little Reedy Creek, and the Little Pee Dee River swamp. Crossings on new alignment include two unnamed tributaries to Catfish Canal, The Gulley, Maidendown Swamp, Lake Swamp, and Joiner Swamp.

Alternative 4 would impact 13 riparian systems, seven of which would include bridge impacts. The crossings that would occur at existing crossings include Little Reedy Creek, Smith Swamp, Reedy Creek, Dawsey Swamp, Tredwell Swamp, and Spring Swamp. Two unnamed tributaries to Catfish Canal, Stackhouse Creek, Back Swamp, and Mill Branch crossings would be on new alignment. The Little Pee Dee River swamp crossing would be constructed partially on existing and new alignment.

Alternative 5 would impact nine riparian systems with four of these crossings involving bridge impacts. Impacts to Little Reedy Creek and Loosing Swamp would occur at existing crossings. Two unnamed tributaries to Catfish Canal, The Gulley, Maidendown Swamp, Back Swamp, and Dawsey Swamp crossings would be on new alignment. Impacts to the Little Pee Dee River swamp would be constructed partially on existing and new alignment.

Alternative 6 would impact 10 riparian systems, seven of which would include bridge impacts. Impacts to Cypress Branch and the Little Pee Dee River swamp would occur at existing crossings. Impacts to Old Mill Creek, an unnamed tributary to the Little Pee Dee River, Buck Swamp, The Gulley, Maidendown Swamp, Back Swamp, Lake Swamp, and Joiner Swamp would occur on new alignment.

Alternative 7 would impact 10 riparian systems, five of which would include bridge impacts. Impacts to Little Reedy Creek, Smith Swamp, Reedy Creek, and Loosing Swamp would occur at existing crossings. Two unnamed tributaries to Catfish Canal, Stackhouse Creek, Back Swamp, and Dawsey Swamp would be impacted on new location. Impacts to the Little Pee Dee River swamp would occur partially on existing and new alignment.

Alternative 8 would impact 13 riparian systems, 10 of which would involve bridge impacts. Cypress Branch, Dawsey Swamp, Tredwell Swamp, Brunson Swamp, and Spring Swamp would be crossed at existing roadways. An unnamed tributary to the Little Pee Dee River, Old Mill Creek, Buck Swamp, The Gulley, Maidendown Swamp, Back Swamp, and Mill Branch would be crossed on new alignment. Impacts to the Little Pee Dee River swamp would occur partially on existing and new alignment.

3.16.8 What kind of impacts would occur in streams as a result of this project?

Impacts to streams would vary depending on the size of the channel and the size of the watershed. Impacts to large streams and rivers with a regulated floodway would generally be minimal as these channels are typically bridged. In many cases, the entire channel could be spanned, however, for wide rivers, such as the Little Pee Dee River, bridge pilings might be required within the channel. For smaller streams where bridges may not be warranted, appropriately sized pipes or box culverts may be installed for the road crossings. The use of pipes or culverts, and bridge lengths is determined by performing hydraulic studies and dependent on several factors, such as watershed size, the presence of FEMA regulated floodplains and floodways.

What are intermittent and perennial streams?

Intermittent streams typically flow for only a portion of the year, while perennial streams flow year-round.

3.16.9 How much stream impact would result from the project?

Impacts to streams are measured in terms of the length of the stream that would be affected, measured along the centerline of the stream and reported as linear feet of impact. As with the wetland impact calculations, the length of the stream sections that lay within the conceptual construction limits were measured along the centerline of the channel. Table 3.47, page 3-149, provides the estimated number of perennial and intermittent streams crossed and the linear footage of impacts streams for each alternative.

As indicated in Table 3.47, page 3-149, Alternative 7 would have the least impacts to first and second order streams followed by Alternatives 4 and 5, respectively. Alternatives 1, 2, and 3 have the next lowest impacts with basically the same impact. Alternatives 6 and 8 would have the highest stream impacts.

Table 3.47
Potential Stream Impacts
Interstate73: I-95 to the Myrtle Beach Region

	Alternatives							
	[illegible]	[illegible]	3	4	5	6	7	8
Perennial Streams								
Number of Crossings	[illegible]	[illegible]	8	35	49	53	[illegible]	57
Linear Feet	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Intermittent Streams								
Number of Crossings	[illegible]	[illegible]	10	10	7	11	9	9
Linear Feet	[illegible]	[illegible]	3,770	4,761	3,060	3,770	5,960	1,852
Total Number of Crossings	[illegible]	62	58	45	56	64	41	66
Total Stream Impact	[illegible]	19,249	19,213	17,068	18,137	20,327	16,068	20,247

Source: THE LPA GROUP INCORPORATED, 2006.

Streams with regulated floodplains and floodways would be bridged and it is anticipated that modifications would be minimal. Modifications such as the installation of coffer dams in stream channels in order to construct footings for bridge pilings might be required. However, these modifications would be temporary and would be removed upon completion of the bridge construction.

What are First and Second Order Streams?

First order streams are headwater streams with no tributaries.
Second order streams are formed by the confluence of two or more first order streams.

First and second order streams located between the Little Pee Dee River and S-22 generally flow in a westerly direction and eventually flow into the river. Streams between the Little Pee Dee River and I-95 generally flow east or west into the river or into Buck Swamp. Because the alternatives are oriented roughly in a northwest to southeasterly direction, stream impacts would be unavoidable. Based on a review of aerial photography, USGS topographic maps, and limited ground truthing, many of the smaller streams within the project study area have been channelized and straightened. Some have been impacted to the point that the historical connection to their floodplains and adjacent wetlands has been severely altered, such as portions of Catfish Canal. However, many streams, including those referred to in the previous discussion of riparian wetland systems, remain intact.

Based on the preliminary data available, it is anticipated that Alternatives 1 and 3 would have a minimum of 12 bridges, Alternative 3 and 7 would have 9 bridges, Alternatives 4 and 6 would have 14 bridges, Alternative 5 would have 7 bridges, and Alternative 8 would have 17 bridges associated with stream

3.16.10 What indirect impacts to wetlands and streams would occur as the result of the project?

Based on a review of the projected land use maps generated by the land use models, indirect impacts to wetlands and streams could occur as the result of development of currently vacant lands along the Build Alternatives. Similarly, indirect impacts associated with the No-build Alternative could also occur according to the models. The areas of projected development were brought into the I-73 base mapping and potential impacts to streams and wetlands were calculated. Because these are projected developments and no siteplans are available, stream impacts are reported as the number of potential stream impacts instead of linear feet. Table 3.48 on page 3-150 provides the results of the analysis.

As shown in Table 3.48, page 3-150, Alternative 4 would have the least indirect wetland impacts, followed by Alternatives 3, 1, 2, 6, 7, 8, and 5, respectively. However, the indirect impacts associated with the Build Alternatives are basically the same as there is only an approximately 11-acre difference between the Alternative 4, the lowest, and Alternative 5, the highest. Alternative 4 would have the least number of stream impacts with Alternative 1 following with the next lowest impact. Alternatives 3 and 7 would have the third lowest number of stream impacts followed by Alternatives 2, 6, and 8 having the fourth lowest number of impacts. Alternative 5 would have the highest potential stream impacts. This ranking of alternatives is based on estimated impacts to tracts identified by the land use models and does not take into consideration any avoidance or minimization requirements that would be required for obtaining Section 404 permits and Section 401 water quality certifications prior to construction on the sites.

Based on a review of aerial photography and the land use projections, indirect wetland impacts associated with the alternatives would occur at the edges of previously disturbed wetlands and generally would not contribute to the loss of wetlands along the high value riparian wetland systems such as Buck Swamp, Lake Swamp, and the Little Pee Dee River swamp. Development could occur along the edges of these systems that might affect their water quality. Riparian wetland systems could be impacted by the construction of road crossings to access developable lands. Development encroaching into the edges of these systems could affect their water quality. It is not anticipated that indirect impacts would occur to intact Carolina bays within the project study area due to the availability of other suitable development sites and the high level of protection provided by regulatory agencies. However, current definitions of jurisdictional wetlands may leave "isolated" Carolina bays unprotected by state and federal regulations.

The amount of anticipated indirect impacts to wetlands would be relatively consistent among the Build Alternatives with only an approximate 11 percent difference between the lowest and highest impacts. The models indicate that development would be scattered along the alternatives and heavier near Dillon, Latta, Mullins, Marion, Aynor, and between Conway and S.C. Route 22. For all of the Build Alternatives, concentrations of development would potentially occur along U.S. Route 76 between Marion and Mullins with some development along U.S. Route 501 from Marion to Latta. For Alternative 1, most of the development in the southern portion of the project would occur between S.C. Route 22 and Conway; however, for the rest of the Build Alternatives, concentrations would be denser around the S.C. Route 22/U.S. Route 701 interchange.

Table 3.48
Potential Indirect Wetland Acres and Stream Impacts
Interstate73: I-95 to the Myrtle Beach Region

[illegible]								
[illegible]								
[illegible]								
B[illegible]rests	59.3	58.1	62.6	[illegible]	63.7	[illegible]	[illegible]	63.5
Bo[illegible]nd Ha[illegible]ds	20.7	21.4	20.7	20.7	21.4	20.6	[illegible]	20.6
Da[illegible]us S[illegible]wamps	2.1	2.1	2.1	[illegible]	2.1	2.1	[illegible]	2.1
Eve[illegible]n Shrub Bogs[illegible]sins	24.0	21.6	21.6	23.4	21.6	21.6	21.6	23.3
Flood[illegible]amp /Beav[illegible]ds	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Fresh[illegible] Marsh[illegible]	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Hardw[illegible] Swamp[illegible]	89.1	91.7	88.0	88.2	92.2	[illegible]	91.8	91.9
Lakes[illegible]	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
[illegible]ne Sa[illegible]hs Wet [illegible]ods	5.6	5.1	5.6	5.6	[illegible]	[illegible]	5.6	[illegible]
[illegible]nds [illegible]rrow	58.5	61.6	57.9	57.7	61.0	[illegible]	[illegible]	58.9
[illegible]vanna[illegible] [illegible]t M[illegible]s	12.5	12.2	11.3	11.0	12.4	[illegible]	12.3	12.2
[illegible]lege[illegible] [illegible]l F[illegible]	0.8	0.8	0.8	0.8	0.8	[illegible]	0.8	0.8
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	279.1	280.8
[illegible]pe								
[illegible]	24	26	26	24	26	[illegible]	[illegible]	26
[illegible]	15	16	16	14	[illegible]	[illegible]	15	16
[illegible]am	39	42	41	38	[illegible]	[illegible]	[illegible]	42

Sou[illegible] PA GROUP, INCORPORATED, 2006.

crossings. As previously mentioned in the wetland impacts discussion, bridge impacts are the least damaging method for crossing the streams.

All jurisdictional streams will be identified and mapped during the wetland delineation for the Preferred Alternative. Hydrologic studies would be performed for the Preferred Alternative to determine where the use of pipes or box culverts would be appropriate. The installation of pipes or box culverts would require water body modification and could affect aquatic species movement. Where practicable, stream

channels could be relocated outside of the fill limits of the roadway and cross pipes and culverts could be placed perpendicular to the roadway to reduce the length of pipe or culvert required. This would not only be a cost effective measure from a construction standpoint, but would also reduce the distance that aquatic species would have to travel through the structures.

A review of aerial photography and NWI mapping was performed to determine the presence of sufficient uplands along alternatives for potential borrow pit locations. A corridor extending approximately one-half mile along both sides of the centerline of each Build Alternative was examined. Three areas along the alternatives were identified where suitable uplands were not located immediately adjacent to the alternatives. These areas consisted of the interchange at I-95 for Alternatives 2, 6, and 8, where constraints such a wetlands and the Bethea Historic District are located; the portion of Alternatives 4 and 7 located east of Marion, on existing U.S. Route 501, where a Carolina bay and bay forest wetlands are present on both sides of the alternative; and all alternative crossings of Back Swamp and the Little Pee Dee River. However, potentially suitable uplands were observed on the mapping in the close proximity to these locations where fill materials could be excavated and hauled to the construction site.

A more detailed screening will be performed for the Preferred Alternative and segments with adequate upland borrow areas will be indicated. Wetland areas that should not be used for borrow areas will also be indicated. If enough upland areas are not available for any given segment, the wetlands that have been altered or have lower functions and values will be identified. Wetland delineations would be performed at the borrow pit sites and potential impacts to federally listed species and cultural resources would be evaluated prior to beginning excavation, in accordance with the SCDOT Engineering Directive (EDM – *Borrow Pit Location and Monitoring*).

3.16.11 What would cumulative impacts be to wetlands and streams in the project study area?

Cumulative impacts to wetlands and streams could occur in the project study area. The I-73 study area contains a wide variety of wetland types. However, they can be grouped as Carolina bays, riparian wetlands, pocosins, pine savannahs and wet flatwoods, and pine savannahs and wet meadows. Carolina bays have been identified as important natural resources and many intact bays and impacted bays are located in the project study area. Drained bays would be crossed by many of the I-73 Build Alternatives; however, intact bays were avoided in the development of alternatives for the project.

Wetland systems in Carolina bays can vary and often include evergreen shrub bogs/pocosins, deciduous shrub swamps, and bay forests. Some of the bays within the study area have been impacted by utility crossings and many have been drained and converted to pine plantations or agricultural fields. The site of the proposed Inland Port for example, located northwest of Marion, would be constructed in Ellerbe Bay, which has been severely altered and much of it is now planted in pine. According to the NWI maps, remnant wetlands remain in the vicinity and a review of aerial photography indicates that riparian wetland systems are present within the proposed boundaries of the Port. It is anticipated that altered bays, such as Ellerbe Bay, will continue to be used for agricultural, silvicultural, and development purposes. Some have been used as mitigation sites and the potential for future use of others as mitigation

exists. However, future development in intact Carolina bays is not likely due to the heightened regulatory awareness of the often unique habitat bays provide.

Riparian wetlands are numerous throughout the project study area and efforts were made in the development of the alternatives to minimize impacts to these systems by crossing on structure where practicable. These wetland systems include a variety of wetland types such as hardwood swamps, bottomland hardwoods aquatic beds, flooded swamps/beaver ponds, and deciduous shrub swamps. Evergreen shrub bogs/pocosin wetlands are often found at the headwaters of these riparian systems. Lakes that have been constructed within these systems, while not natural occurrences, do provide foraging habitat for ospreys and wading birds. Although they have been relatively un-impacted, a review of aerial photography reveals that riparian wetlands within the study area have been previously impacted by road crossings, utility crossings, stream channelization, impoundments, and logging activities. The most severe impacts to the riparian wetlands have occurred near the headwaters of these systems where it appears that the land has been drained and cleared to the banks of channelized streams. Most of the development associated with these systems occurs along the edges and likelihood of filling them for construction purposes is not practicable, and would require permits and mitigation under the Section 404 permitting process. However, the construction of additional road crossings in the future for access to developable land is a possibility and impacts to the edges of the systems may occur.

Evergreen shrub bogs/pocosin wetlands (pocosins), characterized by the presence of evergreen shrub species in flat areas and depressions, are found throughout the study area. A GIS analysis of the NWI maps indicates that there is approximately 15,270 acres of pocosin in the study area. The I-73 project is anticipated to impact between 30 and 55 acres of pocosin wetlands depending on the alternative that is selected. Many of these wetlands are found near the headwaters of streams and in Carolina bays. As previously mentioned, the headwaters of streams and many Carolina bays within the study area have been drained and converted for other uses such as silviculture and agriculture. Generally these wetlands contain a deep mucky soil that is unsuitable for construction without extensive excavation and back-filling with suitable material to build upon; however the continued draining of pocosins for silviculture and agriculture purposes could occur.

Pine savannahs and wet flatwoods generally occur in flat, poorly drained areas and are found throughout the study area. When wild fires are not suppressed in these areas and where long leaf pines of sufficient maturity are present, they provide habitat for the federally protected red-cockaded woodpecker. GIS analysis of the NWI maps indicate that there is approximately 41,717 acres of pine savannah and wet flatwoods within the study area and the I-73 project would impact between 18 and 81 acres of this habitat. Previous impacts to this wetland type within the study area consist of draining and converting for silviculture and agriculture purposes, and housing developments. Often times irrigation and cattle watering ponds are excavated in these areas. Because these systems are typically saturated to the surface and rarely inundated, the excavation of drainage ditches can sufficiently convert them to uplands, depending on the soil types that are present. Continued conversion of these wetlands to uplands could be expected.

Pine savannahs and wet meadows are typically found in the outer coastal plain of South Carolina and are some of the rarer wetland types found in the project study area. When wild fires are not suppressed in these areas, the edges of these wetlands provide habitat for federally protected species such as American chaffseed and state species of concern such as Venus flytrap. GIS analysis of NWI maps indicates that approximately 5,109 acres of pine savannahs and wet meadows occur in the study area and they are scattered throughout. The I-73 project would impact between 0.3-acre and 7.1 acres of this wetland type. As with pine savannahs and wet flatwoods, these wetlands are typically saturated to the surface and the excavation of drainage ditches can sufficiently convert them to uplands for development purposes. Because of the relative ease with which these wetlands can be drained, conversion to uplands could continue to occur within the project study area.

The No-build Alternative would have substantial impacts to wetlands. The total wetland impacts anticipated to occur due to development by the year 2030 is approximately 222 acres. It is also anticipated that 33 stream crossings, 22 intermittent and 11 perennial, would occur. These impacts were estimated based on the results of the land use model predictions. The wetland impacts anticipated include approximately 1-acre of aquatic bed, 45 acres of bay forest, 17 acres of bottomland hardwoods, 2 acres of deciduous shrub swamps, 20 acres of evergreen shrub bog/pocosin, 1-acre of freshwater marsh, 75 acres of hardwood swamp, 1-acre of lakes, 4 acres of pine savannahs and wet flatwoods, 47 acres of ponds and borrow pits, 8 acres pf savannahs and wet meadows, and 1-acre of unvegetated tidal flats.

Although cumulative impacts to wetlands and streams within the project study area could occur, the Section 404 permit and the Section 401 water quality certification process would afford protection of the wetland systems and regulation of wetland impacts identified within the project study area.

3.16.12 What is mitigation?

Mitigation has been defined in NEPA regulations to include efforts which: a) avoid; b) minimize; c) rectify; d) reduce or eliminate; or e) compensate for adverse impacts to the environment (40 CFR 1508.20 [a-e]). Section 404(b) (1) Guidelines of the CWA and Executive Order 11990 stress avoidance and minimization as primary considerations for protection of wetlands. Practicable alternatives analysis must be fully evaluated before compensatory mitigation can be discussed.

Federal Highway Administration policy stresses that all practicable measures should be taken to avoid and minimize impacts to wetlands which will be affected by federally funded highway construction. A sequencing (step-down) procedure is recommended in the event that avoidance is impossible. This step-down procedure includes wetland impact avoidance, minimization, and finally, compensation.

Compensation traditionally takes three basic forms: restoration, preservation, and creation, or can be a combination of the three. Restoration is the return of functions and values to a wetland that have been lost because of alteration of the natural vegetation, soil, and/or hydrology. Preservation refers to the protection without disturbance of existing wetlands that are particularly valuable. Creation is the making of wetlands

from non-wetlands. Restoration and preservation are the preferred forms of mitigation due to the uncertainty of the success of wetland creation.

3.16.13 What was done to avoid and minimize wetland and stream impacts?

Due to the linear nature of the project and the large areas of wetlands located within the project study area, total avoidance of wetlands and streams was not possible. Many riparian wetland systems associated with streams extend across the study area, such as the Little Pee Dee River, Lake Swamp, and Buck Swamp. As described earlier, efforts were made to produce wetland maps with wetlands accurately depicted and to identify high value wetlands. Intact Carolina bays were identified from aerial photography and were designated as constraints on the GIS data layer which insured that they would be avoided. Values were assigned to the wetland types within the study area and the wetland data layer was given an overall weighted value of 40 percent, which forced the CAT to avoid wetlands where possible and when avoidance was not possible, it crossed the lower valued wetland systems.

After the CAT developed the initial routes that were suitable for construction (based on potential impacts), the routes were further refined to avoid wetland impacts. A field review was conducted during which the ACT members were given the opportunity to view the wetlands that would potentially be impacted within the corridors and provide comments. Centerlines were established and wetland impacts were calculated within 400-foot wide corridors that represented approximated construction limits. Requests for corridor modifications from the ACT were investigated that would further avoid wetlands impacts. These corridors and segments of corridors were presented at the ACT meetings for discussion. Votes were conducted and segments with high impacts, primarily higher wetland impacts, were removed from further consideration or refined corridor alternatives that resulted in a reduction of impacts were discussed and substituted for higher impact corridors.

Five corridor segment shifts were made to portions of Alternative 1 during the process that resulted in a reduction of approximately 132 acres of wetland impacts. Impacts on Alternative 2 were reduced by approximately 80 acres with three alignment shifts. Six shifts were made to segments along Alternatives 3 and 5 that resulted in an approximate 144 acres of impact reduction for each. The shift of 4 segments along Alternative 4 resulted in a 24-acre reduction. Three segment shifts along Alternative 6 resulted in an approximately 80-acre impact reduction. Alternative 7 wetland impacts were reduced by 60 acres after four segments were shifted. And two segment shifts reduced Alternative 8 impacts by approximately 44 acres.

In a couple of instances, shifts were made to avoid community impacts that resulted in slightly higher impacts such as an increase of 24 acres of wetland impacts to a segment located west of Mullins that ultimately affected the total wetland impacts for Alternatives 1, 2, 3, 5, 6, and 8. In order to avoid potential impacts to Carolina bays located near U.S. Route 501 at Back Swamp and Little Pee Dee River crossing, the alignment was shifted onto the existing U.S. Route 501. This increased wetland impacts by approximately 19 acres. This modification affected Alternatives 1, 2, 4, 5, 7, and 8. Although the shift increased the impacts, in addition to avoiding the Carolina bays, it lessened the potential for

habitat fragmentation at Back Swamp and a portion of the Little Pee Dee River swamp by placing I-73 in the median of U.S. Route 501.

Once the wetland delineation has been completed, where possible, and where consistent with engineering standards and FHWA and SCDOT requirements, consideration will be given to design modifications to further reduce potential impacts. Design modifications may include slight shifts in the alignment away from wetlands and the use of 2:1 side slopes where practicable. The use of 2:1 side slopes reduces the impact footprint through wetlands and other sensitive areas and thus reduces the impacts. It is anticipated that the hydrologic studies would indicate the size for bridges through some of the higher quality wetland systems such as those associated with the Little Pee Dee River, which would minimize wetland impacts. Properly sized pipes and culverts, as determined by the hydrologic study, would be installed under the roadway to maintain the historic hydrologic connections of wetlands and prevent the drainage or excessive flooding of jurisdictional areas. Additional cross pipes and culverts could be installed in new causeway through wetlands to maintain sheet flow through riparian wetlands during high water events.

Wetland impacts would be minimized where wetlands would be crossed by bridges. Although the vegetation would be cleared within the construction limits and there would be temporary impacts to the hydrologic function and soil of the affected wetland, permanent impacts to bridged wetlands would be minimal. Permanent impacts would result from the decrease of vegetation beneath the bridge. Upon completion of the bridges, the temporary means of access would be removed and the area allowed to re-vegetate naturally. The hydrologic functions of the wetland would not be diminished. Each wetland crossing would be evaluated on an individual basis to determine the most practical method for constructing bridges, depending on the type and amount of wetlands to be impacted and the length, type, and geometry of the structure to be built.

Typical construction techniques considered as possible options for building bridges over wetlands are:

- Construction on existing grade;
- Temporary haul roads;
- Timber mats or barges;
- Temporary trestles; and,
- Top-down construction.

Construction on existing grade would be done in wetlands where the soil is stable enough to support construction equipment loads bearing directly on the ground surface. Typically, this method would be utilized in wetlands that are not saturated or inundated during a majority of the year. Temporary haul road(s) would be constructed parallel to a proposed structure in wetlands containing soils incapable of supporting heavy construction equipment without permanent damage to the wetland. Upon completion of the bridge, the haul road(s) would be removed and the natural grade of the wetland restored and allowed to re-vegetate naturally. The use of timber mats or barges for constructing bridges in wetlands is similar in concept, and in resulting impacts, to using haul roads. This technique could be used in wetlands where standing water or saturated soil conditions would not support heavy construction

equipment or temporary haul roads. The temporary trestle would be constructed adjacent to the proposed bridge location. The structure would be constructed on driven piles, either steel or timber, and a superstructure of steel girders and timber mats. The temporary trestle would act as a work platform and haul road for materials and impacts would consist of temporary clearing of vegetation under the trestle.

Top-down construction technique would utilize components of the bridge already under construction to either support a temporary platform for building new spans or to serve as the work platform itself. The previously built substructure would support the temporary working platform, allowing piles to be driven for the next span. Simultaneously, the permanent structure's bridge deck would be formed and poured for the previous span, behind the work platform.

A variation of the top-down construction technique would use the previously built bridge deck as the working platform construction of the substructure and superstructure of subsequent bridge spans would be performed from the completed, permanent structure. Top-down construction would cause the least amount of temporary impact as no fill material or temporary structures would be required since the work would be performed from the permanent structure.

Efforts to minimize wetland impacts would also be incorporated in the construction phase of the project. Construction activities would be confined within the permitted limits to prevent the unnecessary disturbance of adjacent wetland areas. During construction, potential temporary impacts to wetlands would be minimized by implementing sediment and erosion control measures to include seeding of side slopes, silt fences, and sediment basins, as appropriate. Other best management practices would be required of the contractor to ensure compliance with the policies of *23 CFR 650B.*

3.16.14 How will the wetland and stream impacts be compensated?

Upon completion of the roadway design for the Preferred Alternative, the total wetland and stream impacts within the construction limits would be calculated. The USACE has established guidance for calculating the number of impact credits that would be needed to compensate for unavoidable wetland and stream impacts. This guidance is contained in the Charleston District Compensatory Mitigation Guidelines (or Standard Operating Procedures). The number of mitigation credits required is based on several factors such as the type of wetland being impacted, the condition of the area to be impacted, the type of impact that will occur, and the duration of the impact (permanent vs. temporary).

The Standard Operating Procedures (SOP) also contains guidance for calculating the number of mitigation credits that a proposed mitigation site will generate. The number of credits received for a mitigation site is determined by several factors such as the net improvement to the area for proposed restoration or enhancement; the wetland type, existing condition, and the degree of threat to the area proposed for preservation; and the vegetation establishment (planted vs. natural re-vegetation) and the soil type present for the area proposed creation sites. The proximity of the mitigation site to the impact site, the type of protection the site will receive, and whether the mitigation wetland is the same type as the impacted wetland are considered regardless of the mitigation type that is proposed.

Conceptual Mitigation Plan

Wetland mitigation was discussed at several ACT meetings and the importance of in-kind mitigation and mitigation within the same watershed was emphasized. There has been discussion of not using the SOP for calculating required mitigation credits due to the magnitude of the impacts associated with the project. However, the USACE offered to provide assistance with working through the mitigation worksheets. Additional discussions revolved around the use of riparian systems as well as landscape scale mitigation with linked upland/riparian systems and possibly isolated wetland systems, such as Carolina bays. The use of commercial wetland mitigation banks was brought up during the discussions and it was suggested that they be used only as a last resort.

Based on a review of aerial photography, USGS topographic maps, and limited field visits, there are many opportunities for restoration mitigation for both wetland and stream impacts within and adjacent to the project study area. Many of the wetlands within the study area consist of remnants of larger wetlands that have been drained or partially drained for agricultural or timber production purposes. Because their small size (5 to 10 acres) and the fact that they are isolated from wildlife movement corridors by agricultural fields, these areas would not necessarily be considered ideal wetland mitigation sites. However, large wetland areas and associated with the high quality riparian wetland systems would be considered as suitable for mitigation purposes.

There are several Carolina bays within the study area that appear to have a hydrologic connection to waters of the United States that could be used for wetland mitigation. Some of these bays, ranging in size from approximately 100 acres to 450 acres, appear to be intact and could be purchased and dedicated as preservation mitigation. The inclusion of the upland sand rim and other adjacent uplands would provide enhancement for the preserved wetland systems. Other Carolina bays are present that range in size from approximately 500 acres to 1,000 acres and have been impacted primarily by drainage and conversion to other uses. They could be restored for mitigation credit. Based on reviews of the aerial photography, restoration for these bays could range from simply filling drainage ditches and restoring the hydrology where soils and vegetation are already present, to restoring the hydrology by removing drainage tiles, blocking ditches, and planting the site with wetland vegetation. The issue of blocking drainage, thus "isolating" these wetlands from the surface water system, would need to be addressed.

The potential for large areas of preservation, enhancement, and restoration are available along the Little Pee Dee River, the Great Pee Dee River and other previously mentioned riparian wetland systems within the study area. Tracts of land adjacent to Heritage Trust Preserves along the Little Pee Dee River, ranging from small 200-acre out-parcels located within the existing preserves to over 1,000-acre parcels could be purchased and incorporated into the existing Heritage Preserves. Enhancement for these sites could be in the form of including upland buffers and the removal of roads that are evident on the aerial photographs, from the wetlands.

Many of the streams within the study area have been channelized and have no vegetated buffers. These stream reaches are generally associated with agricultural operations. Additional, many of the channelized

streams have limited contact with adjacent wetlands due to spoil piles left behind during the channelization effort. Restoration and enhancement of these impacted streams for mitigation credits can include reshaping stream channels and replanting native vegetation along a stream buffer. These vegetated areas provide movement corridors for wildlife. They also provide water quality enhancement by filtering pollutants from surface water runoff before in enters the receiving stream as well as providing shade which keeps the water cool, thereby promoting the health of aquatic animal species. Spoil piles can be removed from stream banks and in-stream structures could be installed within the channels to allow streams to overflow into the adjacent riparian wetlands during rain events. The latter stream restoration type is one that must be approached carefully such that flooding of adjacent property owners does not occur.

Another avenue for obtaining wetland and stream mitigation would be to provide monetary support to property acquisitions and habitat restoration for specific properties being sought or already acquired by SCDNR, such as the Woodberry Tract, located along the Little Pee Dee River in Marion County. Members of the ACT indicated that sites such as this as mitigation that provides important habitat for wildlife and has an opportunity for wetland restoration, has good potential for acceptance by the agencies.

Once the impacts to streams and wetlands have been determined for the Preferred Alternative, coordination with the ACT concerning mitigation will continue and a suitable site(s) will be identified. At that point, a final mitigation plan would be prepared, included in the FEIS, and submitted along with the Section 404 permit application.

3.17 What are the groundwater resources in the project study area and how will they be impacted by the project?

The project study area is located above the Southeastern Coastal Plain Aquifer System, which is comprised of four regional aquifers. The regional aquifer in the project study area has five hydrogeologic units, which are (in descending order) the Surficial Aquifer, Tertiary Sand Aquifer, Black Creek Aquifer, Middendorf Aquifer, and Cape Fear Aquifer.

What is an aquifer?

An aquifer is an underground layer of porous rock or gravel that holds water, like a natural storage tank.

The Surficial, Black Creek, and Middendorf Aquifers are the main groundwater sources in the project study area.[95] The Surficial Aquifer underlies the surface of the land and is very shallow (usually 20 to 60 feet deep). It provides groundwater to individuals throughout the project study area who have private wells. The water quality of the Surficial Aquifer varies greatly, and due to this, detailed studies have not been done to determine its overall water quality. Instead, water quality is determined on a site-specific test for wells using this aquifer. The Surficial Aquifer has groundwater discharge/ recharge areas throughout the project study area. The Black Creek Aquifer overlies and covers the Middendorf Aquifer as they extend east toward the coast. The Black Creek Aquifer is used as a

[95] South Carolina Department of Health and Environmental Control (October 2005), *South Carolina Ambient Groundwater Quality Monitoring Network 2003 Annual Report.*

groundwater source in the majority of the project study area because it is shallower than the Middendorf Aquifer, which makes it more cost effective to develop. The primary use of groundwater withdrawals from the Black Creek Aquifer is as a drinking water source. The Middendorf Aquifer provides groundwater supplies in the upper coastal plain near the Great Pee Dee River in the extreme northwestern portion of the project study area.

The Black Creek Aquifer generally has good to excellent water quality; however, the aquifer consistently has high levels of fluoride. This aquifer has high levels of chloride and sodium near the coast due to the mixing of saltwater with the water in the aquifer. Due to this, the pH levels are usually higher throughout the aquifer, especially closer to the coastline. The discharge/recharge area of this aquifer is located between the Great Pee Dee and Little Pee Dee Rivers in South Carolina, a portion of which is located in the project study area.

There is minimal ion concentration present in the upper coastal plain portion of the Middendorf Aquifer. This is due to the presence of clean quartz sands that have been thoroughly leached over time. Water found in the upper coastal portion is acidic, usually soft, and contains a low amount of dissolved solids. This has been correlated with the proximity of the water to the recharge area. Water in the lower coastal portion is usually highly mineralized, with higher levels of total dissolved solids and pH. This is because the water in the lower coastal portion has been in the aquifer longer and has possibly mixed with more mineralized water from adjacent leaky aquifers. The Middendorf Aquifer has generally good water quality; however, the 2003 results showed high iron contents above USEPA standards in most of the wells sampled. The discharge/recharge area for the Middendorf Aquifer is located between the fault line in Chesterfield County, South Carolina and the Great Pee Dee River, which is north of the project study area.

It is not likely that this project would impact groundwater. The Middendorf Aquifer and Black Creek Aquifer are deep below the surface of the ground, and would not be impacted by construction or reached by pollutants filtering through sediment and rock to reach the aquifers. The Black Creek Aquifer does have recharge/discharge areas throughout the Little Pee Dee River and its associated swamp systems. However, this project would not be constructed in wetlands (which are in essence recharge/discharge areas), so mixing of pollutant runoff into the aquifers at these sites is not likely to occur.

Impacts could occur to the Surficial Aquifer due to its proximity to the surface. During construction, the Surficial Aquifer could be exposed, leading to sediment entering the aquifer. Soluble materials such as petroleum products could be leaked or spilled during construction and enter these exposed areas and may cause contamination. However, best management practices would be in place, so if during construction, groundwater was encountered, a spill prevention control and countermeasures plan would be in place to manage spills and leaks of soluble materials.

While the majority of drinking water in the project study area is supplied through surface waters, induced growth and development in the project study area could increase the amount of groundwater needed for drinking water. Any additional groundwater wells would need to be permitted prior to drilling, and due to the abundant supply of water in the Black Creek Aquifer, it is unlikely that there would be a major drawdown of groundwater resources in the project study area. Three watershed units (03040206-120, -130, -140) are within the Waccamaw Capacity Use Area and are predicted to have development under the No-build Alternative. Any additional groundwater wells would need to be permitted, and be in accordance with the guidelines of the Use Area.

3.18 What are the surface waters in the project study area?

Of the eight drainage basins within South Carolina, the proposed project is located in the Pee Dee River Basin, which is made up of four sub-basins. Most of the project study area is located in the Pee Dee River Sub-basin, with a very small portion located in the Waccamaw/ Atlantic Intercoastal Waterway (AIWW). The Pee Dee River Sub-basin consists of approximately 3,472 miles of streams; while the Waccamaw/ AIWW Sub-basin is composed of approximately 784 miles of streams (refer to Figure 3-37, page 162)[96].

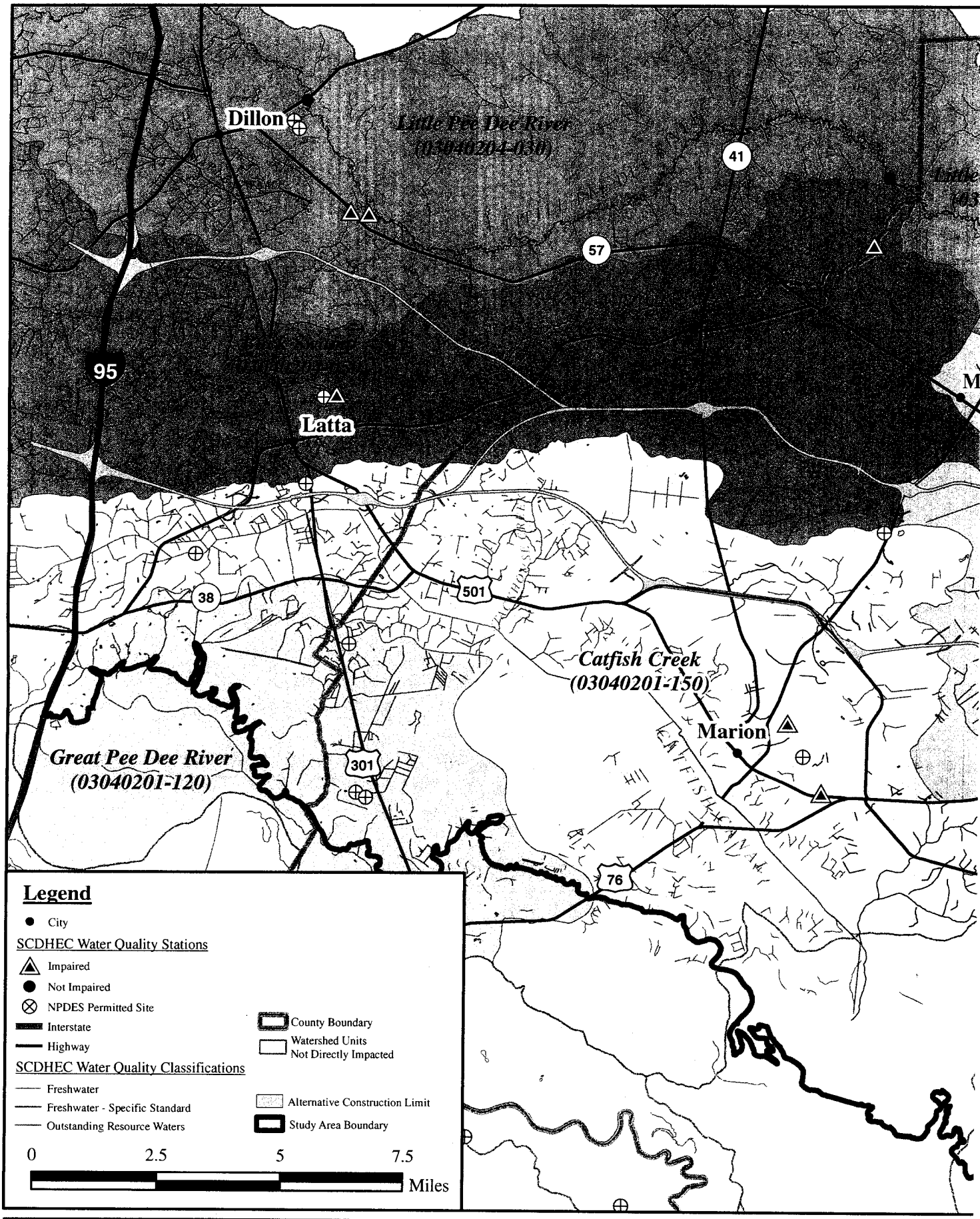
The Pee Dee River Sub-basin contains 27 watershed units, six of which occur within the project study area (refer to Figure 3-37). The Waccamaw/ AIWW Sub-basin contains 11 watershed units, one of which is affected by the project study area (refer to Figure 3-37). A list of the watershed units is located in Table 3.49, page 3-163.

3.18.1 What are the designations of the surface waters?

The majority of the surface waters are designated by the SCDHEC as *freshwater*. Table 3.50, page 3-164, lists some major streams that are located within the project study area. *Freshwater* are surface waters that are suitable for primary and secondary contact recreation and as a source for drinking water supply after conventional treatment in accordance with the requirements of SCDHEC. Systems designated as *freshwater* are also suitable for fishing and the survival and propagation of a balanced native aquatic community of fauna and flora, along with industrial and agricultural uses.[97] An asterisk by the word *freshwater* indicates that SCDHEC has set site specific standards for that waterbody. In this case, all of the *freshwater* marked with an asterisk in Table 3.49, page 3-163, refers to a set standard for pH (5.0 to 8.5) and dissolved oxygen (not less than 4.0 mg/l) in the stream.[98]

A few of the surface waters in the project study area are designated as *outstanding resource waters* by the SCDHEC (Table 3.49, page 3-163). Waters are designated as outstanding resources because they

[96] South Carolina Department of Health and Environmental Control, Watershed Management, http://www.scdhec.net/water/shed/peedee.html#basinfacts
[97] *Ibid.*
[98] *Ibid.*


Dillon
Little Pee Dee River
(03040204-030)
41
57
95
Latta
38
501
Catfish Creek
(03040201-150)
Marion
Great Pee Dee River
(03040201-120)
301
76
Legend
City
SCDHEC Water Quality Stations
Impaired
Not Impaired
NPDES Permitted Site
Interstate
Highway
SCDHEC Water Quality Classifications
Freshwater
Freshwater - Specific Standard
Outstanding Resource Waters
County Boundary
Watershed Units
Not Directly Impacted
Alternative Construction Limit
Study Area Boundary
0
2.5
5
7.5
Miles

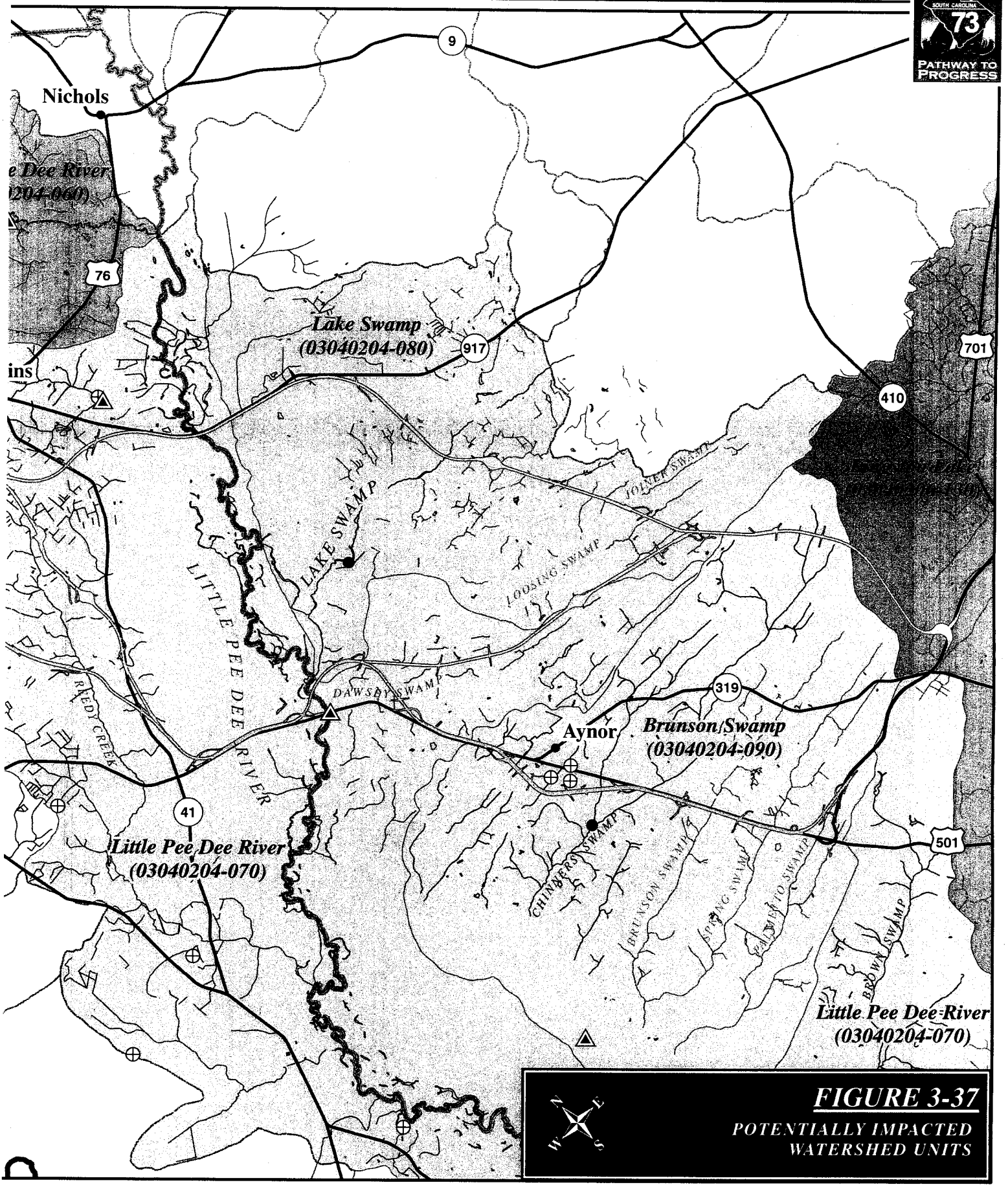


FIGURE 3-37

POTENTIALLY IMPACTED WATERSHED UNITS

Table 3.49
Sub-basins, Watershed Units, and Majors Streams in Project Study Area Crossed by Alternatives
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Sub-basin	Watershed Unit (11 digit Hydrological Unit Code)	Major Stream Names	Water Classification
Pee Dee River Sub-basin	Catfish Creek (03040201-150)	Catfish Canal Tributary Smith Swamp Smith Swamp Tributary Stackhouse Creek	FW FW* FW* FW
	Little Pee Dee River (03040204-030)	Maple Swamp Tributary Little Pee Dee River Tributary Cypress Branch	FW FW FW
	Buck Swamp (03040204-050)	Little Reedy Creek Tributary Mill Creek Tributary Buck Swamp The Gulley Maidendown Swamp	FW FW FW* FW FW*
	Little Pee Dee River (03040204-070)	Back Swamp Little Pee Dee River Dawsey Swamp Tredwell Swamp Reedy Creek Brown Swamp	ORW ORW ORW ORW ORW FW*
	Lake Swamp (03040204-080)	Lake Swamp Black Creek [illegible]	FW* ORW FW FW FW FW
		Brunson Swamp Palmetto Swamp	FW FW
Waccamaw Adaw Sub-basin	Kingston Lake (03040206-130)	Poplar Swamp Cross Branch	FW

FW – *Freshwaters* that are suitable for primary and secondary contact recreation and as a source for drinking water supply after conventional treatment, in accordance with SCDHEC. These waters are suitable for fishing, and the survival and propagation of a balanced indigenous aquatic community of fauna and flora. This class is also suitable for industrial and agricultural uses.

FW* – *Freshwaters* that, in addition to the above definition, must have a pH between 5.0 and 8.5 and the dissolved oxygen level cannot be lower than 4.0 mg/l.

ORW – Outstanding resource waters are freshwaters or saltwaters which constitute an outstanding recreational or ecological resource or those *Freshwaters* suitable as a source for drinking water supply purposed, with treatment levels specified by SCDHEC.

are an outstanding ecological or recreational resource or because they are used as a drinking water source (with applicable treatment levels).[99]

3.18.2 Does drinking water come from these surface waters?

Drinking water sources in the project study area come from both groundwater and surface water sources. The USEPA, on its Safe Drinking Water Information System (SDWIS),[100] lists the main water systems in the project study area, along with the number of people served by the water system, and the source (Table 3.50). The Black Creek and Middendorf Aquifers are used for supplying groundwater to users. There are no sole source aquifers located within the project study area.

Table 3.50
Water Service Providers in the Project Study Area
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Water Service Provider	Primary Water Source	Population (by number) Served	Principal County Served
City of Dillon	Groundwater	[illegible]	Dillon
Town of Lake View	Groundwater	789	Dillon
Town of Latta	Groundwater	2046	Dillon
Trico Water Co	Groundwater	14661	Dillon
Marco Rural Water Co	Groundwater	13451	Marion
City of Marion	Groundwater	7630	Marion
City of Mullins	Groundwater	5826	Marion
Town of Nichols	Groundwater	408	Marion
Bucksport Water Co	Groundwater	10324	Horry
City of Conway	Surface Water	18716	Horry
Conway Rural	Surface Water	[illegible]	Horry
Grand Strand W&SA	Surface Water	[illegible]	Horry
Little River W&SA	Surface Water	[illegible]	Horry
City of Loris	Surface Water	[illegible]	Horry
City of Myrtle Beach	Surface Water	25000	Horry
City of N. Myrtle Beach	Surface Water	[illegible]	Horry
Ocean Lakes Ltd	Surface Water	[illegible]	Horry
Thompkins MHP	Groundwater	45	Horry

3.18.3 What are some common terms associated with water quality?

There are some common terms used when discussing water quality and ways to measure it. Those terms are listed below with a brief explanation as to what they mean.

Point source pollution: A point source is "any discernable, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container,

[99] South Carolina Department of Health and Environmental Control (June 26, 1998), *Water Classifications and Standards* (Regulations 61-68), *Classified Water* (Regulation 61-69), Columbia, SC.
[100] USEPA. Safe Drinking water Information System (January 27, 2006). *List of Water Systems in SDWIS*, http://www.epa.gov/safewater/dwinfo/sc.htm#offices

rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture."[101] Point sources must be permitted to discharge into water bodies under the National Pollution Discharge Elimination System (NPDES).

What is NPDES?

NPDES stands for the National Pollutant Discharge Elimination System. The program was set up by the USEPA by authority under the Clean Water Act to reduce pollution into streams. Any discharge into surface waters (except for personal residences) must have a permit in order to discharge effluent. States are authorized by the USEPA to regulate the NPDES program and permitting process.

Nonpoint source pollution: Nonpoint source pollution comes mainly from stormwater runoff which picks up substances such as excess fertilizers, herbicides and pesticides used on agricultural lands; salts, oil, grease, and heavy metals on roads; heavy metals, sediments, and nutrients from improper timbering or mining practices; and fecal coliform bacteria from leaking septic systems, livestock with direct access to streams, or pet wastes. These substances are deposited into receiving water bodies, either through direct runoff or through stormwater collection systems, so that the source of the pollutant cannot be accurately pinpointed.

Dissolved oxygen (DO): This is a measure of the amount of oxygen dissolved in the water. Aquatic organisms use dissolved oxygen for respiratory function. In general, there must be a minimum level (at least four to five mg/l) of dissolved oxygen in water for the survival of aquatic organisms. The dissolved oxygen level of a stream varies greatly, based on natural occurrences (such as daily and seasonal level cycles).

BOD_5: This acronym stands for the five-day biochemical oxygen demand. It is a measure of the amount of dissolved oxygen that is consumed by decomposing matter in a stream. The test indicates the amount of carbon and nitrogen available to decomposing bacteria for biological breakdown from biological matter (such as leaves, for example) that can be oxidized in the water. Bacterial decomposition of decaying matter raises BOD_5 and lowers the amount of dissolved oxygen in the stream.

Heavy metals: Heavy metals such as cadmium, copper, lead, mercury, nickel, and zinc all occur naturally in the environment and small amounts are needed by most organisms to survive. They are released naturally from the weathering of rocks and soils. However, industrial, agricultural, and other human activities can increase the amount of heavy metals in the environment. Heavy metals are also released into the atmosphere when fossil fuels are burned and deposited onto sediments and fauna. These depositions can flow into streams in stormwater runoff. High levels of heavy metals cause unhealthy conditions in streams by increasing the toxicity levels of the water. High concentrations of heavy metals also reduce dissolved oxygen in streams through oxidation-reduction reactions.

[101] *Clean Water Act, §502(14)*

Fecal coliform bacteria: Coliform bacteria are naturally occurring microorganisms found in the intestinal tracts of all warm-blooded animals (birds and mammals) and are passed out into the environment in fecal matter. Fecal coliform bacteria in surface waters can come from a variety of indirect sources such as stormwater runoff from agricultural or urban areas (i.e. cow manure, animal wastes), leaking septic systems, inadequate sewage treatment facilities, or leaking or overflowing sanitary sewers. Fecal coliform bacteria at low levels are typically not harmful microbes when present in surface waters; however, they do indicate the presence of disease-causing microorganisms.

pH: pH is the amount of hydrogen ion concentration (which is used to determine the acidity) in the water. A scale of 1-14 is used to measure pH with seven being neutral. Substances with a pH greater than seven are considered basic or bases. Substances with a pH lower than seven are considered acidic or acids. Streams with a large amount of organic matter decomposing in the water usually have a low pH and are acidic, while streams with a large amount of nutrients in the water usually have a high pH and are basic.

Turbidity: Turbidity is the measure of the clarity of the water. Increased levels of organic matter, inorganic matter, or microscopic organisms could cause higher turbidity. A higher level of turbidity is an indicator of increased runoff pollution.

Blackwater system: A blackwater system is a stream or body of water that is slow moving and has a large amount of organic matter derived from plants decomposing in it, which is typical of the swamps in the project study area. When organic matter such as leaves decompose, tannic acid is released, which tints the water and makes it a darker color. Blackwater streams have lower dissolved oxygen concentrations due to the decomposition of organic plant matter. Lower pH levels also occur in blackwater systems due to the presence of tannic acid.

Fecal coliform bacterial levels, pH levels, dissolved oxygen levels, and heavy metal concentrations that do not meet South Carolina and/or USEPA defined standards were the most common reasons of impairments. These impairments can be from either point sources or nonpoint sources.

3.18.4 How is surface water quality evaluated?

Under the Clean Water Act, states are required to record the condition of their surface waters with 305(b) and 303(d) documentation. The 305(b) documentation serves to evaluate the extent to which surface waters are supporting their designated uses for categories such as drinking water supply, aquatic life, recreational use, and fish consumption. The SCDHEC produces Watershed Water Quality Assessments (WWQA) to meet the evaluation of their streams under 305(b). The 2000 WWQA describes the most currently known watershed conditions and trends that are developing based on data collected from various monitoring stations that are located along water bodies throughout the state.

The SCDHEC develops a priority list of water bodies pursuant to Section 303(d) of the Clean Water Act, 40 CFR §130.7, and in compliance with the requirements of the current regulation. These water

bodies are targeted for water quality management action and are listed in the *State of South Carolina Section 303(d) List for 2004*.[102] Water quality monitoring stations that are on the 2004 303(d) List and within the project study area are shown in Table 3.51. These sites are listed based on the water quality at the monitoring stations during the time samples were taken. Since the length of the impaired area around the water quality monitoring station is unidentified, crossings within a five-mile distance from the station were considered impaired for purposes of this document.

Table 3.51
2004 303(d) List of Impaired Streams within Project Study Area
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Stream	Monitoring Station Location	Impairment
Maple Swamp (blackwater system) Unit 03040204-030	PD-030: Maple Swamp at State Route 9; at the confluence of this station on Maple Swamp	-Aquatic life use impairment due to low dissolved oxygen; -Recreational use impairment due to high fecal coliform levels.
Little Pee Dee River Unit 03040204-030	PD-030A: On Little Pee Dee River Below Junction with Maple Swamp; near confluence of Cypress Branch and the Little Pee Dee River.	-Recreational use impairment due to high fecal coliform levels; -Fishing advisory due to high mercury levels.
Buck Swamp (blackwater system) Unit 03040204-050	PD-031: At State Route 33 Crossing, just East of Latta.	-Aquatic life use impairment due to low dissolved oxygen; -Recreational use impairment due to high fecal coliform levels.
Buck Swamp (blackwater system) Unit 03040204-050	PD-349: At State Route 42 Crossing, just North of Mullins before confluence with Little Pee Dee River.	-Aquatic life use impairment due to low dissolved oxygen.
Little Pee Dee River Unit 03040204-070	PD-042: Little Pee Dee River at U.S. Route 501, at Galivants Ferry.	-Aquatic life use impairment due to high copper levels; -Fishing advisory due to high mercury levels.
White Oak Creek (blackwater system, but has abnormally low DO levels) Unit 03040204-070	PD-037: At State Route 31 Crossing.	-Aquatic life use impairment due to low dissolved oxygen; -Recreational use impairment due to high fecal coliform levels.
Chinners Swamp Unit 03040204-090	PD-352: At Gunters Island Road off State Route 99, downstream of where alternative crosses.	-Recreational use impairment due to high fecal coliform levels.
Smith Swamp (blackwater system) Unit 03040201-150	PD-320: At State Route 19 Crossing, 1 mile East of Marion	-Aquatic life use impairment due to low dissolved oxygen; -Recreational use impairment due to high fecal coliform levels
Smith Swamp (blackwater system) Unit 03040201-150	PD-187: At U.S. Route 501 Crossing, 1.9 miles South-Southeast of Marion	-Aquatic life use impairment due to low dissolved oxygen; -Recreational use impairment due to high fecal coliform levels.

[102] South Carolina Department of Health and Environmental Control. 2004. *The State of South Carolina's 2004 Integrated Report, Part I: Listing of Impaired Waters* http://www.scdhec.net/water/pubs/303d2004.pdf

A Draft 2006 303(d) List is out for public review and is not yet finalized.[103] It contains the same stations that were listed on the 2004 303(d) List with the following exceptions:

- monitoring stations located on Maple Swamp (PD-030), Little Pee Dee River (PD-030A), Buck Swamp (PD-031), White Oak Creek (PD-037), Chinners Swamp (PD-352), and both stations on Smith Swamp (PD-187 and PD-320) are no longer listed for recreational use impairment due to high fecal coliform levels; and
- the monitoring station located on the Little Pee Dee River at Galivants Ferry (PD-042, now known as station PD-619) is no longer impaired for aquatic life due to high copper concentrations.

Watersheds within South Carolina were classified into one of the four following categories:

- Category I – Watersheds in Need of Restoration. These watersheds do not meet, or face imminent threat of not meeting, clean water and other natural resource goals;
- Category II – Watersheds Meeting Goals, Including Those Needing Action to Sustain Water Quality. These watersheds meet clean water and other natural resource goals and standards and support healthy aquatic systems;
- Category III – Watersheds with Pristine/Sensitive Aquatic Systems Conditions on Lands Administered by Federal, State, or Tribal governments; or
- Category IV – Watersheds with Insufficient Data to Make an Assessment.

3.18.5 What is the surface water quality like in the Pee Dee River Basin and Waccamaw/AIWW Basin?

Water quality sampling results reported for these watershed units were available, to varying extents, from 1998, 2000, 2002, and 2004. Sources for the information used included the SCDHEC WWQA for the Pee Dee Basin for 2000[104] as well as the State of South Carolina Section 303(d) Lists for 1998, 2000, 2002, 2004, and (draft) 2006. The watershed units in this area either drain to the Great Pee Dee, Little Pee Dee, or the Waccamaw Rivers, depending on topography and natural drainage systems in the area.

Eight of the ten stations chosen for analysis of current water conditions within the watersheds are closely associated with known NPDES discharge sites. Not surprisingly, these eight stations have been designated as having impaired waters through the 303(d) process. The one unimpaired station, located within the Lake Swamp watershed, is not associated with a NPDES discharge and is upstream from numerous ditch and tributary crossings. This station is not classified as impaired and for lack of a closer station to the project area, project waters within a five mile radius of this station were considered unimpaired.

[103] South Carolina Department of Health and Environmental Control. 2006. *The State of South Carolina's 2006 Integrated Report, Part I: Listing of Impaired Waters.* http://www.scdhec.net/water/pubs/06_303d.pdf

[104] South Carolina Department of Health and Environmental Control (2000), *Watershed Water Quality Assessment: Pee Dee Basin,* http://www.scdhec.net/eqc/water/pubs/peedee2k1.pdf

Watershed Units which Drain into the Great Pee Dee River

Catfish Creek watershed unit 03040201-150

Catfish Creek watershed unit 03040201-150 (Figure 3-37, page 3-162) is located in portions of Marion and Dillon counties. Major streams in this system are Catfish Canal, Smith Swamp, Stackhouse Creek, and Collins Creek. These streams are located south and southwest of the city of Latta near I-95 and extend toward the City of Marion. Catfish Canal, which receives drainage from Stackhouse Creek, and Collins Creek which receives drainage from Smith Swamp, join to form the headwaters of Catfish Creek, which flows into the Great Pee Dee River. Smith Swamp and Catfish Creek are designated as *Freshwaters* with specific pH and dissolved oxygen standards, while the rest of the streams in the watershed are classified as regular *Freshwaters*.[105]

What are watershed units?
SCDHEC, in cooperation with the United States Geological Survey, have delineated watershed basins based on topographical maps into smaller units so that water resource planning and data collection can be performed in a more systematic and meaningful manner. Each number in a hydrologic unit code (HUC) has a specific meaning.

A watershed unit number can be read in the following manner:
11- digit HUC: 03040201-150

03 represents the region number
0304 is the sub-region
030402 is the accounting unit
03040201 is the cataloging unit
03040201-150 is the watershed unit

Smith Swamp has two monitoring stations located on it (PD-187 and PD-320), both of which are located close to the City of Marion. Smith Swamp is a blackwater system, which normally has low dissolved oxygen concentrations and pH levels due to the high amount of organic material being decomposed in the stream. The monitoring station located where U.S. Route 501 crosses this stream (PD-187) is non-supportive of aquatic life uses due to high concentrations of copper according to the 2000 WWQA. The monitoring station located where S.C. Route 19 crosses Smith Swamp (PD-320) was fully supportive of aquatic life uses in 2000. Both stations were partially supportive of recreational uses due to high fecal coliform bacteria levels at the sites. The 2004 303(d) List has both sites impaired for aquatic life uses due to low dissolved oxygen levels and impaired for recreational uses due to high levels of fecal coliform bacteria, while the 2006 Draft List only has these stations impaired for aquatic life uses due to low dissolved oxygen levels.

Due to the close proximity of the City of Marion, sources of impairment for this watershed could be from nonpoint sources. These monitoring stations are also located in close proximity to a NPDES discharge site from the City of Marion, which discharges municipal effluent. Catfish

[105] The specific pH (5.0 to 8.5) and dissolved oxygen (no less than 4.0 mg/L) levels set by SCDHEC for streams are the same throughout the watershed units in the project study area

Canal and Stackhouse Creek have no monitoring stations; therefore, the water quality of the streams is unknown at this time.

Two NPDES permitted discharges are located on Catfish Canal. Trico/Fred Hyatt Water Treatment Plant discharges municipal effluent, and Al Williams Enterprises discharges industrial effluent, both into Catfish Canal. Three mines are also in this watershed unit and are regulated by the Nonpoint Source Management Program. The mines are Marion County Bobby Mace Borrow Pit, City of Marion Coleman Mine, and the Bakers Brothers of Gresham, Inc., all of which extract sand and clay. Based on the water quality monitoring information, 2004 303(d) List, and the type of system, dissolved oxygen and pH levels are anticipated to be low throughout the watershed unit in the vicinity of the water quality monitoring stations. Due to the lack of water quality monitoring stations throughout the rest of the watershed unit, the water quality is unknown at this time.

Watershed Units which drain into the Little Pee Dee River

Little Pee Dee River watershed unit 03040204-030

Cypress Branch, Maple Swamp, and the Little Pee Dee River are major streams within the Little Pee Dee River watershed unit 03040204-030. The watershed unit is located in the northeastern portion of the project study area in Dillon County (Figure 3-37, page 3-162). Maple Swamp flows into the Little Pee Dee River near the City of Dillon, while Cypress Branch flows into the Little Pee Dee River just downstream of the confluence of Maple Swamp. This section of the Little Pee Dee River and Cypress Branch are classified as *Freshwater* streams, while Maple Swamp is classified as a *Freshwater* with a specific standard. Maple Swamp is a blackwater system. There is one monitoring station on Maple Swamp (PD-030). According to the WWQA, aquatic life is not supported at the site due to low dissolved oxygen and increased turbidity. Recreational uses are only partially supported at the site due to high levels of fecal coliform bacteria being present. The 2004 303(d) List has the site impaired for the same reasons, while the 2006 Draft List has the site impaired for aquatic life due to low dissolved oxygen levels. According to sampling data gathered from 1999 to 2004 at PD-030, the average levels have been within the standard criteria.

Cypress Branch flows into the Little Pee Dee River downstream of the confluence of Maple Swamp. A monitoring station on the Little Pee Dee River (PD-030A) occurs where Maple Swamp joins just upstream of the confluence with Cypress Branch. The area is also a blackwater system. According to the WWQA, aquatic life and recreational uses were fully supported at this stream site in 2000. The site was listed on the 2004 303(d) List for impaired recreational use due to high fecal coliform bacteria levels. A fish advisory was also in effect for this area due to high mercury levels in 2004 and it is on the 2006 Draft List. Sampling data shows that the average levels over a five-year period between 1999 and 2004 were within the standard criteria.

NPDES discharges do occur north of these monitoring sites, especially around the City of Dillon where industrial and wastewater treatment plants are located. NPDES discharges in this watershed unit include Anvil Knitwear/Dillon Distribution Center and South of the Border which discharge industrial effluent, as well as Trico/Byrd Water Treatment Plant, Trico/Hamer Water Treatment Plant, Dillon/Little Pee Dee Wastewater Treatment Facility , and the City of Dillon, all of which discharge municipal effluent. Under the Nonpoint Source Management Program, the Little Pee Dee State Park Campground, Bass Lake RV Campground, Inc., and Pedro's Campground all discharge into tributaries or the Little Pee Dee River. Bakers Brothers of Gresham, Inc., and Willard Barker Jr. are two sand/clay mines also regulated under the Nonpoint Source Management Program in this watershed unit. Based on the water quality monitoring information, 2004 303(d) List, and the characteristics of the blackwater system, dissolved oxygen and pH levels are anticipated to be low throughout the watershed unit in the area of the impaired stations. The water quality in other areas of the watershed unit is unknown at this time due to the lack of monitoring stations.

Buck Swamp watershed unit 03040204-050

The Buck Swamp watershed unit 03040204-050 is located north and northeast of Latta, running in an easterly direction towards the City of Mullins in Dillon County and in Marion County (Figure 3-37, page 3-162). Reedy Creek and its tributaries form the headwaters of Buck Swamp northwest of Latta. Buck Swamp flows northeast to east towards Mullins and receives drainage from Mill Creek, The Gully, and Maidendown Swamp before ultimately flowing into the Little Pee Dee River northeast of Mullins. All streams in the watershed are classified as *Freshwaters*, with Buck Swamp and Maidendown Swamp having specific standards for dissolved oxygen and pH.

Buck Swamp is a blackwater system. Two monitoring stations are located on Buck Swamp. One of the sites (PD-031) is located just east of Latta, and according to the 2000 WWQA, aquatic life and recreational uses were fully supported. However, it was listed on the 2004 303(d) List for impaired aquatic uses due to the low dissolved oxygen levels and impaired recreational uses due to high fecal coliform bacteria levels. The impairments could be due to NPDES permitted discharge of municipal effluent upstream of this station by the Town of Latta, along with nonpoint source pollution from the town. In addition, AVM Incorporated is an NPDES permitted discharger of industrial effluent into Maidendown Swamp. Sampling data collected from 1999-2004 at this station shows that, on average, dissolved oxygen levels were lower than the standard criteria.

The second monitoring station is located north of Mullins just before Buck Swamp's confluence with the Little Pee Dee River (PD-349). The site was fully supporting aquatic life and recreational uses based on the 2000 WWQA. However, the site was listed on the 2004 303(d) List for impaired aquatic life uses to due low dissolved oxygen levels and is listed for impaired aquatic

life uses and impaired recreational uses on the 2006 Draft List. Sampling data shows that the average levels over a five-year period between 1999 and 2004 were within the standard criteria. Based on the water quality monitoring information, 2004 303(d) List, and the characteristics of the blackwater system, dissolved oxygen and pH levels are anticipated to be low throughout the watershed unit in areas in close proximity to the monitoring stations.

Little Pee Dee River watershed unit 03040204-070

The Little Pee Dee River watershed unit 03040204-070 is located in Marion and Horry counties from Mullins south to Aynor (Figure 3-37, page 3-162).

White Oak Creek is a tributary to Brown Swamp, which flows into the Little Pee Dee River southeast of Mullins. White Oak Creek and Brown Swamp are both blackwater systems and designated as *Freshwater* streams with specific standards for dissolved oxygen and pH.

A monitoring station for White Oak Creek is located at its confluence with Brown Swamp (PD-037). Based on the WWQA, dissolved oxygen levels were abnormally low at this site and the 5-day biochemical oxygen demand was high. Phosphorus levels and turbidity were also high. Aquatic life support uses are only partially supported. The site was on the 2004 303(d) List for low dissolved oxygen levels impairing aquatic life uses and also impaired recreational uses due to high fecal coliform bacterial levels in the water. Sampling data shows that the average levels over a five-year period between 1999 and 2004 were within the standard criteria. The Mullins wastewater treatment plant is located upstream of this monitoring station and could be a source of the impairments due to the NPDES discharges. The City of Mullins could also be contributing to the impairment sources through nonpoint source runoff pollution from the city.

The other streams in the watershed unit, Back Swamp, Dawsey Swamp, Tredwell Swamp, and Reedy Creek all accept drainage from smaller tributaries and flow into the Little Pee Dee River. There are no monitoring stations on any of these streams. All of the waters are classified as outstanding resource waters by the SCDHEC.

The Little Pee Dee River has a monitoring station in this watershed unit, near U.S. Route 501 at Galivants Ferry (PD-042 now PD-619 on the 2006 303(d) Draft List). The site was listed as an outstanding resource water in the WWQA, however, it was non-supportive of aquatic life uses due to high concentrations of copper. The monitoring station site was also listed on the 303(d) list for 2004 due to the high copper concentrations which prevented aquatic life support uses as well as being under a fish consumption advisory due to the high concentrations of mercury. The 2006 Draft List has this site under a fish consumption advisory due to high levels of mercury. According to sampling data over the five-year period from 1999 to 2004, pH was slightly below and copper was in excess of the standard criteria.

NPDES dischargers in this watershed unit include the Locust Tree Development, APAC-Carolina, Incorporated, (Raines Plant), and B & M Aquaculture Farms which discharge industrial effluent.

The Marion County/Centenary Sewer System also discharges municipal effluent into this watershed. Seven mines exist in the watershed unit according to the WWQA, all of which are regulated under the Nonpoint Source Management Program. These mines include Baker Brothers of Gresham, Incorporated, APAC-Carolina, Incorporated, Carolina Sand, Incorporated, Weaver Company, Incorporated (Cannon Spring and Johnston Mines), G&C Incorporated, Cavu Incorporated, and Submit Incorporated. These mines extract sand, clay, and limestone. While most of the watershed unit contains outstanding resources, these waters are impaired for aquatic life and under a fish consumption advisory. Based on the information from the water quality monitoring sites, aquatic life impairments would be expected due to high copper levels and low dissolved levels in the watershed unit, especially in close proximity to the monitoring stations.

Lake Swamp watershed unit 03040204-080

The Lake Swamp watershed unit 03040204-080 is located east and northeast of Aynor in Horry County (Figure 3-37, page 3-162). Black Creek flows into the Little Pee Dee River and is considered an outstanding resource water. Reedy Branch, Joiner Creek (or Swamp) and Loosing Swamp all drain into Lake Swamp and are classified as *Freshwaters* in the 2000 WWQA. Lake Swamp, a blackwater system, is designated as *Freshwater* with specific standards for dissolved oxygen and pH.

Lake Swamp has one monitoring station located downstream from its confluence with Loosing Swamp (PD-176) and aquatic life and recreational uses were fully supported at this site in 2000, according to the WWQA. No other monitoring sites occur on the other stream sites; however, the aforementioned station occurs downstream from the confluences of all the tributaries to Lake Swamp. According to sampling data from 1999 to 2004, on average, all sampling data were within the standard criteria.

The City of Loris wastewater treatment plant discharges municipal effluent under the NPDES system into a tributary of Lake Swamp. One sprayfield, owned by the Grand Strand Water and Sewer Authority, exists under the Nonpoint Source Management Program, at Green Sea Floyds High School. Black Creek Mine is also in this watershed and is regulated by the Nonpoint Source Management Program for sand mining. The water quality at the monitoring station was not impaired; however, this station is located in a relatively pristine area of the watershed unit. Due to the lack of other monitoring stations, it is unknown whether the rest of the watershed unit is unimpaired.

Brunson Swamp watershed unit 03040204-090

Brunson Swamp watershed unit 03040204-090 is located southeast of Aynor in Horry County (Figure 3-37, page 3-162). There are three tributaries to Brunson Swamp: Chinners Swamp (which includes Mill Branch and Savannah Creek), Spring Swamp, and Palmetto Swamp. Brunson Swamp then drains into the Little Pee Dee River. All the streams in the watershed are designated as *Freshwaters*.

Chinners Swamp accepts drainage from Mill Branch and Savannah Creek before flowing into Brunson Swamp. Two monitoring stations are located along Chinners Swamp. One site is located just downstream of the confluence of Chinners Swamp and Mill Branch, near Aynor. Based on the 2000 WWQA, aquatic life and recreational uses are fully supported at this site. Downstream of this site prior to the confluence of Chinners and Brunson Swamps is where monitoring station PD-352 is located. According to sampling data from 1999 to 2004, on average, all sampling data were within the standard criteria except chromium. Aquatic life uses are fully supported at the site according to the 2000 WWQA, but recreational uses are only partially supported due to high fecal coliform bacteria levels in the stream. The site was also listed as impaired for the same reason on the 2004 303(d) List. However, the site is no longer listed for recreational use impairment on the 2006 Draft List.

There are no monitoring stations for Spring Swamp, Palmetto Swamp, or Brunson Swamp. Therefore, the water quality of the streams is unknown.

NPDES discharges occur in this watershed unit, mainly around the Town of Aynor, which is west of Chinners Swamp. The Grand Strand Water and Sewer Authority/Aynor wastewater treatment plant discharges municipal effluent while the Corner Cupboard discharges industrial effluent. Nonpoint source pollution runoff also is possible from Aynor. Based on the information from the water quality monitoring information, some areas of the watershed unit are impaired for recreational uses due to high fecal coliform levels; other areas of the watershed unit may be impaired, due to the lack of information, it is unknown at this time.

The Pee Dee River Sub-basin was given a Category I rating (watershed in need of restoration) under the Unified Watershed Assessment because 31 percent of its assessed waters were impaired. This watershed was designated as Priority One in the Watershed Restoration Priorities for fiscal year 1999-2000.

Watershed Units which drain into the Waccamaw River/AIWW

Kingston Lake watershed unit 03040206-130

Kingston Lake watershed unit 03040206-130 is located northwest of Conway in Horry County (Figure 3-37, page 3-162). Maple Swamp receives drainage from Poplar Swamp and Horse Creek before flowing into the Kingston Lake watershed prior to draining into the Waccamaw River. Maple Swamp, Poplar Swamp, and Horse Creek are classified as *Freshwaters*. The water quality of these streams is currently unknown because no monitoring stations exist on

them; the nearest station is located at Kingston Lake. The Chiquolas Spinners/ Conway Plant discharges industrial effluent under the NPDES. Thompkins & Associates mines limestone under the Nonpoint Source Management Program.

The Waccamaw River/AIWW Sub-basin was given a Category I rating (watershed in need of restoration) by the Unified Watershed Assessment because 87% of the assessed waters were impaired. The Waccamaw/ AIWW Sub-basin was also designated as Priority One in the Watershed Restoration Priorities for fiscal year 1999-2000.

3.18.7 How would these watersheds be impacted by the proposed project?

Water quality impacts could result due to pollutant buildup in new areas of the project study area from the increase in traffic volumes. Inorganic materials, volatile compounds (from petroleum products), dust from vehicle brakes and exhaust, and heavy metals can build-up on roadways and runoff into streams and wetlands due to rain.

In addition, water quality impacts could occur during normal operation and maintenance of the roadway from spraying of herbicides or use of paint and other materials. Best management practices would be used for maintenance of the road and the use of herbicides in the right-of-way. The implementation of best management practices would ensure that these maintenance activities would not have an impact to water quality in the project study area.

3.18.8 How much pollutant would runoff into streams in the project study area as a result of the alternatives?

An analysis was done using the FHWA's "Constituents of Highway Runoff" to estimate the amount of pollutant that would enter streams after a twenty-day buildup period, assuming there were no structures such as retention basins or ditches to filter sediment.[106] The volume of traffic and the estimated length for each alternative within a watershed unit was used to calculate the pollutant load for one point per watershed unit. Standard equations were used to calculate the constituents in the pollutant load, which were developed based on studies completed on a rural interstate highway in Pennsylvania. In general, more pollutant would drain into streams that are in urbanized areas rather than those located in rural areas. This is due to the amount of vegetation along the sides of roadways that would filter pollutant prior to it draining into a stream. The results of this model and the constituent listing[107] are shown in Table 3.52, page 3-176. While this is a general model for constituent loading into streams without filtering or retention structures, a more detailed analysis of pollutant runoff will be done for the Preferred Alternative.

Based on the calculated estimates from the model, Alternative 1 would have the lowest amount of pollutants discharged after a twenty-day build up period, while Alternative 7 would have the highest.

[106] FHWA, 1981. FHWA/RD-81/042: "Constituents of Highway Runoff". Washington, D.C., 1981

[107] Using the model's equations, the sum of the constituents does not equal the amount of total solids for each alternative.

Table 3.52
Pollutant Discharge by Pounds in Year 2030
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	No-build	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
Total Solids	**3047**	**3060**	**3207**	**3231**	**3553**	**3089**	**3222**	**3382**	**3361**
Suspended Solids	435	437	475	664	670	461	646	611	531
Total Organic Carbon	115	118	125	159	166	122	156	153	137
Chemical Oxygen Demand	277	277	291	289	318	280	288	303	303
Total Nitrogen	7	7	7	7	7	7	7	7	7
Total Kjeldahl Nitrogen	[illegible]	19	20	17	18	19	17	18	20
Total Phosphorus	[illegible]	2	2	4	4	2	4	4	3
Lead	[illegible]	[illegible]	[illegible]	1	1	1	1	1	1
Zinc	[illegible]	[illegible]	[illegible]	1	1	1	1	1	1
Iron	[illegible]	[illegible]	[illegible]	[illegible]	29	20	28	26	23
Chloride*	458	457	[illegible]	[illegible]	[illegible]	464	466	493	498
Other Heavy Metals†	-	-	-	-	-	-	-	-	-

†No detectable levels of Copper, Cadmium, Chromium, and Mercury [illegible] 20-day period based on the model.

* The equation is based on an interstate in a northern [illegible] which more than likely will never have any road salt or deicing materials spread on it. [illegible] actual amount of chloride due to the basis of the model.

Alternatives 2, 3, and 6 would have the same estimated amount, while Alternatives 4 and 5 would be estimated to have approximately the same amount of total solids. In terms of constituents, no alternatives would result in detectable levels of copper, cadmium, chromium, or mercury being deposited into streams. As for nutrient build up, Total Nitrogen and Total Kjeldahl Nitrogen would be similar among all alternatives, while Alternatives 3, 4, 6, and 7 would result in more total phosphorus running off into streams. Lead and Zinc runoff from the roadway would be similar among all alternatives, while Alternatives 1 and 8 would have the least amount of Iron running off into streams. The Chemical Oxygen Demand in streams as a result of pollutant runoff would be the least for Alternative 1, while Alternative 7 would result in the highest levels of Chemical Oxygen Demand. The Total Organic Carbon in the streams from pollutant runoff would be the least in Alternative 1, while Alternative 3 would result in the largest amount into streams.

All ditches and canals that were jurisdictionally linked to waters of the United States were included in this analysis and counted as crossings. Ditches and canals will be verified for linkage to jurisdictional waters during the wetland delineation of the Preferred Alternative. Most all direct stream crossings are of streams, with very few being crossings of ditches.

How would the alternatives impact water quality?

No-Build Alternative

The No-build Alternative would result in no additional pollutants entering in at listed stream crossings of this project. However, traffic volumes would be expected to increase on other roadways in the project study area over time, and pollutant loading would occur into different portions of the watershed units, depending on the locations of stream crossings. The pollutant runoff model was used to estimate the pollutant load that would enter stream crossing on U.S. Route 501 in 2030 without the project. (This is assuming that the pollutants are not being filtered through grass, sediment basins, or other stormwater treatment structures). The model estimated that the amount of pollutants washing off of U.S. Route 501 into streams was roughly equal to the amounts of Alternatives 1 and 5. The watershed units in the project study area are natural blackwater systems, with low dissolved oxygen levels and pH, most of which have impaired water quality monitoring stations except the station located at the Lake Swamp watershed unit. These systems would continue to have low dissolved oxygen levels and pH due to their natural conditions, irregardless of pollutant runoff into the streams.

Cumulatively, the No-build Alternative would result in additional stream impacts throughout the aforementioned watershed units except the Lake Swamp watershed unit (03040204-080), along with the following additional watershed units listed below. The stream impacts for the No-build Alternative were based on projected land use growth and the establishment of the inland port in Marion County.

Pee Dee River Watershed Unit 03040201-120 - The No-build Alternative would have 33 *Freshwater* stream impacts in this watershed unit, mainly due to the inland port.

Catfish Creek Watershed Unit 03040201-150 - With the addition of growth projected in the No-build Alternative, nine *Freshwater* streams would be impacted due to development.

Pee Dee River Watershed Unit 03040201-170 - The Waccamaw National Wildlife Refuge is located in a portion of this watershed unit, and would be federally protected from development. The No-build Alternative would result in additional development which would impact two *Freshwater* streams in this watershed unit.

Bull Creek is within this watershed and a major source of drinking water, provided by the Grand Strand Water and Sewer Authority. It is used as drinking water for the City of Conway, the Town of Little River, and additional rural and contracted users.[108] As development increases throughout the eastern portion of the project study area, greater demand for water service would be anticipated.

[108] Grand Strand Water and Sewer Authority. Water page, .http://www.gswsa.com/ext/index.asp?main=water Last accessed May 9, 2006.

Little Pee Dee River Watershed Unit 03040204-030 - The No-build Alternative would impact three additional *Freshwater* streams in the watershed unit.

Buck Swamp Watershed Unit 03040204-050 - The No-build Alternative would result in one stream crossing in the watershed unit, which is classified as a *Freshwater* stream.

Little Pee Dee River Watershed Unit 03040204-070 - The No-build Alternative would result in additional impacts to 12 *Freshwater* streams, four *Freshwater* streams with specific standards, and one stream classified as an outstanding resource water in the watershed unit.

Brunson Swamp Watershed Unit 03040204-090 - The No-build Alternative would impact an additional six *Freshwater* streams and 12 *Freshwater* streams with specific standards.

Waccamaw River Watershed Unit 03040206-120 - Three water quality monitoring stations in this unit (CSTL-553, CSTL-554, and CSTL-555) are listed as impaired on the 2004 303(d) List due to a fish consumption advisory for high mercury levels. One NPDES permitted facility, one landfill, and four mines are located in this watershed. The No-build Alternative would be projected to impact 33 *Freshwater* streams (or ditches).

Kingston Lake Watershed Unit 03040206-130 - The No-build Alternative is predicted to have an additional 42 streams impacted by future growth and development.

Waccamaw River Watershed Unit 03040206-140 - There are six impaired monitoring stations that are listed on the 2004 303(d) list, five of which (Stations CSTL-556, CSTL-558, MD-136, MD-144, and MD-145) are listed due to high levels of mercury resulting in a fish consumption advisory, and the other station (PD-638) which is listed as impaired for aquatic life due to its macroinvertebrate community. TMDL programs are in place for the Atlantic Intracoastal Waterway, and for the area around station MD-136 on the Waccamaw River. There are nine NPDES permitted facilities, two landfills, and eleven mines in this watershed unit. The Waccamaw National Wildlife Refuge is located in a portion of this watershed unit, and would be federally protected from development. The No-build Alternative predicts that development would impact two *Freshwater* streams

Alternative 1

Alternative 1 would cross 60 streams in five watershed units, including Catfish Creek (-150), Buck Swamp (-050), Little Pee Dee River (-070), Lake Swamp (-080), and Brunson Swamp (-090). The Buck Swamp watershed unit would have the most crossings at 27, while the Alternative would not impact the Little Pee Dee River (-030) or Kingston Lake (-130) watershed units. (Table 3.53). Ten outstanding resource waters and 14 *Freshwater*s with specific standards would be crossed.

Alternative 1 would cross impaired sites for aquatic life twice, at Station PD-042 and Station PD-349, and it would cross an impaired site for recreational use once (Table 3.54, page 3-180). The

Table 3.53
Stream Crossings by Alternative
Interstate 73 EIS: I-95 to the Myrtle Beach Region

			Number of Stream Crossings							
			Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
Water Quality Classification	Freshwater		36	38	49	22	38	46	24	36
	Freshwater with Specific Standards		14	15	5	14	8	15	8	21
	Outstanding Resource Waters		10	10	4	9	10	4	9	10
[illegible]	Great Pee Dee River 03040201	Catfish Creek 150	9	0	9	17	9	0	17	0
		Little Pee Dee River [illegible]	0	8	0	0	0	8	0	8
		[illegible]	27	35	27	5	27	35	5	35
		Little Pee Dee River [illegible]	[illegible]	10	2	9	10	2	9	10
		[illegible]	[illegible]	[illegible]	17	1	7	17	7	1
		[illegible]	[illegible]	[illegible]	2	13	2	2	2	13
		[illegible]	0	14	1	0	1	1	1	0
[illegible]		[illegible]	[illegible]	68	58	45	56	65	41	67

Table 3.54
Impaired Stream Crossings* by Alternative
Interstate 73 EIS: I-95 to the Myrtle Beach Region

	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
PD-187 Aquatic Life Impairment/ DO				X			X	
PD-187 Recreational Use Impairment/ FC				X			X	
PD-320 Aquatic Life Impairment/ DO				X			X	
PD-320 Recreational Use Impairment/ FC				X			X	
PD-030 Aquatic Life Impairment/ DO		X				X		X
PD-030 Recreational Use Impairment/ FC						X		X
[illegible]						X		X
[illegible]						X		X
[illegible]			X			X		
[illegible]			X			X		
[illegible]	X	X		X	X		X	X
[illegible]	X			X				X
[illegible] (DO)	X	X	X		X	X		X

[illegible] dissolved oxygen
[illegible] coliform
Hg – Mercury
Cu – Copper
*Crossings within 5 miles of impaired site; List is based on 2004 303(d) List of impaired stations.

contributing factor at station PD-352 for impaired recreational use is high fecal coliform levels. The roadway is not expected to contribute to direct increases in fecal coliform levels in streams, based on the pollutant runoff model. Alternative 1 would cross 0.52 miles upstream of station PD-042, which is impaired for aquatic life due to high copper levels in the stream. According to the pollutant runoff model, no detectable amounts of copper would be entering into streams as a result of runoff from the roadway. Therefore, the roadway is not expected to contribute to direct increases in copper levels, nor should it contribute to further impairment in the streams. Alternative 1 would also cross within a five-mile distance of PD-349, which is impaired for aquatic life use 4.6 miles upstream of the station. Pollutants could flow into stream in this area, increasing the nutrient and organic carbon levels, and further reducing the levels of dissolved oxygen.

In terms of indirect impacts, Alternative 1 would be expected to have two impacts to outstanding resource waters, five impacts to *Freshwater* streams with specific standards, and 24 impacts to *Freshwater* streams due to induced development (Table 3.55). These impacts would be spread among five different watershed units, and be in addition to the stream impacts from the No-build Alternative.

Table 3.55
Streams Impacted by Predicted Development in the Project Study Area
Interstate 73 EIS: I-95 to the Myrtle Beach Region

		No-Build	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 8
Great Pee Dee River 03040[illegible]	Pee Dee River 120	33FW								
	Catfish Creek 150	9FW	9FW	6FW	8FW	10FW	9FW	4FW	10FW	6FW
	Pee Dee River 170	2FW								
Little Pee Dee River 03040204	Little Pee Dee River 030	3FW	7FW	8FW	3FW	7FW	4FW	5FW	3FW	6FW
	Buck Swamp 050	1FW	8FW	12FW	5FW	5FW	9FW	9FW	2FW	11FW
	Little Pee Dee River 070	12FW 4FW* 10RW	20RW	10RW		[illegible]				10RW
	Brunson Swamp 090	[illegible] 12FW*	5FW*	5FW	5FW	[illegible]	5FW*	5FW*	5FW*	5FW*
Waccamaw River/ AIWW 03040206	Waccamaw River 120	[illegible]								
	Kingston Lake 130	[illegible]		4FW			4FW	4FW	4FW	4FW
	Waccamaw River 140	2FW								

FW: *Freshwater*
FW*: *Freshwater* with specific standards [illegible]
ORW: Outstanding Resource Waters

Alternative 2

Alternative 2 would cross 63 streams in six different watershed units, including Little Pee Dee River (-030), Buck Swamp (-050), Little Pee Dee River (-070), Lake Swamp (-080), Brunson Swamp (-090), and Kingston Lake (-130). The most stream crossings would be in the Buck Swamp watershed unit at 35 (Table 3.53, page 3-179). This alternative would not cross the Catfish Creek watershed unit. There would be 10 stream crossings of outstanding resource waters and 15 crossings of *Freshwater*s with specific standards.

Alternative 2 would cross four impaired sites, two of which (PD-030 and PD-030A) are impaired for recreational use due to high fecal coliform levels (Table 3.54, page 3-180). Based on the pollutant runoff model, direct increases to fecal coliform levels would not be as a result of runoff from the roadway. Therefore, Alternative 2 is not likely to contribute to further impairment of Stations PD-030 and PD-030A for fecal coliform levels. Alternative 2 would also cross within five miles of Stations PD-030 and PD-349, which are impaired for aquatic life use due to low dissolved oxygen levels. The water quality at PD-030 may be further degraded as a result of the project given that any project-related pollutants would be entering the streams 1.24 miles upstream. Station PD-349 is located 4.6 miles downstream of the stream crossing; however, as stated in the prior paragraph, and nutrients and organic runoff from the project could further impact the water quality at this station. In addition, Alternative 2 would cross near Station PD-042, which is impaired for aquatic life due to high levels of copper, and Station PD-030A, which is under a fish consumption advisory due to high levels of mercury. Based on the pollutant runoff model, neither copper nor mercury was being discharged at detectable levels. Alternative 2 should not contribute to increased levels of these metals, or cause further impairments at the stations.

Alternative 2 would have indirect impacts to streams in six different watershed units (Table 3.55, page 3-181) due to projected induced development based on the land use model. Stream impacts would be to one outstanding resource water, five *Freshwater*s with specific standards, and 30 *Freshwater* streams.

Alternative 3

Alternative 3 would cross 58 streams in six different watershed units, including Catfish Creek (-150), Buck Swamp (-050), Little Pee Dee River (-070), Lake Swamp (-080), Brunson Swamp (-090), and Kingston Lake (-130). The most crossings would occur in the Buck Swamp watershed unit, while the second highest number of crossings would occur in the Lake Swamp watershed unit (Table 3.53, page 3-177). The Little Pee Dee River watershed unit (-030) would not be crossed by this alternative. The alternative would result in the lowest number of crossings of outstanding resource waters (four) and only five crossings of *Freshwater*s with specific standards.

Alternative 3 would cross within a five-mile distance of two impaired sites (Table 3.54, page 3-180). While Station PD-037 is impaired for both aquatic life and recreational uses, the station is upstream of where Alternative 3 crosses, and is not likely to further contribute to the impairment at the monitoring station. Alternative 3 would also cross within 4.6 miles upstream of Station PD-349, which is impaired

for aquatic life use due to low dissolved oxygen. Based on the pollutant runoff model, it is likely that nutrients could runoff into the crossing which may contribute to lower dissolved oxygen levels in the naturally blackwater stream.

Due to predicted induced development based on the land use model, Alternative 3 would indirectly impact streams in five different watershed units (Table 3.55, page 3-181). It is expected that five *Freshwaters* with specific standards and 19 *Freshwaters* would be impacted, in addition to the stream impacts from the No-build Alternative.

Alternative 4

Alternative 4 would cross 45 streams in five different watershed units, including Catfish Creek (-150), Buck Swamp (-050), Little Pee Dee River (-070), Lake Swamp (-080), and Brunson Swamp (-090) (Table 3.53, page 3-179). This alternative would not cross Little Pee Dee River (-030) or the Kingston Lake (-130) watershed units. The most crossings of an individual watershed unit would occur in the Catfish Creek watershed unit, with 17. Alternative 4 would cross nine outstanding resource waters and14 *Freshwaters* with specific standards.

Alternative 4 would cross within a five-mile distance of four impaired sites (Table 3.54, page 3-180). Stations PD-187, PD-320, and PD-352 are impaired for recreational use due to high fecal coliform levels. Based on the pollutant runoff model, it is not likely that direct increases to fecal coliform levels would be caused by the roadway. Alternative 4 would cross within a mile upstream of Station PD-042, which is impaired for aquatic life use due to high levels of copper. Detectable levels of copper are not likely to be from the runoff from the roadway, based on the pollutant runoff model. Therefore, it is not likely that runoff would contribute to or further impair this station due to high copper levels. Alternative 4 would also cross within 2.5 to 4 miles of Stations PD-187 and PD-320, both of which are impaired for aquatic life due to low dissolved oxygen levels. Runoff of nutrients is possible from the crossing, and may cause further impairment to water quality at these stations.

Alternative 4 would indirectly impact streams in five watershed units due to induced growth (Table 3.55, page 3-181). One impact to an outstanding resource water, five impacts to *Freshwaters* with specific standards, and 22 impacts to *Freshwater* would be expected based on the land use model, in addition to the stream impacts from the No-build Alternative.

Alternative 5

Alternative 5 would cross 56 streams over six watershed units, including Catfish Creek (-150), Buck Swamp (-050), Little Pee Dee River (-070), Lake Swamp (-080), Brunson Swamp (-090), and Kingston Lake (-130). The Buck Swamp watershed unit would have the most crossings at 27 (Table 3.53, page 3-179). This alternative would not cross the Little Pee Dee River (-030) watershed unit. In addition, the alternative would cross 10 outstanding resource waters and eight *Freshwaters* with specific standards.

Alternative 5 would cross within a five-mile distance of two impaired stations, both of which are impaired for aquatic life (Table 3.54, page 3-180). Alternative 5 would cross within a mile downstream

of Station PD-042, which is impaired due to its high levels of copper. Based on the pollutant runoff model, copper was not present in detectable levels to runoff into streams. Therefore, this crossing is not likely to further contribute to the high levels of copper at this monitoring station. Station PD-349, which is impaired due to low dissolved oxygen levels, would be located 4.6 miles downstream of the nearest crossing. Based on the pollutant runoff model, nutrients could wash into streams which may contribute to lowering dissolved oxygen levels further.

Indirect impacts would occur due to induced growth from Alternative 5 in five different watershed units (Table 3.55, page 3-181). Based on land use model projections, five *Freshwater* streams with specific standards and 26 *Freshwater* streams would be impacted due to induced development, in addition to the No-build Alternative.

Alternative 6

Alternative 6 would cross 65 streams over six different watershed units including Little Pee Dee River (-030), Buck Swamp (-050), Little Pee Dee River (-070), Lake Swamp (-080), Brunson Swamp (-090), and Kingston Lake (-130). This alternative does not cross Catfish Creek (-150) watershed unit (Table 3.53, page 3-179). The Buck Swamp watershed unit would have the most crossings at 36. This alternative would cross four outstanding resource waters and 15 *Freshwater*s with specific standards.

Alternative 6 would cross within a five-mile distance of four impaired stations (Table 3.54, page 3-180). Stations PD-030, PD-030A, and PD-037 are all impaired for recreational use due to high fecal coliform levels. Alternative 6 should not result in a direct increase of fecal coliform levels, based on the pollutant runoff model. Station PD-037 is impaired for aquatic life use due to low dissolved oxygen levels. However, Station PD-037 is located upstream of where the alternative is crossing; therefore, due to the stream direction flow, the roadway is not likely to further decrease the dissolved oxygen levels at this station. Alternative 6 would also cross 4.6 miles upstream of Station PD-349, and 1.24 miles upstream of Station PD-030, both of which are impaired for aquatic life due to low dissolved oxygen levels. The pollutant runoff model estimates that constituents such as nutrients would runoff into the stream, which could further lower the dissolved oxygen levels of the stream at the impaired stations. Alternative 6 would also cross over a mile away from Station PD-030A, which has a fish consumption advisory due to high levels of mercury. The pollutant runoff model estimated that no detectable amounts of mercury would result as runoff from the roadway. Therefore, the crossing is not likely to further contribute to the high mercury levels at this station.

Alternative 6 would indirectly impact streams in five different watershed units due to induced growth (Table 3.55, page 3-181). Five *Freshwater* streams with specific standards and 22 *Freshwater* streams are anticipated to be impacted based on projections from the land use model.

Alternative 7

Alternative 7 would cross a total of 41 streams over five watershed units, including Catfish Creek (-150), Buck Swamp (-050), Little Pee Dee River (-070), Lake Swamp (-080), Brunson Swamp (-090) with the most crossings occurring in the Catfish Creek watershed unit (Table 3.53, page 3-179).

Eight *Freshwaters* with specific standards and nine outstanding resource waters, would be crossed by this alternative.

Alternative 7 would cross within a five-mile distance of two impaired sites (PD-187 and PD-320), both of which are located on Smith Swamp (Table 3.54, page 3-180). The sites are impaired for recreational use due to high fecal coliform levels and are impaired for aquatic life use due to low dissolved oxygen levels. Based on the pollutant runoff model, the crossing, while upstream, is not likely to directly increase the amount of fecal coliform at these stations. The pollutant runoff model does estimate a certain amount of nutrients loading into the stream crossing, which may lower dissolved oxygen levels even further in this naturally blackwater system. However, due to the distance of these stations from the crossing being between 2.5 and 4 miles, dilution of these nutrients is likely over the distance and should not further contribute to the low dissolved oxygen levels at these sites.

Alternative 7 would indirectly impact five different watershed units due to induced growth, based on projections from the land use model (Table 3.55, page 3-181). Indirect impacts are expected to occur to five *Freshwater* streams with specific standards and 19 *Freshwater* streams, in addition to the impacts projected to occur under the No-build Alternative.

Alternative 8

Alternative 8 would cross 67 streams over five watershed units, and have the highest number of stream crossings (Table 3.53, page 3-179). Most crossings would occur in the Buck Swamp watershed unit (36 crossings). In addition, this alternative would cross 21 *Freshwaters* with specific standards, and 10 outstanding resource waters.

Alternative 8 would cross within a five-mile distance of five impaired sites (Table 3.54, page 3-180). Three sites, Stations PD-030, PD-030A, and PD-352, are all impaired for recreational use due to high fecal coliform levels. Based on the pollutant runoff model, fecal coliform levels are not likely to directly increase as a result of the roadway. Stations PD-030 and PD-349 are impaired for aquatic life use due to low dissolved oxygen levels. While the pollutant runoff does contain some nutrients, it is not anticipated that water quality at PD-030 would be further degraded as a result of the project given that any project related pollutants would be entering the streams 1.24 miles upstream and either utilized by aquatic organisms or diluted before passing through the station. Station PD-349 is located 4.6 miles downstream of the stream crossing; however, as stated in the prior paragraph, due to the distance of the crossing from the impaired station, any pollutant entering the stream would likely be used by aquatic organisms or become diluted prior to reaching the monitoring station, and would have minimal impact to the natural blackwater system. Alternative 8 would also cross within a five-mile distance of Stations PD-042, which is impaired for aquatic life due to high copper concentrations, and PD-030A, which has a fish consumption advisory due to high mercury levels. Based on the pollutant runoff model, copper and mercury were not found to occur in the runoff from roadways; therefore, it is not likely that the roadway would further contribute to the impairments of high levels of copper and mercury at these stations.

Indirect impacts would occur to six different watershed units as a result of induced growth from Alternative 8. Stream impacts are anticipated to occur to one outstanding resource water, five *Freshwater* streams with specific standards, and 27 *Freshwater* streams due to development projected by the land use model.

The number of ditches and streams were counted per alternative, since most of the projected growth is due to occur in upland areas that are drained by ditches. All alternatives had at least twice the number of ditches being crossed when compared to streams.

3.18.9 What best management practices and measures would be used to minimize the amount of runoff pollution into streams?

This project would be located in mainly rural areas, so the roadway design would consist of grassy swales and vegetated slopes on the sides of the pavement which would filter pollutants from the runoff. The runoff would be collected in grassy ditches, and as it moves through the ditches it would continue to be filtered prior to entering streams. Retention ponds would be in place in some areas to allow pollutants to settle prior to entering streams. These best management practices, along with those found in the SCDOT and FHWA guidelines,[109] would be used during design and construction to minimize the amount of runoff pollution from streams.

This project was designed to minimize impacts to wetlands in the project study area (for more information, please see the Wetlands Section, 3.16). Wetlands provide a natural function of filtering pollutants from waters before they enter stream systems. By preserving wetlands, additional areas of filtration would be in place for highway runoff prior to it entering streams.

The feasibility of using a closed drainage system where runoff would be piped from bridges was analyzed for the project. The four largest bridges among the alternatives (Lake Swamp crossing, Buck Swamp crossing, and both Little Pee Dee River crossings) were used for analysis. It was determined that the bridges are flat, without much arcing, and have low points within the structures. Since the drainage system would be closed, regular routine maintenance would be required to clean out the drainage system structures and ensure they are working properly. The amount of pollutant estimated from the pollutant runoff model was for the entire length of the project, approximately 44 to 48 miles depending on alternative. The pollutant load on bridges would be a small fraction of what was estimated for the entire length of the roadway. The pollutant washing off bridges would enter into streams untreated if closed drainage systems were not installed. Due to the cost and maintenance of the closed drainage systems, along with the complex design of the systems so that they would drain, it can be concluded that closed drainage systems would not be cost-effective.

[109] South Carolina Highway Department Standard Specifications for Highway Construction.

Table 3.60 (continued)
State Listed Rare, Threatened, and Endangered Species
Known to Occur in Dillon, Horry, and Marion Counties, S.C.
Interstate 73 EIS: I-95 to the Myrtle Beach Region

[illegible]	[illegible]	[illegible]	[illegible] streams [illegible], in [illegible] banks of [illegible] ent [illegible]	Horry
[illegible]	[illegible]	[illegible]	[illegible] ls in [illegible] ponds, [illegible] row-pits, [illegible] In our area, it [illegible] under *Pinus* [illegible] *stris*, and/or [illegible] *ascendens*.	Horry
Sporobolus teretifolius	[illegible]	[illegible]	Perman[illegible] to wet savannas on essen[illegible] rain underlain by a cl[illegible] The open canopy is comp[illegible] and/or longleaf pine w[illegible] locally dense shrub pa[illegible] Also found in ecotones bet[illegible] pine/oak/wi[illegible] uplands and red maple-sw[illegible] swamp tupelo [illegible]	Horry
Stylisma pickeringii var. *pickeringii*	[illegible]	S1	Coarse, white [illegible] sandhills or in other dry [illegible] ndy woods with sparse [illegible] scant litter accumulation [illegible] canopy cover	[illegible]
Animals				
Corynorhinus rafinesqui	[illegible] big-eared [illegible]	S2?	Dilapid[illegible] and [illegible]	[illegible]
Corynorhi[illegible] townsend[illegible]	[illegible] big-eared [illegible]	S1	Li[illegible]	[illegible]
Fundulus diaphanus	[illegible] killifish	S1	[illegible] stain[illegible] an[illegible] bott[illegible] emer[illegible]	[illegible]

Notes:
S1 = Critical[illegible] statewide because of extreme ra[illegible] especially vuln[illegible] irpation.
S2 = Imperiled [illegible] because of rarity or factor(s) [illegible]

Table 3.61
Potential Wildlife Habitat Impacts in Acres
Interstate73: I-95 to Myrtle Beach Region

	Alternatives								
	1	2	3	4	5	6	7	8
Total Wetland Area	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Natural Uplands	33.4	513.9	[illegible]	[illegible]	[illegible]	175.9	439.9	[illegible]
Total Habitat Impacts	[illegible]	957.5	[illegible]	[illegible]	[illegible]	[illegible]	932.1	1,011.4

Source: [illegible] ELPA GROUP INCORPORATED [illegible]

As indicated in Table 3.61, Alternative 3 would impact the least amount of potential wildlife habitat followed impact by Alternatives 6, 5, 7, 1, 2, 4, and 8, in ascending order of impacts. This ranking is based on the total amount of potential habitat available along the alternative corridors and does not take into consideration poor quality habitats such as isolated woodlots surrounded by agricultural fields or housing developments. However, these poorer quality areas do provide refuge and nesting habitat for some species of birds, mammals, reptiles, and amphibians.

As described in Section 3.17 of this document, all of the Build Alternatives would cross Back Swamp and the Little Pee Dee River. The crossings of Alternatives 1, 2, 4, 5, 7, and 8 would be located at the existing U.S. Route 501 crossing. Although a portion of I-73 would be situated in the median of U.S. Route 501, where it would cross Back Swamp the mainline of the roadway and associated access ramps, and the shift to avoid impacts to Galivants Ferry Historic District, would contribute to fragmentation of riparian habitats. Alternatives 3 and 6 would cross Back Swamp and the Little Pee Dee River immediately adjacent to the existing S.C. Route 917 crossing and would not contribute to habitat fragmentation. Because of the extent of bridges that would be constructed over the wetland and aquatic habitats at each of these crossings, terrestrial species would have unobstructed passage along the corridors.

Alternatives 2 and 6 would cross Buck Swamp and Lake Swamp on new alignment. Alternative 3 would cross Lake Swamp and Alternative 8 would cross Buck Swamp. Although these crossings of riparian habitat on new alignment would be on structure, they could contribute to riparian habitat fragmentation.

Potential impacts to wildlife could be minimized by the appropriate timing of construction activities to avoid fish breeding periods, bridging suitable aquatic spawning and feeding areas where feasible, and limiting clearing outside the fill limits. Although the project would reduce the amount of available wildlife habitat, large undeveloped tracts and potential wildlife corridors remain along streams within the project study area.

3.22.1 What indirect and cumulative impacts would occur to wildlife?

Indirect impacts to wildlife could occur due to the loss of habitat associated with development that would occur as the result of the construction of the Build Alternatives and the No-build Alternative. Table 3.62

Table 3.62
Potential Indirect Wildlife Habitat Impacts in Acres
Interstate73: I-95 to the Myrtle Beach Region

	[illegible]								
	[illegible]	[illegible]	[illegible]	4	5	[illegible]	7	[illegible]	No-build
[illegible]	[illegible]	[illegible]	[illegible]	272.1	[illegible]	[illegible]	[illegible]	280.7	218.7
[illegible]	[illegible]	1,025.6	[illegible]	1,059.7	[illegible]	[illegible]	[illegible]	[illegible]	887.8
[illegible]	[illegible]	[illegible]	[illegible]	1,331.8	[illegible]	[illegible]	[illegible]	1,357.2	1,106.5

[illegible] LPA GROUP INCORPORATED, 2006.

provides potential indirect impacts to wildlife habitat associated with each alternative based on the predictions of the land use models.

As shown in Table 3.62, the potential indirect impacts to wildlife habitat would be basically the same for all the Build Alternatives. The difference between the lowest impact, Alternative 2, and the highest impact to wildlife habitat, Alternative 5, would be approximately 73 acres. The No-build Alternative would have less indirect impacts. However the difference in habitat impacts between the No-build Alternative and the lowest Build Alternative, Alternative 5, would be less than 200 acres.

Based on the results of the land use models, most of the projected development would occur in the fragmented forested upland areas with some impacts to fragmented wetland habitats (see Sections 3.16 and 3.17). Many amphibian species rely on seasonally wet depressions, located in uplands, for breeding and development. Often times these wetland depressions are considered "isolated" and would not be protected by state and federal regulations, therefore could be more vulnerable to habitat loss. Impacts to the riparian wetland and upland habitats are anticipated to occur along the edges of the systems with the highest potential for upland habitat loss because of the protection provided by the Section 404 permit process. These impacts could restrict the movement of terrestrial wildlife species along the forested corridors and would result in the loss of nesting and foraging habitat for migratory birds.

Cumulative impacts to wildlife species could occur regardless of the alternative that is selected as the Preferred Alternative. The Horry County population of black bears appears to have the highest density south of Conway as indicated by automobile/bear collision data obtained from SCDNR. All of the collisions within the I-73 project study area have occurred south of Conway. Several of these occurred along S.C. Route 22 and it is anticipated that increased traffic on this roadway could increase the number of automobile/bear collisions. Additionally, as the area between Conway and the Atlantic Intracoastal Waterway continues to develop, bear habitat would be lost and/or fragmented. The increased traffic on S.C. Route 22 could result in an increase in the number of collisions with other species, such as white tailed deer and raccoons.

SCDNR's Little Pee Dee Heritage Preserve would offer protection for a portion of the riparian habitats. However, there are gaps between preserves that have no protection other than the Section 404 permit and mitigation process. Other Heritage Preserves, State Parks, and natural areas are present in the project study area; however, isolated "islands" of habitat are less than ideal for supporting healthy wildlife populations.

Another potential for cumulative impacts to birds would result from the construction of cell towers along I-73. Studies indicate that migratory birds frequently collide with lighted cell and radio towers that are greater than 200 feet in height when flying at night and during inclement weather when visibility is hindered. It is likely that towers would be constructed along the Preferred Alternative; however there is no way to predict at this point how tall the towers would be.

Cumulative impacts associated with the introduction of nonnative invasive plant species could occur as a result of the project. Highways tend to serve as conduits for the spread of invasive plant species which out-compete native species and eventually dominate a habitat. Once these plants become established at one location along a roadway, they can spread into surrounding woodlands and along the length of the roadway, and the plants continue to spread long after the road construction is complete. Invasive plant species can be introduced and spread in a variety of ways during road construction. One common source for the introduction of seeds or plants that root easily is from the construction equipment itself. Construction equipment that has not been properly washed-off to remove seeds and plant material before leaving the previous construction site is an invasive plant vector. Additionally, the spread of invasive plants that already occur at the road construction site is possible when topsoil is stripped at home sites where invasive species, such as Chinese privet, were used as ornamental plants. The top soil is generally stockpiled, since it is not suitable for construction purposes, and used as top-dressing for shoulders and medians. Dormant seeds, and roots and tubers in the soil could then be spread along the new roadway. FHWA and SCDOT best management practices would be implemented to reduce the likelihood of the spread of non-native invasive plant species along the Preferred Alternative.

3.22 Would Wild and Scenic Rivers be impacted by the alternatives?

Wild and Scenic Rivers are rivers and streams that are federally-protected under the Wild and Scenic Rivers Act for their scenic, cultural, historic, recreational, wildlife, geologic or other values. The USDA (through the U.S. Forest Service) and the U.S. Department of Interior (through the USFWS, Bureau of Land Management, and National Park Service) maintain the National Inventory of Rivers which are designated or may be eligible for wild and scenic rivers designation. The National Inventory of Rivers did not contain any listed or eligible rivers within the project study area; therefore, no impacts to federal Wild and Scenic Rivers would occur.[119]

In South Carolina, rivers may also be protected under the South Carolina Scenic Rivers Act of 1989 for their scenic, cultural, historic, recreational, botanical, geologic, or wildlife values. The SCDNR's South Carolina Scenic Rivers Program website identified portions of the Little Pee Dee River as a state scenic river (Figure 3-36, page 3-139). The Little Pee Dee River has two designated areas. A fourteen-mile stretch located from

[119] National Park Service Wild and Scenic Rivers Website, http://www.nps.gov/rivers/wildriverslist.html#ga_nc_sc(last accessed March 3, 2006).

U.S. Route 378 to the Little Pee Dee River's confluence with the Great Pee Dee River has been designated.[120] The other area is a 48-mile section located in Dillon County between the Marlboro County line and the Marion County line.[121] The potential alternatives cross the Little Pee Dee River outside the limits of the South Carolina Scenic Rivers-designated areas of the Little Pee Dee River. Therefore, designated areas of rivers listed under the South Carolina Scenic Rivers Act of 1989 would not be impacted by the proposed alternatives.

3.23 What resources are expected to be affected uniformly?

3.23.1 Coastal Zone Resources

Who protects the coastal zone?

The *Coastal Zone Management Act of 1972,* as amended, requires that projects within the coastal zone comply, to the maximum extent practicable, with approved state coastal management programs.[122] The South Carolina Coastal Zone Management Act gives SCDHEC-OCRM the authority to promote the economic and social welfare of the citizens, while protecting the sensitive and fragile areas of the coast. SCDHEC-OCRM has direct permitting authority over development in the critical areas of the coastal zone, which includes coastal waters, tidelands, beaches, and the oceanfront beach/dune system (Figure 3-38, page 3-209). In addition, SCDHEC-OCRM reviews and certifies all state/federal permit applications and activities, as well as issues state stormwater and sediment reduction permits within the coastal zone counties.[123]

Where is the coastal zone?

The coastal zone of South Carolina encompasses coastal waters and submerged areas seaward to the state's jurisdictional line (Figure 3-38, page 3-209). Lands and waters of the eight coastal counties, which include Beaufort, Berkeley, Charleston, Colleton, Dorchester, Georgetown, Horry and Jasper are also within the coastal zone of South Carolina. Horry County is the only coastal county within the project study area.

The South Carolina Coastal Management Plan[124] lists the following twelve Geographical Areas of Particular Concern that should be avoided during development, when possible:

- Heritage Trust Program Preserves;
- State Wildlife Preserves;
- State Parks;
- Scenic Rivers;

[120] *Ibid.*
[121] South Carolina General Assembly Website, http://www.scstatehouse.net/sess116_2005-2006/bills/3782.htm (last accessed March 3, 2006).
[122] 16 U.S.C. §1456(c)
[123] South Carolina Department of Health and Environmental Control Website, http://www.scdhec.gov/environment/ocrm/regs/enforcement.htm, accessed 10/5/05
[124] Policies and Procedures of the South Carolina Coastal Management Program Website, http://www.scdhec.gov/environment/ocrm/regs/docs/CZMP95.pdf, accessed 02/24/06

- Marine and Estuarine Sanctuaries;
- Shellfish Areas;
- Ground Water Resources;
- Threatened or Endangered Species Habitats;
- Navigation Channels;
- State Ports;
- Mining Operations; and,
- Areas of Special Historic, Archeological or Cultural Significance.

The South Carolina Coastal Management Plan recommends that consideration be given to the enhancement and protection of scenic vistas and preservation of unique tree canopies and natural areas along the roadway projects. In addition, it also encourages the study of mass transit alternatives in urban areas and a comprehensive study of the potential for secondary growth inducement from new road construction.

What direct impacts would occur to the coastal zone as a result of this project?

This project would not impact any critical areas of the coastal zone since these areas are mostly located along the coastline in the project study area, while the project would be constructed further inland. Geographical Areas of Concern may be impacted by this project. SCDHEC-OCRM, as an ACT member, took part in alternative development and efforts were made to adhere to the policies and recommendations of the South Carolina Coastal Management Plan. In addition, Geographical Areas of Concern that were within the project study area were designated as constraints and avoided to the extent possible during alternative development.

SCDHEC-OCRM will issue permits and will review and certify the permits to be issued by the USACE within Horry County, based on their guidelines for certification of highway projects. The guidelines include recommendations and policies to minimize impacts to wetlands, navigable waters, hydrologic characteristics of streams, and barrier islands.

What indirect and cumulative impacts are anticipated to occur to the coastal zone?

Horry County has experienced substantial growth and change over the last 40 years. However, the vast majority of that growth and development has occurred in the immediate coastal areas of Horry County, which are beyond the boundary of the project study area (refer to Chapter 1). According to the Horry County Comprehensive Plan, substantial development is anticipated to occur in land surrounding the City of Conway and an area extending from the coastline inward approximately eight to ten miles (Figure 3-38). The No-build development pattern has been estimated, based upon existing growth trends. This shows substantial development in Horry County.

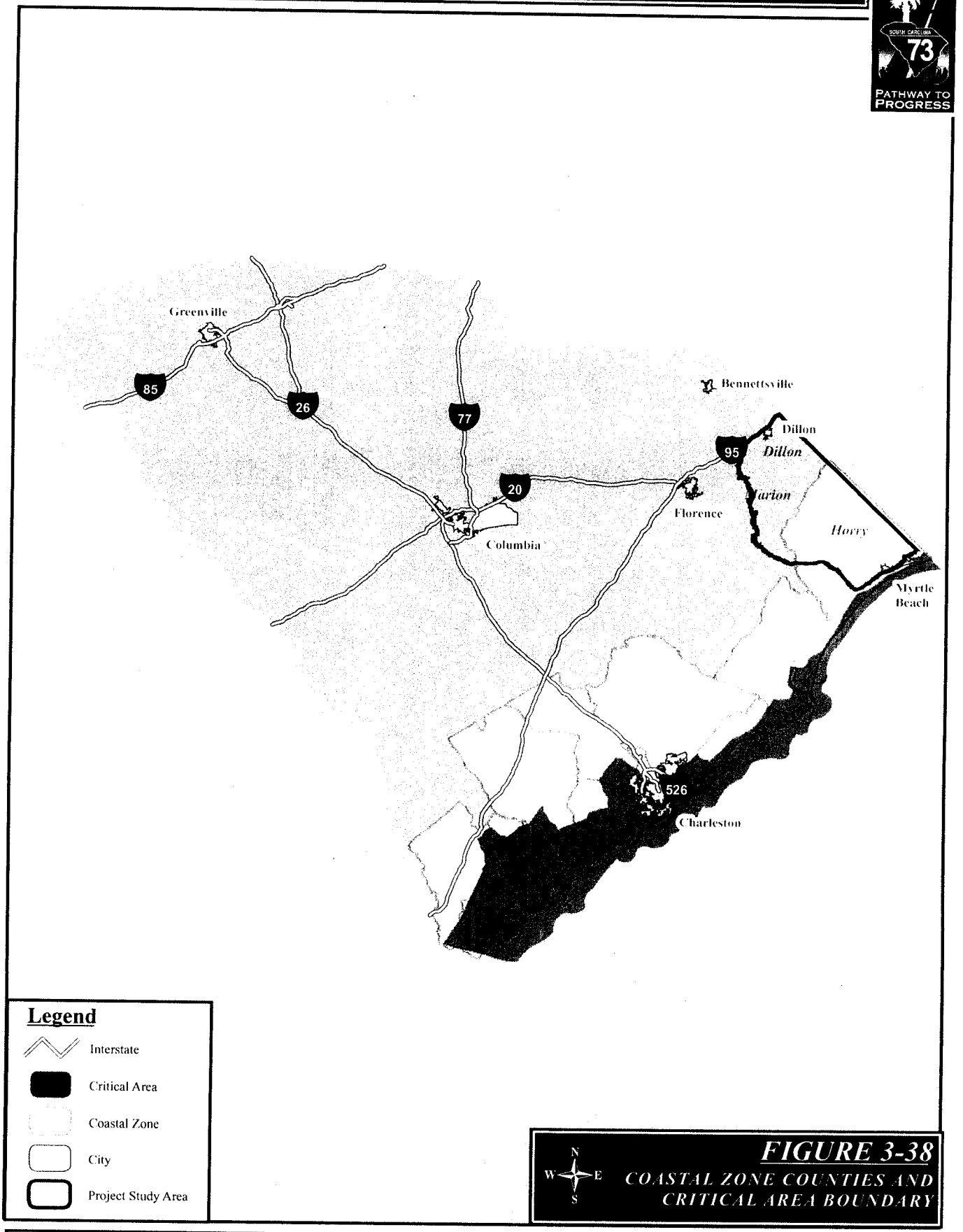


FIGURE 3-38
COASTAL ZONE COUNTIES AND CRITICAL AREA BOUNDARY

3.23.2 Would there be any Coastal Barriers impacted by the project?

Under the Coastal Barrier Resource Act of 1982, agencies are prohibited from using federal funds that would impact undeveloped coastal barrier units in the Coastal Barrier Resource System. No coastal barriers exist in the project study area; therefore, no impacts are anticipated to this resource.

3.23.3 Energy

Transportation accounts for 27.7 percent of both direct and indirect energy consumption in the United States.[125] Direct consumption includes energy that is consumed by vehicles traveling on the roadways, while indirect energy consumption refers to the energy consumed during the construction and maintenance of a new facility. Energy consumption for vehicle operation and facility maintenance represents long-term energy impacts while construction energy is typically a large one-time energy expenditure.

What energy consumption would occur during construction of the project?

Construction of the proposed project would initially require the consumption of energy and resources that would not be used if the project were not built. Completion of the facility, however, would more than compensate for the energy lost during construction by increasing the efficiency of automotive traffic through the area. While construction would use energy resources for a short timeframe, the savings would be realized over the life of the facility. The primary categories of energy consumption during construction are:

- excavation of rock and soil, and the transport and compaction of roadway embankment materials;
- manufacture, transport, and utilization of various construction materials (aggregate, concrete, street, etc.); and,
- manufacture, transport and installation of various manufactured items (guard rail, signs, lighting, etc.).

In general, the amount of expended energy during construction would be a function of construction cost.

What energy consumption would occur as a result of the operation of the project?

Additional energy would be expended throughout the operational life of a transportation facility, mostly for vehicular travel in the form of fuel. Other lesser, but accumulative, energy uses include tires, oil, and miscellaneous vehicular maintenance items. Energy consumption due to travel would be directly proportional to project usage. In addition, roadway maintenance would require an ongoing expenditure of energy in the form of maintenance materials and the fuel required for roadway, bridge, and drainage repairs. In general, energy consumption for maintenance would be relatively constant and independent of project usage.

An estimate of change in VMT was made regarding potential impact with and without the proposed alternatives based on the project travel demand model. By comparing change in VMT in the build conditions from comparable estimates for the No-build Alternative, it is possible to derive percent change in VMT for

[125] Energy Information Administration. Official Energy Statistics from the U.S. Government. http://www.eia.doe.gov/basics/energybasics101.html last accessed April 23, 2006.

motorists throughout the proposed project study area. In reviewing the proposed alternatives, it was found that there would be a total net decrease in energy consumption statewide of 0.22 percent in the design year 2030.

What is the conservation potential of the project?

Energy conservation would come from one or more of the following factors:

- reduced vehicle-miles of travel;
- more efficient vehicle operation speeds;
- reduced accident potential;
- reduced construction effort; and
- reduced traffic volume on existing area roadways.

3.24 What permits could be necessary in order to construct the alternatives?

3.24.1 Section 404 of the Clean Water Act

The USACE is authorized under Section 404 of the Clean Water Act to issue permits for the placement of dredged or fill material in waters of the United States, including jurisdictional wetlands. Jurisdictional wetlands exist onsite and would be delineated according to the *1987 Corps of Engineers Wetlands Delineation Manual*.[126] Impacts to waters of the United States and jurisdictional wetlands will be quantified and will require USACE authorization under Section 404.

3.24.2 Section 401 Water Quality

Applicants for state and federal permits for projects that would result in a discharge to wetlands and waters of the United States must obtain a Section 401 Water Quality Certification from SCDHEC. It involves a review of the proposed project and analyzes its potential impact to water quality. This review is performed to ensure that any discharge into jurisdictional areas is in accordance with State water quality standards.

3.24.3 Coastal Zone Consistency Certification

Section 307(C) of the *Coastal Zone Management Act of 1972* requires that development projects in the coastal zone comply to the maximum extent practicable with approved state coastal management programs. SCDHEC-OCRM is the federally-approved coastal management authority in South Carolina. Horry County is one of eight counties in South Carolina that are subject to coastal zone regulations. Any project located within the coastal zone that requires a state and/or federal permit must be certified by SCDHEC-OCRM that the proposed project is consistent with the policies of the coastal zone management program.

[126] U.S. Army Engineer Waterways Experiment Station Environmental Laboratory, *Corps of Engineers Wetlands Delineation Manual* (1987), Technical Report Y-87-1.

3.24.4 Stormwater Management and Sediment Reduction Act of 1991

The *Stormwater and Sediment Reduction Act of 1991* applies to any land disturbing activity over two acres. The regulation was implemented to reduce the adverse effects of stormwater and sediment run-off and requires completion of a site plan illustrating controls. The application must be sealed by a Professional Engineer to obtain the permit.

The SCDHEC Bureau of Water acts as the administrator, but the regulation of the program is delegated to SCDHEC-OCRM in the eight coastal counties. Written authorization from SCDHEC-OCRM is required before any land disturbance can take place.

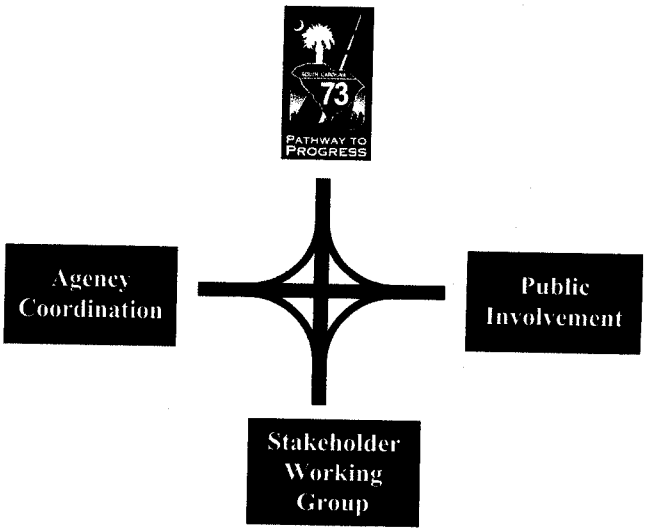
3.25.5 Section 9 and Section 10 of the Rivers and Harbors Act of 1899

Section 9 of the Rivers and Harbors Act of 1899 regulates obstruction of navigable waters by bridges and causeways. The authority granted to the USACE to issue permits for the construction of bridges over, and causeways in, navigable waters for Section 9, was transferred to the USCG by the U.S. Department of Transportation Act of 1966. Bridge construction over navigable waters would require a USCG Section 9 permit. The vertical and horizontal clearances of the structures that would be constructed over the Little Pee Dee River would match the exiting bridges, at a minimum, and a permit would not be required. However, coordination with the USCG may be required.

Section 10 of the Rivers and Harbors Act of 1899 authorizes the Secretary of the Army, acting through the Chief of Engineers and administered by the USACE, to issue permits for activities which affect the navigable waters of the United States. The Act prohibits unauthorized obstruction or alteration of any navigable waters of the United States; the construction of any structure in or over any navigable water of the United States; the excavation from, or deposition of material in, such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of such waters is unlawful unless permitted by the USACE. Placing permanent fill material into navigable waters during the construction of bridges would require a USACE Section 10 permit.

CHAPTER 4. AGENCY COORDINATION AND PUBLIC INVOLVEMENT

The FHWA and SCDOT developed a three-tiered approach for involvement, which included agency involvement through the formation of the ACT, special interest and local involvement through the Stakeholder Working Group, and public input through meetings, mailings, a website, and the public information hotline. The public, agencies, and other interests (such as local and county organizations) had unprecedented project involvement through this process.



4.1 Public Involvement

4.1.1 How was the public engaged in the project?

The public has been involved extensively throughout the project. Several public meetings were held. The meetings included scoping meetings and information meetings:

- Public Scoping Meeting - September 18, 2004;
- Public Scoping Meeting - September 21, 2004;
- Public Information Meeting - March 8, 2005;
- Public Information Meeting - March 10, 2005;
- Public Information Meeting - March 22, 2005; and,
- Public Information Meeting - May 3, 2005.

A telephone hotline and a website have been available since June 2004 for the public to view information and comment on the project. Community information meetings were also held throughout the project study area in an effort to reach out to minority populations and other community groups.

4.1.2 What happened at the Public Scoping Meetings?

Public scoping meetings were held to gather comments and input from the communities during the early stages of the project. The meetings allowed the public to provide input on issues and resources that could be considered during alternative development. There were two public scoping meetings for the project. The first meeting was held in Mullins, South Carolina at the Marion County Vocational Education Center on September 18, 2004. At the meeting, FHWA and SCDOT were available to explain the project and

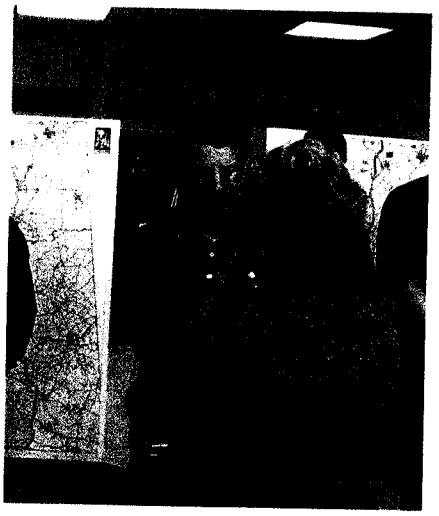
answer questions. There were four stations set up in the room, which included maps of the project study area, the purpose and need for the project, an area to specifically record the issues and concerns with the project, and maps showing constraints (such as wetlands and historic resources) that were known in the project study area. A total of 152 people attended, with 146 individuals filling out issue and comment sheets. Each person attending the meeting was requested to complete an "Issues Survey" that asked the public questions about how they felt about the project. They were also given a "Comment Card" to fill out information about the overall quality of the meeting and provide demographic information (see *Community Information Analysis Technical Memorandum*).

The second meeting on September 21, 2004 at Conway High School in Horry County was set up in the same format. One-hundred and fifty people attended this meeting, and 105 people completed the issue surveys and comment cards.

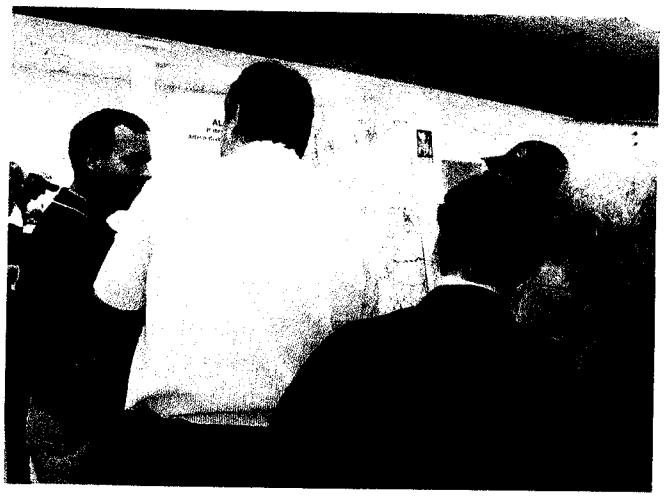
In total, 72 percent of the respondents who completed the issue surveys and comment cards at the scoping meetings supported the construction of I-73. Only six percent were against the construction, while the remainder were undecided (eight percent) or did not provide an answer (14 percent). By far, the highest percentage of people viewed the interstate's potential to provide a positive impact on the economy through job creation, as the most important issue. Other issues that were important to the respondents were the provision of improved transportation connections and the potential reduction in travel time during hurricane evacuations. Minimizing impacts to natural and historic resources was also important to the respondents, but was not as high of a priority as the economy, transportation connections, and hurricane evacuation.

4.1.3 What took place at the Public Information Meetings?

Once preliminary corridors referred to as "Potential Alternative Corridors" were developed, another series of public meetings was held to provide information and seek public input on the potential corridors. A public information meeting was held in each of the three counties in the project study area. Comment forms were distributed and could be returned at the meeting or via mail. The first meeting was at Dillon County High School on March 8, 2005. At this meeting, 141 people attended and 22 left comments during the meeting. The comments included concerns about alignments, in relation to using existing routes, in terms of access to businesses and residences along the road, and relieving traffic congestion. Some of the other respondents stated that they would like the interstate to be constructed as soon as possible. Others felt the project was good because it was needed in economically distressed areas. Respondents were also concerned about dividing family farms and the impacts to prime and unique farmland in the project study area.

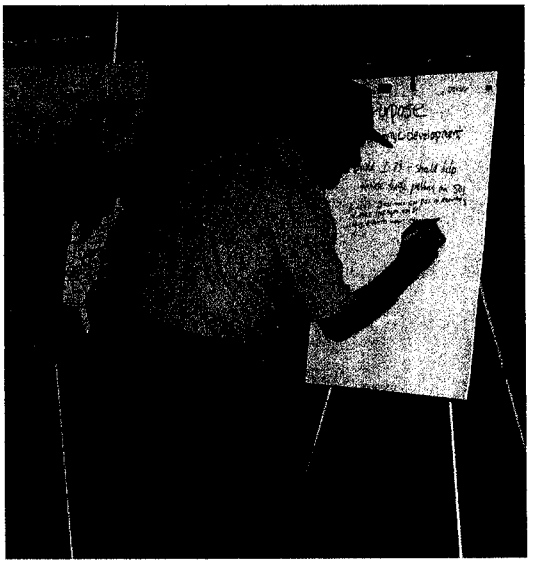


On March 10, 2005 a second public information meeting was held at Myrtle Beach High School in Horry County. A total of 235 people attended and 49 left comments at the meeting. The use of U.S. Route 501 was favored by some respondents and opposed by others. Those who were in favor of using U.S. Route 501 felt it would be the least destructive because it was already constructed and the right-of-ways were already in place. In addition, they felt that road impacts to local businesses and residences are already occurring, so there would be no major increase of impacts. Other respondents opposed the use of U.S. Route 501 because it was already congested and favored a new road, so that U.S. Route 501 would be primarily left for local traffic use. Respondents also opposed the use of U.S. Route 501 because construction would take longer, and there would not be an additional evacuation route or major highway to and from the Myrtle Beach region. Respondents were also concerned with loss of residences, historic sites, wetlands, and family farms. Most wanted the interstate to avoid small communities and towns such as Aynor, Cool Spring, Ketchuptown, and Galivants Ferry. In general, some felt that the interstate was needed and believed it was a tremendous asset and addition to the community. Respondents suggested that the multimodal planning element of the project be removed to reduce the right-of-way necessary. There were also suggestions to make it a six-lane road with tollbooths and to locate the interstate farther to the south.



The third public information meeting took place at Aynor High School on March 22, 2005. Six-hundred and twenty people attended this meeting, and 194 of them submitted a comment form. The general sentiment from the public who commented was to avoid Aynor as much as possible. Many comments showed the public was concerned with the potential impacts of I-73 and how it would affect their culture and way of life. Approximately 40 comments were against relocating or having their farms split due to the project. Many suggested moving either north or south of Aynor. Forty-five comments wanted the road located south of Aynor and crossing the Little Pee Dee River at Gunter's Island because the respondents believed it would be less populated and would impact less people. Five comments were against a more southern route because of environmental concerns. Sixty-five comments suggested looking at more northern corridors such as S.C. Route 9. Some people were in favor of using U.S. Route 501 because it would minimize impacts to people and the environment where it was already in place. Others were against using U.S. Route 501 because the road was already congested and an additional route would provide more relief for traffic congestion.

The fourth public information meeting took place at Marion County Vocational Education Center on May 3, 2005. A total of 263 people attended this meeting, and 39 people left comments. Most comments were opposed to alignments in close proximity to their homes. Many were in favor of the interstate based on the hope it would enhance economic development, help attract new businesses, and alleviate high unemployment rates in Marion and Dillon Counties. Some wanted to see the project avoid farms, historic homes, and churches. Other respondents would rather their property be taken by the road than to live beside the interstate. Some respondents felt that U.S. Route 501 should be used because it is an existing route and would potentially have lower impacts. Others suggested looking at S.C. Route 9 or S.C. Route 38 for a possible route in that area. Comments also suggested a more southern route to the beach because they believed that it would be more logical and reduce impacts. Several comments suggested the route follow existing corridors to minimize impacts and protect rare and high-quality plant communities. Some respondents felt that swampy areas should be taken instead of farms and homes. A few respondents also brought up the idea of having frontage roads on one side and to make sure that the crossing at the Little Pee Dee River was wide enough that future widening would not be needed immediately.



A total of 1,259 people attended the public scoping and information meetings while 1,023 comment cards were received based on these meetings. Comments varied from support for the project because of its potential for bringing in new businesses and creating job growth to opposition due to the concerns of splitting family farms and disrupting community cohesion.

4.1.4 How were local governments involved?

The SCDOT has had extensive communication with many federal, state, county, and local elected officials throughout this project. In order to assist these elected officials, the Project Team has performed a variety of activities to provide information and answers to these officials. The Project Team has endeavored to provide periodic project information and updates to elected officials.

Comments received included correspondence from Dillon County indicating they prefered an alignment that would pass closest to the City of Dillon (refer to letters from Dillon County Council, dated February 28, 2006, Dillon County Development Board, dated March 1, 2006, and the tri-county Gateway Industrial Park Board, dated March 1, 2006, Appendix B). The Marion County Administrator, in two letters dated March 6, 2006, and March 27, 2006, (refer to Appendix B) requested consideration for the County's proposed "inland port" when considering the routing of I-73. The routes that start farther south on I-95 are in closer proximity to this proposed project. Marion County Council, in a resolution dated March

14, 2006, specifically requested "that the I-73 Committee review any and all possible plans for construction of I-73 which would reduce the impact to the Temperance Hill Community of Marion County." (refer to resolution in Appendix B).

Horry County in a letter dated March 13, 2006, (refer to letter in Appendix B) reported a unanimous vote against the route that crossed at Galivants Ferry and extended southeast along U.S. Route 501 through Aynor. The Town of Aynor voted unanimously (refer to letter dated March 21, 2006, in Appendix B) to oppose the route that would be constructed along existing U.S. Route 501 at Galivants Ferry and through Aynor. Letters were also received from the Horry County School Administration (refer to letters dated April 6, 2005, April 12, 2005 and January 27, 2006, Appendix B) that expressed opposition to the segment that would go through Aynor along U.S. Route 501 and requested consideration of the school attendance zone boundary when designating a corridor for I-73 . Comments received at the public information meetings included those from a large number from people opposing this route. The SCDNR and USFWS also expressed opposition to this segment.

A total of six petitions have been received for the proposed project. The Temperance Hill community has objected to the alternatives that would come in close proximity to their community (refer to two petitions from Temperance Hill community; one, from Ebenezer Southern Methodist Church, dated March 28, 2005, signed by 43 people and a second, signed by 161 people dated February 27, 2006, in the *Public Involvement Technical Memorandum*). A petition signed by 229 residents opposing alternative alignments that went thorugh their community was received from the Bluff Road/Penderboro Community. Consideration of the school attendance zone boundary when designating a corridor for I-73 was requested in a petition signed by over 900 citizens of Horry County (refer to letter dated January 16, 2006 that came with an attached petition, Appendix B and *Public Involvement Technical Memorandum*). A petition signed by 258 people was received from the "residents living in the Northern Potential Corridor of the Southern Project" requesting that I-73 not be routed through the northern corridor from I-95. The Citizens of the Southern Route, comprised of residents of the Latta area, submitted a petition dated March 20, 2006, with 20 signatures (refer to *Public Involvement Technical Memorandum*) requesting that this route, the southern route, not be used and that a northern route for I-73 be chosen.

4.1.5 How did the FHWA and SCDOT reach out to communities?

Communities were engaged throughout the public involvement process. In addition, the Community Impact Assessment (CIA) process was implemented to better understand the communities and to collect their opinions and comments on the proposed project. Several methods of community outreach were used in the project study area based on preliminary community information, including demographic characteristics. The CIA process was customized to each county and/or community based on their specific needs. A letter mailed to members of the Stakeholder Working Group to initiate the CIA, explained the process and offered an opportunity to participate. Surveys were also distributed throughout the project study area in various outreach methods discussed below. A total of 6,488 surveys were distributed in communities throughout the project study area and 989 were received.

How was Horry County included in the CIA process?

Based on Horry County's active participation in the public involvement process prior to the CIA, intensive outreach techniques were determined to be more effective in other areas to collect community information and opinions. Surveys were mailed to residents within the two zip codes that encompassed the portion of Horry County located in the project study area. In total 4,372 surveys were mailed that requested information about community characteristics and comments on the project (refer to Community Impact Analysis Technical Memorandum for sample survey).

Packets were also developed for fifth grade students at Aynor Elementary School in order to discuss the project with their parents (refer to *Community Impact Analysis Technical Memorandum* for sample survey). A total of 90 students received survey packets that were customized for the Aynor area, which included a map that focused on the surrounding community. No surveys were received back from this distribution.

How were Dillon and Marion Counties included in the CIA process?

Review of the census data showed large concentrations of minority and low-income populations within Dillon and Marion Counties. Community outreach techniques were developed to target these historically underserved populations.

A minority liaison was designated to work in coordination with local ministers to provide information about the project and receive input, guidance, and assistance in identifying other local leaders and members of their congregations. Through these church contacts, the Project Team was invited to attend a church meeting at Westin Chapel in Latta on Tuesday, November 15, 2005. At church services on the preceding Sunday, this meeting was announced by leaders of minority churches throughout Dillon and Marion Counties. Approximately 35 people attended the meeting where one-on-one interviews were conducted, extra surveys were distributed, and general questions about the project were answered. The importance of community input was emphasized at this meeting.

The Project Team was also invited to attend the District African Methodist Episcopal meeting on Sunday, November 20, 2005. Over 115 church leaders and members were in attendance. The minority liaison briefly presented the project, stressing the importance of community involvement and participation. Many attendees took surveys to distribute to their congregations.

In addition, school packets were developed for schools in Dillon and Marion Counties. Survey packets were distributed to 5th grade classes at the following schools:

- 260 students at Gordon Elementary in Dillon;
- 250 students at Marion Intermediate School in Marion;
- 164 students at Palmetto Elementary in Mullins; and,
- 50 students at Rains Centenary Elementary in Rains.

School surveys were customized for each individual school and included a map that focused on the surrounding community. A total of 276 responses were received from the distribution, including 129 from Dillon, 73 from Marion, 48 from Mullins, and 26 from Rains. An effort was made to distribute surveys to the fifth grade classes at elementary schools in Latta, and announcements were made in churches about upcoming public meetings. There was a low response from these outreach methods, so, in order to gain information from the town, an additional 882 surveys were mailed to residents along the two postal routes within the downtown area. A total of 63 surveys were received from the mailings.

What additional outreach was done?

For all three counties, communities were identified that lacked survey responses. The Project Team visited Zion, Ketchuptown, Emanuelville, and Temperance Hill and conducted one-on-one interviews and distributed surveys at each residence. Approximately 300 surveys were distributed door-to-door in these communities and 120 door-to-door surveys were conducted. Visits were also made to local convenience stores and gas stations to acquaint locals with the project and surveys were left for distribution to customers. A total of 32 interviews were conducted during the field visits, and 34 surveys were received from this effort.

What were Community Information Meetings?

In addition to the public scoping and public information meetings, there were also several community information meetings. These meetings were held to reach out to the minority communities, as well as the local and county entities with interest in the project. The meetings were held mainly for citizen's groups and churches. At the meetings, representatives from the Project Team would discuss the project and then take questions. The same presentation boards with the purpose and need, issues and concerns, study area map, wetlands map, and constraint map that were used at the public information meetings were available for people to view at the meetings. A list of the meetings is found in Table 4.1 (page 4-8).

4.1.6 What other forms of information were available to the public?

The project website, (www.i73insc.com), included information about the history of the project, the purpose and need for the project, along with maps of the project study area. The website also contained important information concerning the times and locations of upcoming public meetings. The public was able to provide input or ask questions about the project. The website has received over 57,354 visits since March 2005 and 225 comments and questions have been received thus far. The *Public Involvement Technical Memorandum* contains copies of the web pages that were posted on the website and its updates.

The project telephone hotline, 1-866-I73-inSC (1-866-473-4672), allowed the public who could not attend meetings or did not have internet access to be involved in providing input on the project. When the number was dialed, an informational message played that explained the project and gave the most up-to-date information concerning the time and location of public meetings. This message was updated ten times from its inception until April 24, 2006. At the end of the message, the hotline allowed for

Table 4.1
Community Information Meetings
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Organization and Location (County)	Date	Number of Attendees
Rotary Club Myrtle Beach, SC (Horry)	March 18, 2005	approximately 35
Rotary Club Marion, SC (Marion)	May 9, 2005	approximately 45
Rotary Club Latta, SC (Dillon)	May 10, 2005	approximately 25
St. John A.M.E. Church Marion, SC (Marion)	May 10, 2005	29
Bethel A.M.E. Church Brittons Neck, SC (Marion)	May 12, 2005	27
St. Paul Baptist Church Mullins, SC (Marion)	May 24, 2005	24
Rotary Club Mullins, SC (Marion)	May 26, 2005	approximately 30
Society of Professional Surveyors Pee Dee Chapter of South Carolina (Florence)	June 6, 2005	16
North Eastern Strategic Alliance Meeting Columbia, SC	June 14, 2005	approximately 30
Cherry Hill Baptist Church Conway, SC (Horry)	June 27, 2005	3
St. Matthews Missionary Baptist Church Cool Springs, SC (Horry)	June 28, 2005	19
Mt. Pigsah Baptist Church Conway, SC (Horry)	June 30, 2005	10
Freemont Missionary Baptist Church Longs, SC (Horry)	July 13, 2005	28
Mount Moriah Missionary Baptist Church Bucksport, SC (Horry)	July 14, 2005	36
Cherry Hill Baptist Church Conway, SC (Horry)	July 18, 2005	25
Winyah Bay Focus Group Georgetown, SC (Georgetown)	July 19, 2005	13
New Hope Missionary Baptist Church Latta, SC (Dillon)	August 15, 2005	17

messages to be recorded to provide input or ask a question. A total of 82 people left comments and questions.

4.2 Agency Involvement and Coordination

From the beginning, FHWA and SCDOT recognized that agency involvement was a vital component to the success of the project. Executive Order 13274, signed in 2002, directs federal agencies to promote environmental stewardship in transportation projects and expedite environmental reviews of high-priority

transportation infrastructure projects. The FHWA and SCDOT, recognizing the goals and policy of Executive Order 13274, wanted a more efficient, teamwork-oriented approach to the agency involvement process to promote environmental stewardship and streamline environmental reviews. As a result of this modified approach, the ACT was formed.

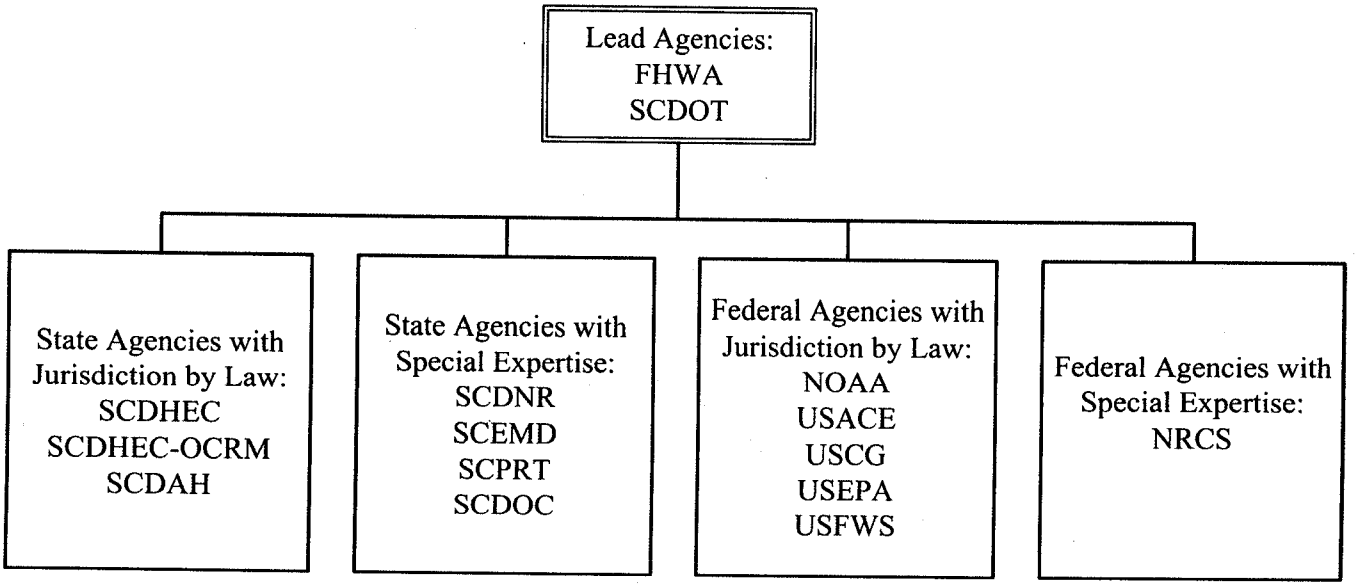
4.2.1 What is the Agency Coordination Team?

The ACT is a group of representatives from state and federal cooperating agencies that provided input and helped make decisions throughout the project.

The ACT is an enhancement of the cooperating agency process found in 40 C.F.R. §1501.6. Lead agencies, in this case, the FHWA and SCDOT, are those with the primary responsibility for the project. The lead agencies can invite other agencies that have special expertise or jurisdiction by law over a resource to be a cooperating agency. Due to the large project study area and array of resources, FHWA and SCDOT invited NOAA, SCDAH, SCDHEC, SCDNR, SCPRT, SCEMD, USACE, USCG, USFWS, and the USEPA to be cooperating agencies on this project.

The ACT enhanced the cooperating agency process by allowing extensive agency involvement and collaboration on the project. The main goals of the ACT were the following:

- To increase agency involvement;
- To reach decisions by consensus;
- To improve efficiency of the NEPA process;
- To meet or exceed agency mandates; and
- To improve communications and relationships between agencies.



4.2.2 How did the ACT contribute to the project?

The ACT has been involved from the initiation of the project, providing input on many aspects of the project. Several major decision points that the ACT was involved in included defining the purpose and need, developing alternatives, evaluating the alternatives, giving input on the preferred alternative, and determining the mitigation needed to adequately offset impacts. The ACT met on a regular basis for meetings, workshops, and a field trip. ACT members agreed to have a two week notice of each meeting. At that time an agenda, meeting objectives, and handout materials were distributed. During the meetings, ACT members were informed of the latest updates on the project, discussed issues they had with the project, made decisions by consensus voting, and worked together to come up with the best alternatives for the project. In the end, the ACT process resulted in an improved and more informed decision, while incorporating agency comments and input into the process early, rather than after a draft EIS was completed.

> ***ACT Project Milestones***
>
> ***July 30, 2004:*** **Formation of the ACT**
>
> ***December 9, 2004:*** **ACT consensus reached on Purpose and Need of project**
>
> ***September 7, 2005:*** **ACT consensus reached on Reasonable Alternatives for the draft EIS**
>
> ***January 19, 2006:*** **ACT consensus reached to add two alternatives to the Reasonable Alternatives for the draft EIS**

4.2.3 Were there any meetings with agencies prior to the formation of the ACT?

All previously mentioned agencies were formally invited by letter to be cooperating agencies and members of the ACT. Meetings prior to the first ACT meeting were held between the Project Team and NOAA, SCDAH, SCDHEC, SCDNR, and USEPA to discuss the project. The initial meetings between these agencies and the Project Team pertained to the formation of the ACT, and occurred in May and June of 2004. The agencies received a brief overview about the project, as well as an anticipated level of involvement as cooperating agencies and as members of the ACT. The Project Team also met with the SCEMD on June 7, 2004, to discuss how the project might affect hurricane evacuation. The discussion included the possible scenarios of lane reversals, message boards, and traffic cameras to facilitate more efficient evacuation. The SCEMD suggested contacting the hurricane evacuation model developer, along with SCDOT Traffic Engineers and Emergency Traffic Management, for input on roadway design to aid hurricane evacuation. In addition to these meetings, the project was presented to the Southeast Natural Resources Leaders Group on July 13, 2004.

4.2.4 Who participated in the ACT meetings and contributed to the project?

Each agency designated representative(s) to be ACT members and to give input on the project. The ACT had a total of 37 members from 15 state and federal agencies. Several members were involved for only a portion of the ACT Process and were replaced by other representatives from their agency. Each agency had only one vote in the ACT Process. A list of ACT members is found in Table 4.2.

Table 4.2
Agency Coordination Team Members
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Member	Agency	Member	Agency
Shane Belcher	FHWA	Bob Perry	SCDNR
Hamilton Duncan	FHWA	Leo Rose	SCDNR
Patrick Tyndall	FHWA	Ralph Willoughby	SCDNR
Stephania Bolden*	NOAA-NMFS	Ed West	SCDOC
Prescott Brownell	NOAA-NMFS	Wayne Hall	SCDOT
Kay Davy*	NOAA-NMFS	Mitchell Metts	SCDOT
Christy Fellas*	NOAA-NMFS	Wayne Roberts	SCDOT
Jocelyn Karazsia*	NOAA-NMFS	Berry Still	SCDOT
Ronnie Feaster	NRCS	Jon Boettcher	SCEMD
David Kelly	SCDAH	Charles Harrison	SCPRT
Richard Chinnis*	SCDHEC-OCRM	Steve Brumagin	USACE
William C. Eiser	SCDHEC-OCRM	Tina Hadden	USACE
Quinton Epps*	SCDHEC	Travis Hughes	USACE
Rheta Geddings	SCDHEC	Randall Overton	USCG
Robert "Hop" Ridgell	SCDHEC	Brodie Rich*	USCG
Ron Ahle*	SCDNR	Kacy Campbell*	USEPA
Susan Davis*	SCDNR	Bob Lord	USEPA
Ed Duncan	SCDNR	Ramona McConney	USEPA
Greg Mixon	SCDNR	Mark Caldwell	USFWS

* Participated for part of the ACT Process

4.2.5 When did the ACT meetings occur and what happened at the meetings?

The ACT team met regularly during the project. The following pages summarize the ACT meetings, sub-committee meetings, workshops, and a field visit that took place between 2004 and 2006. A list of the agencies that participated in each meeting is found in Table 4.3 (page 4-12). A few meetings outside of the ACT did occur, mainly to address specific agency concerns or issues, for information exchange, special expertise, and methodology for evaluating certain resources.

June 30, 2004 to July 1, 2004 ACT Meeting

The kickoff meeting of the ACT was held on June 30, 2004 and July 1, 2004. The ACT helped define the project study area to exclude the Great Pee Dee River floodplain by using the eastern boundary of the floodplain as the west and southwest borders of the project study area. U.S. Route 378 and U.S. Route 501 on the south and southeast, and the North Carolina state line for the northeast and north, and the Interstate 95 for the northwest and western borders for the project study area (refer to Figure 1-2, page 1-3). Members then listed goals for the project, which ranged from enhancing public safety to protection of wetlands and cultural resources.

Table 4.3
ACT Meetings and Attendance
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Date	Agencies Attending	Number of Representatives
June 30, 2004 and July 1, 2004 Kickoff Meeting	FHWA, NOAA, SCDAH, SCDHEC, SCDNR, SCDOT, SCPRT, SCEMD, USACE, USCG, USFWS, and USEPA	20
July 7, 2004 NEPA and 404/401 Process Merger Sub-committee Meeting	FHWA, SCDHEC, SCDOT, USACE, and USEPA	6
August 12, 2004 Scoping Meeting	FHWA, NOAA, SCDAH, SCDHEC, SCDNR, SCDOT, SCEMD, SCPRT, USACE, USCG, USEPA, and USFWS	16
September 23, 2004 Methodology Meeting	FHWA, NOAA, SCDAH, SCDNR, SCDOT, SCPRT, USACE, USCG, USEPA, and USFWS	16
November 18, 2004	FHWA, SCDAH, SCDHEC, SCDNR, SCDOT, SCPRT, USACE, USCG, USEPA, and USFWS	16
December 9, 2004	FHWA, SCDAH, SCDHEC, SCDNR, SCDOT, SCPRT, USACE, USEPA, and USFWS	12
March 24, 2005	FHWA, SCDAH, SCDHEC, SCDNR, SCDOT, SCPRT, USACE, USEPA, and USFWS	17
April 21, 2005 NEPA and 404/401 Process Merger Sub-committee Meeting	FHWA, SCDHEC, SCDOT, USACE, and USEPA with NOAA, SCDNR, and USFWS providing input	16
May 17-19, 2005 Project Field Tour	FHWA, SCDAH, SCDHEC, SCDNR, SCDOT, USCG, USEPA, and USFWS	14
June 16, 2005 Indirect and Cumulative Effects Workshop	FHWA, SCDHEC, SCDNR, SCDOT, SCPRT, USEPA, and USFWS	13
July 27, 2005	FHWA, NOAA, SCDHEC, SCDNR, SCDOT, SCEMD, SCPRT, USACE, USEPA, and USFWS	20
August 24, 2005	FHWA, SCDAH, SCDNR, SCDOT, SCPRT, USACE, USEPA, and USFWS.	15
September 7, 2005	FHWA, NOAA, SCDAH, SCDHEC, SCDNR, SCDOT, SCPRT, USACE, USEPA, and USFWS	15
November 14, 2005 NEPA and 404/401 Process Merger Sub-committee Meeting	FHWA, SCDHEC, SCDOT, USACE, and USEPA	12
December 15, 2005	FHWA, NOAA, SCDAH, SCDHEC, SCDNR, SCDOT, SCPRT, USACE, USEPA, and USFWS	14
January 19, 2006	FHWA, NOAA, SCDAH, SCDHEC, SCDNR, SCDOT, SCPRT, USACE, USEPA, and USFWS	16
March 2, 2006	FHWA, NOAA, SCDAH, SCDHEC, SCDNR, SCDOT, SCPRT, USACE, USEPA, and USFWS	16
April 19, 2006	FHWA, SCDAH, SCDHEC, SCDNR, SCDOT, USACE, USEPA, and USFWS	13

Each agency representative gave a presentation on issues their agency felt were important in the project study area. Some of the issues the agencies discussed included the following:

- protecting federally-listed and state species of concern;
- the economic impacts of tourism to the Myrtle Beach area as well as South Carolina;
- bridge and culvert replacement;
- streamlining and timeliness of NEPA and Section 401/Section 404 permit process; and
- preservation of heritage preserves, Carolina bays, and historic resources.

A draft Process Agreement was developed and distributed to the ACT for review. This document explained the goals of the ACT, its procedures, and the dispute resolution process and can be found in the Public Involement Technical Memorandum. ACT members were asked to vote on decisions. A consensus of the voting was used to make decisions, and when a party disagreed with the outcome, there was a dispute resolution process that could be used to resolve the issue.

There were two levels to the dispute resolution process. The first level involved focused discussion between the ACT members to attempt to resolve the issue. If there was no resolution at this point, then the issue would move to the second level of the dispute resolution process. At this point, the issue would be elevated to higher authorities in the respective members' agencies for discussion and resolution. Once a decision was reached, written statements of the decision and the rationale behind it would be prepared and distributed to the ACT for review and approval. If a consensus was reached and not elevated, or if the elevation process was satisfactorily concluded, the concurrence was reached. Concurrence letters were issued by each agency at the major decision points of the project, such as the interagency coordination process, purpose and need, the preferred alternative, and mitigation.

July 7, 2004 ACT NEPA/Section 404 Sub-committee Meeting

The ACT formed a sub-committee to specifically handle the NEPA/Section 404 process merger. The FHWA, SCDHEC, SCDOT, USACE, and USEPA were members of this sub-committee because they were the lead agencies or had jurisdiction by law over the resources needing a permit.

The sub-committee first met on July 7, 2004 via conference call and discussed the merger of the NEPA and permit (Section 401 and Section 404) processes. The sub-committee also discussed the appropriate time to submit the request for a jurisdictional determination. The USACE suggested reviewing soil data, aerial photography, and NWI mapping to identify wetland areas for preliminary review at the early stages of the project. The USACE stated that FHWA and

SCDOT had already initiated the pre-application consultation required during the permitting process. The sub-committee discussed the application process and the USACE stated that the initial application can include a range of reasonable alternatives. The USACE went on to state that once a preferred alternative was identified, the permit could be modified, as necessary, and another public notice would not be necessary. As for public notices, the SCDOT wanted to publish the public notice simultaneously with the notice of availability of the document. The USACE agreed to check the statutory requirements to determine if this would be viable.

August 6, 2004 Meeting with SCDAH

The Project Team met with the SCDAH on August 6, 2004. Discussions were held on how to evaluate cultural resources in the project study area during the preliminary analysis of alternatives. The SCDAH agreed with using an archaeological predictive model to help develop alternatives for the project. SCDAH also wanted architectural field surveys on the reasonable alternatives. SCDAH agreed to provide information from previous work completed in the project study area for a predictive model. A full archaeological survey would be completed for the preferred alternative. Mitigation was also discussed, and SCDAH suggested that mitigation for impacts could be offset by the lead agencies funding some countywide surveys. As a result of subsequent meetings, the SCDOT did fund the countywide surveys as a separate initiative. FHWA discussed the Tribal consultation process for the project. The Tribes would be invited to be a consulting party, so that they could provide input and any information they may have concerning possible tribal resources in the project study area. SCDAH requested to attend any meetings between the FHWA and Tribes.

August 12, 2004 ACT Scoping Meeting

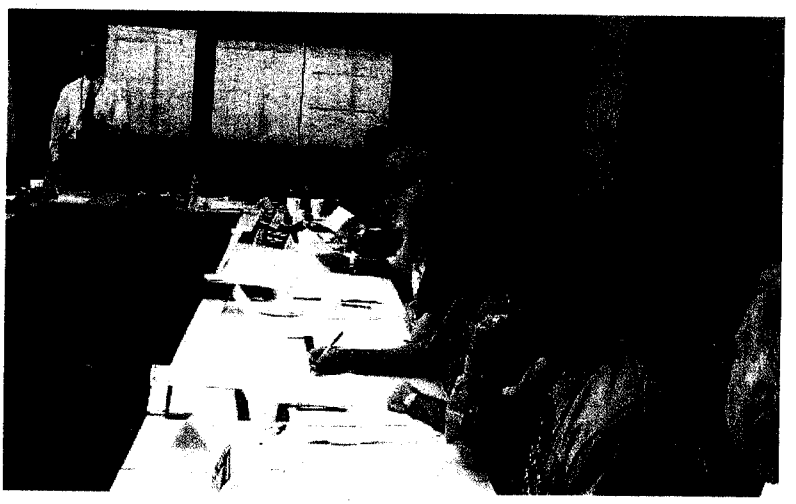
The second ACT meeting was held on August 12, 2004. The draft Process Agreement was discussed and revised. The ACT members were asked to send a concurrence letter approving the Process Agreement. It was announced that the Notice of Intent was issued on August 9, 2004, and public scoping meetings were to be held on September 18 and 19, 2004, (Appendix D).

ACT members focused on issues that were important to their respective agencies at this meeting. Many different issues were brought up, including water quality, wildlife, habitats, floodplains, wetlands, historic and cultural resources, and visual and noise impacts. The ACT developed a full list of issues that would be considered during the development of the alternatives.

September 1, 2004 Meeting with USACE

The Project Team met with the USACE to discuss the methodology for wetland delineation. The agencies discussed the use of the NWI mapping for initial screening, followed by screening the reasonable alternatives with infrared photography, ground-truthing, and an ACT field review. It was agreed that the wetlands impacted by the preferred alternative would be delineated using a Global Positioning System with sub-meter accuracy.

September 23, 2004 ACT Meeting



The ACT held its third meeting on September 23, 2004. The members discussed the purpose and need for the project. The FHWA expressed the need to have a balance between meeting the project's purpose while minimizing impacts to the environment. The ACT agreed that there should be a very clearly defined purpose statement for the project. Members discussed system linkage, economic development, tourism promotion, congressional intent, hurricane evacuation, multimodal planning, and environmental sensitivity. The CAT was demonstrated and the ACT learned how the CAT would be used for developing alternatives. (A full explanation of how the CAT works can be found in Chapter Two.) The ACT selected layers, "weighted" the layers, and assigned numerical values to features within the data layers utilized by the CAT. The ACT also designated features as constraints, which would be avoided while developing alternatives. Members reached a consensus on the values.

November 18, 2004 ACT Meeting

The fourth ACT meeting was held on November 18, 2004. Continued discussion was held on the draft purpose and need statement. The primary needs for the project were determined to be system linkage and economic development, and the secondary needs were identified as hurricane evacuation, relieving local traffic congestion, and multimodal planning. The purpose statement was revised to state: "To provide an interstate link between I-95 and the Myrtle Beach region to serve residents, businesses, and tourists while fulfilling congressional intent in an environmentally responsible and community sensitive manner." The ACT also discussed preliminary corridors generated by the CAT.

December 3, 2004 ACT CAT Workshop

The SCDAH and SCDNR attended a workshop on December 3, 2004 about the CAT. The details of operation of this tool were explained and it was used to complete runs proposed by the SCDAH and SCDNR.

December 9, 2004 ACT Meeting

The ACT had its fifth meeting on December 9, 2004. After minor revisions, the ACT members approved the purpose and need statement for the project by consensus. The ACT discussed potential corridors and seven were recommended for further analysis. ACT members also recommended that additional aerial photography be acquired where the corridors would cross

the Little Pee Dee River, along U.S. Route 501, as well as in the vicinity of the Conway Bypass for further analysis.

December 16, 2004 and January 7, 2005 Meetings with SCDNR

The SCDNR met with the Project Team to discuss the agency's concerns about using the NWI mapping for preliminary evaluation of alternatives and the elimination of a segment by the ACT from further analysis. On January 4, 2005, SCDNR submitted a letter to SCDOT about the concerns it had previously discussed with the FHWA and SCDOT and distributed it to the ACT. Subsequently, the FHWA and SCDOT met with the SCDNR on January 7, 2005 concerning the same issues. The SCDOT gave a formal response to the SCDNR's concerns on January 12, 2005 and copied the ACT members.

March 24, 2005 ACT Meeting

On March 24, 2005, the ACT held its sixth meeting. The corridors that the ACT had previously approved for further analysis had been evaluated for constructability by engineers. The ACT was presented this information, along with demonstrations of how the proposed revisions would change the impacts to resources. Most revisions had resulted in only minor differences from the original corridors. The ACT was also informed of the additional project alternatives that were being evaluated based on suggestions by the public as a result of the public information meetings.

The ACT members discussed potential mitigation sites. SCDOT presented a potential mitigation site, the Haulover Tract, which would be available for purchase as a component of the mitigation. The ACT discussed this mitigation site, and, by consensus, decided not to recommend to the SCDOT to purchase it at that time. Some members felt that it was too early to discuss mitigation because it may cause bias and influence the outcome or decision of a preferred alternative. Others thought that mitigation should be discussed when the amount of impacted acreage was known.

The ACT also discussed the upcoming field trip to the project study area. Members identified sites of interest, such as major stream and river crossings, sand ridges along the eastern side of the Little Pee Dee River, Carolina bays, and Galivants Ferry.

April 21, 2005 NEPA/Section 404 Sub-committee Meeting

The second meeting of the NEPA and Section 404/Section 401 process merger sub-committee was on April 21, 2005. The FHWA, NOAA, SCDHEC, SCDNR, SCDOT, USACE, USEPA, and USFWS were present. The members discussed how to merge the NEPA and permit processes (Section 401 and Section 404). In order to use the EIS for permit processes, the USACE stated that the EIS needed to address FHWA and Section 404 guidelines. The USEPA and USACE stated the permit application needed to contain adequate information on both natural resource and human resource impacts. The USACE and SCDHEC both discussed the one year timeline for 401 certification and how that may be a problem if the lead agencies submitted the permit too early in the process. SCDHEC stated that if all the information was not provided to them within one year of the public notice, then the permit would be denied. USACE and SCDNR suggested issuing a public scoping notice for the permit application when the DEIS was made available. This would give the agencies and the public more information on potential impacts, which would allow them to offer more substantive comments on the permit application. The SCDOT asked the USACE what information should be put in the public notice for scoping. The USACE responded by stating information on corridors, routes, and preliminary information on impacts should be included. In addition, the USACE stated the general typical section, purpose and need, background information, and details concerning how the ACT selected the reasonable alternatives would be important to add in the public notice.

April 22, 2005 Meeting with SCDNR

The Project Team met with the SCDNR to discuss the agency's concerns about the CAT. At this time additional analyses were completed at the request of the SCDNR with new waypoints and endpoints, as well as different assigned values to layers.

May 17, 2005 to May 19, 2005 ACT Field Tour

The seventh ACT meeting was a field trip of the project study area on May 17-19, 2005. The project study area was reviewed by boat, on foot, and by van. The ACT visited areas including Galivants Ferry, the Little Pee Dee River, segments of existing roads, and Carolina bays that were within the project study area.

June 1, 2005 Meeting with SCDNR

The SCDNR met with the Project Team to conduct additional analyses using the CAT. The agency requested to use the CAT with different values for upland evergreen forests and to also use different starting and ending points. The FHWA and SCDOT completed the analyses during this meeting and discussed the results with the SCDNR.

June 16, 2005 ACT Meeting

ACT members met for their eighth meeting on June 16, 2005 for an indirect and cumulative effects workshop. The different types of impacts were explained and an explanation was provided for cumulative impacts. The responsibilities of the FHWA regarding indirect and cumulative impacts were also presented. The ACT members learned that the FHWA is not responsible for mitigating the effects of indirect impacts since it does not have control over them, but is responsible for including the effects in the EIS.

July 27, 2005 ACT Meeting

The ninth ACT meeting was on July 27, 2005. A presentation was given of the remaining segments and the combinations of the segments that could comprise the possible alternatives to be further evaluated in the DEIS. A discussion followed about the segments and the advantages and disadvantages of each in terms of impacts to resources. The ACT members were also presented with the initial criteria for locating interchanges along the corridors. FHWA and SCDOT based the criteria on the purpose and need and stated that any future interchanges would be separate actions and would be required to follow the NEPA process.

August 24, 2005 ACT Meeting

At the tenth ACT meeting on August 24, 2005, the ACT members continued their detailed discussion of segments for developing the alternative routes. Members discussed each set of competing segments and voted to eliminate or to further analyze them. The ACT reached consensus to eliminate 18 segments and keep 16 segments for further analysis.

September 7, 2005 ACT Meeting

The eleventh ACT meeting took place on September 7, 2005. Based on the remaining segments from the prior ACT meeting, there were ten alternatives derived and presented to the ACT. All alternatives meet the purpose and need equally, so the ACT used the impacts to resources to eliminate possible alternatives. The Project Team recommended eliminating three alternatives due to their relatively higher impacts to resources. ACT members discussed all alternatives and voted on each individually. Based on consensus voting, four alternatives were eliminated from further analysis in the DEIS.

November 14, 2005 NEPA/Section 404 Sub-committee Meeting

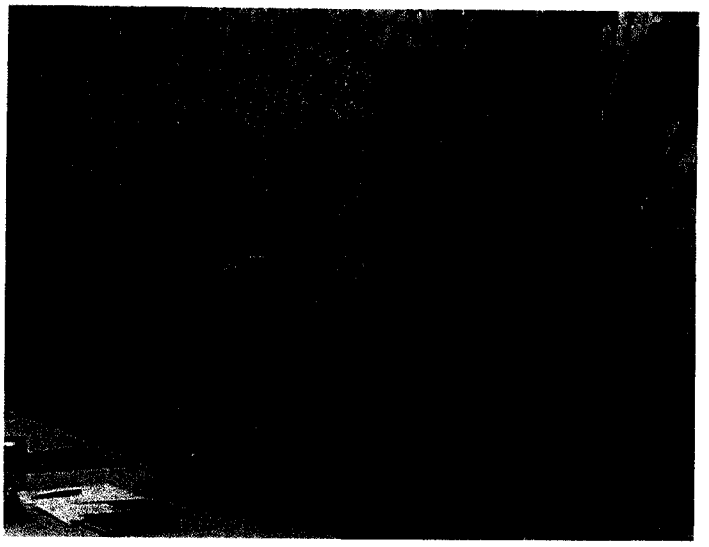
The members of the NEPA and Section 404/Section 401 process merger sub-committee with regulatory authority by law met on November 14, 2005, to discuss the NEPA process. The FHWA, SCDHEC, SCDOT, USACE, and USEPA attended. Based on the comments received

at the initial ACT scoping meeting, the participating agencies originally requested that the ACT provide consensus on a preferred alternative prior to the DEIS being issued and the public hearings. The USEPA expressed concern about the ACT voting on a preferred alternative without having the DEIS available for review. After discussing their position, agencies agreed that a vote would not be requested from the ACT on a preferred alternative until the DEIS had been issued and public hearings had taken place. It was agreed that the FHWA and SCDOT would designate a preferred alternative for the DEIS.

The group then discussed the next steps in the NEPA/Section 404 processes. The members decided that the FHWA and SCDOT submit the permit application based on the preferred alternative in the DEIS to the USACE. Next, the sub-committee decided the FHWA and SCDOT would hold public hearings while the USACE concurrently issued the joint public notice for the permit. The FHWA and SCDOT would request the ACT provide consensus on a preferred alternative and the least environmentally damaging practicable alternative. The USACE said it would defer taking a position on the least environmentally damaging practicable alternative until they took action on the permit application. Once detailed fieldwork was completed, along with the necessary revisions to the DEIS, the FHWA and SCDOT would issue the FEIS which would include a mitigation plan. The FHWA would issue a Record of Decision and the USACE would subsequently issue a permit decision.

December 15, 2005 ACT Meeting

The ACT held its twelfth meeting on December 15, 2005 and the FHWA presented the results of the meeting held on November 14, 2005. The process for the project would be changed due to regulatory requirements of the permitting agencies. In the new process, the DEIS would be published with the applicant (FHWA and SCDOT) preferred alternative designated. Public hearings would be held and then ACT consensus would be requested on a preferred alternative. FHWA and SCDOT explained that they would be forthcoming with the ACT about their reasoning and methodology for selecting the preferred alternative. The ACT unanimously agreed to change the process.



Mitigation was also discussed in this meeting. A conceptual plan of mitigation would be developed for the DEIS and it would have both preservation and restoration components.

Categories of mitigation were discussed, along with types of mitigation that would fit within each category. The FHWA and SCDOT asked that any mitigation ideas be provided so that they could be inventoried for further review by the ACT.

Alternatives for the project were discussed in detail based on the most current information available. A reasonable alternatives summary matrix was explained in detail, with discussion about the values for each category. The matrix would be further refined as more data became available. NOAA and SCDNR requested a re-evaluation of an alternative that was previously eliminated. It was agreed that the information for the eliminated alternative would be distributed to the ACT members. However, it was also decided that if any ACT member wanted the eliminated alternative to be considered in further detail, that the member would have to follow the dispute resolution procedure in the Process Agreement.

January 19, 2006 ACT Meeting

The ACT held its thirteenth meeting on January 19, 2006. At this meeting, a new alignment for the alternatives crossing the Little Pee Dee River near S.C. Route 917 was discussed. This new alignment would cross the Little Pee Dee River parallel to S.C. Route 917. Originally, the alignment was not considered because it would impact a SCDNR Heritage Trust Preserve along the Little Pee Dee River. However, this alignment was proposed again because it would result in less habitat fragmentation. The SCDNR stated that in order to go through the Preserve, approval would be required from the Heritage Trust Board of Trustees. The ACT voted, and agreed by consensus to pursue moving the crossing to the existing crossing, with the understanding that the Heritage Trust Board would have to approve this. Another adjustment to the alignment was proposed by the SCDNR to straighten an alignment just east of the Little Pee Dee River crossing at U.S. Route 501. This adjustment would have the road cross Dawsey Swamp, an outstanding resource water, just once, instead of twice. The ACT voted and reached consensus to straighten the alignment in this area.

Prior to this ACT meeting, the USEPA and NOAA both elevated the issue of reinstating Alternative 7 that had been previously eliminated in September, 2005 by the ACT. The ACT dispute resolution process was used for this issue.

The ACT members that elevated the issue were first allowed to present their views, after which other members were allowed to state their views on the issue. USACE stated that it would also like to reinstate Alternative 8 that was eliminated at the September 2005 ACT meeting. USACE stated it was concerned that by only analyzing seven of the eight possible combinations and by reinstating the one with the highest potential wetland impacts, that the EIS process may be viewed in a negative light.

SCDOT proposed either to keep the 6 alternatives currently under evaluation, or instead of adding only the one other alternative to make a total of seven, have all eight alternatives, so that all possible combinations of the segments were analyzed.

A vote was requested to reinstate both Alternative 7 and Alternative 8 into the alternatives under consideration. The ACT, by unanimous consensus, voted to reinstate both alternatives.

The indirect and cumulative impacts strategy was presented to the ACT for review and comment (refer to the *Indirect and Cumulative Technical Memorandum*). An overview was given on how the strategy was developed and what resources were used in the process.

SCDNR made a presentation for a tract of land that could be used as mitigation for the project. This parcel was located in and adjacent to the project study area and contains a diversity of wildlife and historic resources. Following the presentation, most agencies were in support of considering it as a mitigation option.

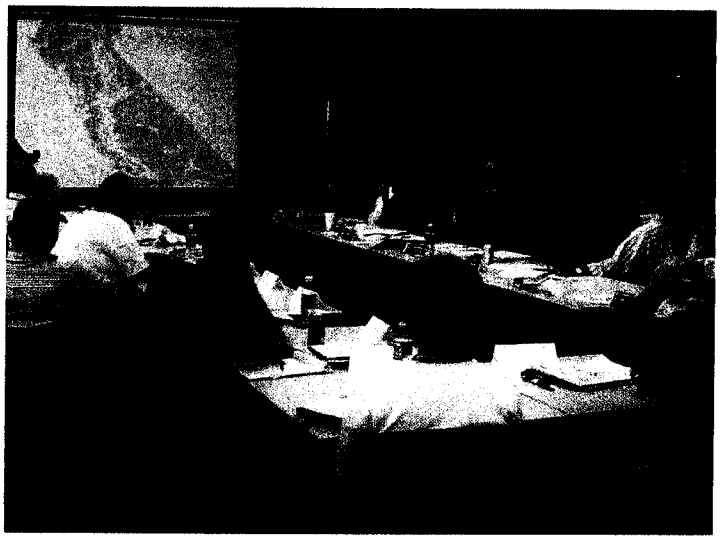
The ACT also discussed the new question and answer format for the EIS. The ACT was given a high-level outline of the EIS, and asked to provide any comments on the outline to the Project Team.

February 10, 2006 Meeting with SCDHEC-OCRM

The Project Team met with SCDHEC-OCRM on February 10, 2006 and gave the agency an update on the project.

February 23, 2006 Meeting with SCDAH

The Project Team met with SCDAH on February 23, 2006 to discuss the results of the aboveground historic resources survey. A proposed Bethea Rural Historic District, composed of two plantation homes, tenant houses, a schoolhouse, a cemetery, store, mill, outbuildings, and barns, was discussed. The property was significant to the local and regional history of the area. If SHPO determined the property was eligible for listing as a rural historic district, then a field trip would be needed to set the boundaries of the district.



Two other possible historic districts were found during the survey, one was located south of Marion, and another was located in Ketchuptown. SCDAH was unsure of whether these two possible areas should be considered districts or not, and stated that a field review would be needed prior to making a sound determination.

March 2, 2006 ACT Meeting

The ACT met for its fourteenth meeting on March 2, 2006 and was updated about the project. SCDOT stated that they were continuing to receive feedback and petitions from the public about the project. Some municipalities and County Councils in the project study area had passed resolutions supporting certain alternatives (refer to Appendix B for resolutions). The development of an "inland port" north of the City of Marion and its possible cumulative impacts were also discussed at the meeting.

The FHWA updated the ACT concerning the designation of I-73 as a toll facility and how it would be addressed in the DEIS. The S.C. General Assembly had passed a resolution stating that tolls may be installed to pay for the road. The FHWA decided that the DEIS would be done as a non-tolled road. This would result in the worst-case scenario for the project, reflecting higher impacts to natural resources than if the road were tolled. If the road is tolled in the future, a NEPA re-evaluation would be done to identify potential impacts of toll plazas and infrastructure.

SCDAH gave an update on the proposed Bethea Rural Historic District.

The indirect and cumulative impacts strategy was discussed in detail at this meeting. Revisions were discussed and made at this time by the ACT. Once these revisions were made, it was understood that this was the final strategy and only the issues of potential historic districts and the inland port would be modified as more details became available.

March 14, 2006 Meeting with SCDAH

SCDAH met with the Project Team on March 14, 2006 to further update the status of the newly proposed historic districts in the project study area. The Project Team, SCDAH, and SCDOT had completed a field review of the possible historic districts to determine eligibility. SCDAH stated that while there were possibly eligible structures at both Ketchuptown and Marion, neither of these areas qualified as eligible historic districts. The proposed Bethea Rural Historic District, however, was eligible, and would more than likely become a historic district within the year.

April 19, 2006 ACT Meeting

The ACT met on April 19, 2006 for its fifteenth meeting. SCDOT explained the process for announcing the preferred alternative. A comprehensive meeting with the ACT, stakeholders, elected officials, and others with interest in the project would be held at the end of May. At this time, the preferred alternative would be announced and the DEIS would be signed by the SCDOT and FHWA. Following the announcement, public hearings would be held in June.

ACT members received an update about the Bethea Rural Historic District and its revised boundary. The alignment and interchange for Alternatives 2, 6, and 8 were being re-designed around the new boundary and impacts would be calculated for the alternatives. SCDOT explained the complexity of the new interchange design at I-95 due to the existing interchange of I-95 and S.C. Route 34.

The ACT was informed about a field visit with the Project Team and the USACE to check wetland areas that were in question. The USACE stated that the methodology the Project Team was using for verifying wetlands was sound. There were some changes to the amount of wetlands that were impacted by the project, and this was updated in a matrix and re-distributed to the ACT.

Some of the ACT members (SCDHEC, SCDNR, USACE, and USFWS) had met to discuss the project alternatives to determine which were preferred. The SCDHEC and USACE could not take a position on this matter due to their regulatory authority over the project. However, the SCDNR and USFWS stated that they supported Alternatives 3, 5, and 7 because they did not cross Buck Swamp, they had reasonable wetland impacts, they used existing roadways to some extent, and they connected farther east on S.C. Route 22. Other agencies were asked if they had opinions on any alternatives. The SCDAH stated that it preferred Alternative 3 due to its avoidance of both the Bethea Rural Historic District and the Galivants Ferry Historic District. The SCDOC stated that it disliked alternatives that would directly impact the I-95 Gateway Industrial Park (Alternatives 2, 6, and 8) since it is a three-county investment for economic development in the region.

4.3 Stakeholder Working Group Involvement

4.3.1 What was the Stakeholder Working Group?

The Stakeholder Working Group was composed of volunteers from state, local, and county governments, along with businesses and non-government organizations that had an interest in the project. They were to provide input to the FHWA and SCDOT regarding the project. They were also to provide information about the project to their constituencies.

4.3.2 What Happened at the Stakeholder Working Group Meetings?

The first Stakeholder Working Group meeting was held on September 16, 2004 in Dillon, South Carolina. There were 30 attendees at the meeting from various local and county governments, non-government entities, and citizens' groups. At this meeting, the attendees were given a short presentation on the project and the possible issues and concerns surrounding it. They were asked for input on what issues were important to them. There was a wide range of comments received from the attendees, which included impacts to the economy, environment, schools, wetlands, and land use of the areas. Other comments raised concerns about the project route, size of the right-of-way, safety design of the road, toll booth possibilities, and planning for the future needs of the area.

The next Stakeholder Working Group meeting was held on February 24, 2005 in Conway and 26 people participated at this meeting. The attendees were given an overview of the alternative corridor development process and the CAT software program was explained. The meeting allowed participants to help identify natural and cultural resources, infrastructure, churches, cemeteries, landfills, parks, and hazardous material sites that may be present in the project study area that needed to be avoided. Participants also received answers to the questions they posed at the prior meeting concerning possible impacts and design of the project.

4.4 Tribal Involvement

4.4.1 How was Tribal Consultation handled for this project?

Federal agencies have requirements under the National Historic Preservation Act to consult with Native American Tribes before undertaking actions that may have effects on historic properties of religious or cultural significance. The FHWA and SCDOT made a good faith and reasonable effort to identify and contact Tribes that may have such properties in the project study area. The FHWA, as the lead federal agency, gathered information about the federally-recognized Tribes that may have had interest in the project study area.

During the project scoping process, the FHWA sent letters to 16 Tribes listed in Table 4.4, including the Cherokee, Shawnee, Choctaw, Muscogee (Creek), Seminole, Chickasaw, Catawba, and Tuscarora Nations describing the project, its location, and requested any information on sites or resources in the area (a copy of the letter is located in Appendix E). The letter included a project study area map and fact sheet about the project. The FHWA offered funding for Tribal members to travel to South Carolina to meet about the project and to provide updates about the project as it became available. An e-mail was sent in November of 2004 to again inform the Tribes about the project. Of the seven Tribes that responded to the initial letter and e-mail, the Jena Band of the Choctaw Indians stated that they had no interest in the project. The Eastern Band of the Cherokee Nation responded by stating they had no interest in the project because it was outside of their traditional territory. The Choctaw Nation of Oklahoma originally stated it did not want to meet with the FHWA, but did want to be included on future mailings. In future correspondence, the Choctaw Nation asked to be removed from future mailings concerning the project. The Catawba Tribe, Shawnee Tribe of Oklahoma, Tuscarora Nation, and the United Keetoowah Band of Cherokee Nation of Oklahoma expressed that they were interested in the project. Follow-up communications were attempted with the Shawnee Tribe of Oklahoma and the Tuscarora Nation, and have not been successful as of yet. The project was discussed with the Keetoowah Band of the Cherokee Nation of Oklahoma, and their Tribe will be included in future mailings.

The Project Team met with the Catawba Indian Tribe on September 17, 2004 and February 11, 2005 to discuss the project. The project study area was presented, as well as the current status of the project. The Catawba Tribal Historic Officer requested that the Tribe be able to review the preferred alternative once it was selected.

Table 4.4
Tribal Consultation Process
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Scoping Letters to Tribe Chiefs (sent September 2004)	Follow-up Email to Tribes (sent November 2004)	Response Letters or Communications from Tribes	Consultation	Further Updates
Shawnee Tribe of OK	Shawnee Tribe of OK	Expressed interest in the project	FHWA has attempted to contact Tribe for further consultation, with no success as of 4/2006	Updated Tribe October 2005
Catawba Tribe of SC	Catawba Tribe of SC	Expressed interest in the project	Met with Catawba Tribal Historic Officer on 9/17/04 and 2/11/05 about project	Updated Tribe October 2005
Cherokee Nation of OK	Cherokee Nation of OK	No response from Tribe as of 4/2006		Updated Tribe October 2005
Choctaw Nation of OK	Choctaw Nation of OK	Initially expressed interest; however, follow-up call on 10/12/05 stated that they had **no interest** in the project.	No further consultation needed	No further update needed
Eastern Band of the Cherokee Nation	Eastern Band of the Cherokee Nation	Expressed **no interest** in the project	No further consultation needed	No further update needed
Eastern Shawnee Tribe of OK	Eastern Shawnee Tribe of OK	No response from Tribe as of 4/2006		Updated Tribe October 2005
Jena Band of Choctaw Indians	Jena Band of Choctaw Indians	Expressed **no interest** in the project	No further consultation needed	No further update needed
Mississippi Band of Choctaw Indians	Mississippi Band of Choctaw Indians	No response from Tribe as of 4/2006		Updated Tribe October 2005
Muscogee (Creek) Nation	Muscogee (Creek) Nation	No response from Tribe as of 4/2006		Updated Tribe October 2005
Poarch Band of Creek Indians	Poarch Band of Creek Indians	No response from Tribe as of 4/2006		Updated Tribe October 2005
Tuscorara Nation	Tuscorara Nation	Expressed interest in the project	FHWA has attempted to contact Tribe for further consultation, with no success to this point	Updated Tribe October 2005
Shawnee Tribe	Shawnee Tribe	No response from Tribe as of 4/2006		Updated Tribe October 2005
Seminole Tribe of FL	Seminole Tribe of FL	No response from Tribe as of 4/2006		Updated Tribe October 2005
Seminole Nation of OK	Seminole Nation of OK	No response from Tribe as of 4/2006		Updated Tribe October 2005
The Chickasaw Nation	The Chickasaw Nation	No response from Tribe as of 4/2006		Updated Tribe October 2005
United Keetoowah Band of Cherokee Indians of OK	United Keetoowah Band of Cherokee Indians of OK	Expressed interest in the project	Wanted to be included on future mailings and updates	Updated Tribe October 2005 and May 2006

In addition to the Tribes that expressed interest, the FHWA will continue to update the Tribes that have not yet responded to the initial letter or e-mail. Tribal consultation has been and will be an ongoing process throughout the project.

4.5 What other Public Involvement Meetings were held?

The FHWA and SCDOT also made themselves available during the process to meet with special interest groups to discuss the project and receive feedback. Interest groups were included in the Stakeholder Working Group, but also requested meetings with the lead agencies. Representatives from the Southern Environmental Law Center (SELC), the South Carolina Coastal Conservation League (SCCCL), Dillon County Economic Development Board, and Coastal Carolina University attended and observed some of the ACT meetings.

The Project Team met with the SELC and SCCCL on November 10, 2004 to discuss the purpose and need of the project. The SELC and SCCCL had concerns about the purpose and need and also suggested more emphasis be placed on the project being a connection from I-95 to Myrtle Beach. Concerns were raised by SELC and SCCCL with regards to providing a future right-of-way for high speed rail within the current project footprint as a need for the project. The SELC and SCCCL were also concerned with economic development in the region as a project need.

The project was presented to the Winyah Bay Focus Group on July 19, 2005. This focus group consists of government and non-governmental entities such as the SCDNR, USFWS, SCCCL, and The Nature Conservancy (TNC).

The SELC and SCCCL met with the Project Team concerning the indirect and cumulative impacts of the project on November 4, 2005. The Project Team explained how the indirect and cumulative impacts would be addressed in the DEIS. The SELC also asked about the time period for the analysis and the Project Team explained the timeline would include the past five years and all reasonably foreseeable future actions when analyzing cumulative impacts.

Table 5.1
List of Preparers
Interstate 73 EIS: I-95 to the Myrtle Beach Region

Person Title	Responsibilities
Federal Highway Administration	
Patrick Tyndall Environmental Program Manager	Review and approval of EIS
J. Shane Belcher Environmental Coordinator	Review of EIS
South Carolina Department of Transportation	
Mitchell Metts. P.E. Program Manager	Overall Project development and coordination
Wayne Hall Special Projects Manager	Review and approval of EIS
The LPA Group Incorporated	
Arthur E. Parrish, P.E. President	Project management oversight
I.B. Johnson Director of Environmental Planning	Project management and review of EIS
Heather M. Robbins Senior Environmental Planner	Principal author of the EIS
Ken Burger, P.E. Senior Transportation Project Manager	Coordination of public involvement
R. Kennedy Holt Vice President	Initial coordination of public involvement
Rob Dubnicka, P.E. Director of Traffic Engineering and Planning	Traffic analysis and preparation of traffic technical memorandum
Renee Flinchum-Bowles Environmental Scientist	Natural resource impact analysis
Jay Gable Environmental Scientist II	Preliminary review of natural resources
David Grigg GIS Analyst	CAT evaluation, GIS analysis, and preparation of graphics
Michelle Herrell Environmental Scientist	Contributing author of EIS and water quality analysis
Dee Hope Environmental Scientist	Natural resource impact analysis
Randy Kelly Senior Road Designer	Corridor refinement and design
Jason Kendall Graphic Designer	Design of EIS and technical memorandum covers
Thomas F. Kicklighter, III, P.E. Manager of Roadway Design	Design and review of corridor alignments

The LPA Group Incorporated	
Ed Livingston Senior Transportation Consultant	Design and review of corridor alignments
Gordon Murphy Senior Environmental Scientist	Review of natural resource impact analysis and author of Natural Resources Technical Memorandum
Jason Lancaster Environmental Scientist	Review of water quality
Shanna Niswonger, E.I.T. Hydraulic Engineer	Water quality analysis
Sarah Scoma Administrative Assistant	Preparation of EIS
Ed Smail Environmental Scientist	Preliminary review of natural resources
Laura Stevens Environmental Scientist	Review of EIS
Adriene Tyler Project Administrator	Project management coordination
Wilbur Smith and Associates	
Michael McGuire, P.E. Regional Vice President	Assistant Project Manager, Design and Alignments
Anthony Allender Urban Planner	Land use planning
Jana Bean Environmental Coordinator	NEPA Specialist, cultural resources, and contributing author
Michael Belvin Senior Environmental Planner	NEPA Specialist, CIA, noise, air, reviewer, and contributing author
Steve Bland Roadway Design Manager	Conceptual roadway & interchange design
Melvin Brown, CEP Regional Vice President	NEPA Specialist (Reviewer)
Jeff Carroll Public Involvement	Public Involvement
Linda Carpenter Vice President, TETP Southeast	Public Involvement
Danica Claypoole Environmental Planner	NEPA Specialist, hazardous materials, and contributing author
Bryan Cully, P.E. Civil Engineer	Conceptual roadway & interchange design
Paula Dowell Vice President	Economist and economic modeling
Brian Fraley Environmental Engineer	Hydrology and floodplain

Wilbur Smith and Associates	
Karen Hadley Environmental Planner	NEPA Specialist, farmland, CIA, and contributing author
Lora Hendricks GIS Analyst	GIS, corridor analysis & support
Sanders McMillan Environmental Specialist	Natural Resources, NEPA Specialist, CIA, and floodplains
John Metille Senior Project Manager	NEPA Specialist, reviewer, CIA
Raymond Odell, P.E. Civil Engineering Designer	Noise Analysis & Modeler
Peter Ogonowski Economist	Economist and economic modeling
Jennifer Pearson Environmental Planner	NEPA Specialist (CIA, Reviewer)
David Powers Director, Transportation Systems	Traffic Modeler
Sashank Singuluri Traffic Engineer	Traffic Modeler
Terry Snow, P.E. Civil Engineer	Air Quality/Noise
Wesley Stafford, P.E. Director of Traffic Engineering	NEPA Specialist, contributing author
Meredith Tredeau Environmental Planner	NEPA Specialist, CIA, hazardous materials, and contributing author
David Wilver, P.E. Civil Engineer	Noise Study Manager
John Wisdom System Analyst	GIS, corridor analysis
Greg Yarbrough GIS Director	GIS & Corridor Analysis Manager
Adobe Palm, LLC	
Deborah B. Harwell President and CEO	Media relations
Brockington and Associates, Inc.	
Ralph Bailey, Jr. RPA Principal Investigator	Cultural Resources
Tom Whitley, Ph.D., RPA Senior Archaeologist	Cultural Resources
Edward Salo Architectural Historian	Cultural Resources
Inna Burns GIS Specialist	Graphics for Cultural Resource Report

CDR Associates	
Louise Smart Facilitator	Facilitated initial ACT meetings
CECS	
Susan Land Director of Environmental Services	QA/QC Review of EIS
Brian L. Taylor Environmental Manager	QA/QC Review of EIS
Environmental Planning Strategies, Inc.	
Judith Lee President	Indirect and Cumulative Impacts
The Grant Group, Inc.	
Joe Grant Principal	Minority community outreach, public involvement
Marcia Wynn Administrative Assistant	Minority community outreach, public involvement
Deirdre Smith Administrative Assistant	Minority community outreach, public involvement
OLH International	
Phillip D'Ambrogi Vice President of Operations	Project Schedule
Tony Ervin Senior Scheduler/Project Manager	Project Schedule
PBS & J	
Don Lewis Vice President	Hurricane evacuation analysis
P.J. Noble & Associates, Inc.	
Patrick J. Noble President/CEO	Facilitator – Stakeholder working group
Jakiya Noble Administrative Assistant	Assisted with stakeholder working group
Press and Potter, LLC	
Dan Dozier Facilitator	Facilitated ACT Meetings
Carolina Resource Mapping	
Scott C. Williams President	Existing mapping and aerial photography

List of Acronyms

A

AAA	American Automobile Association
AADT	Average Annual Daily Traffic
ACT	Agency Coordination Team
AIWW	Atlantic Intercoastal Waterway
AST	Aboveground Storage Tank

B

BOD_5	Five-Day Biochemical Oxygen Demand
BMP	Best Management Practices

C

CAT	Corridor Analysis Tool
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CIA	Community Impact Assessment
COG	Council of Governments

D

dB	Decibel
dBA	A-weighted decibel
DDT	Dichlorodiphenyltrichloroethane
DO	Dissolved Oxygen

E

EDGE	Economic Development and Growth Evaluation
EIS	Environmental Impact Statement
EJ	Environmental Justice
ESA	Endangered Species Act of 1973

F

FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FEIS	Final Environmental Impact Statement
FW	Freshwaters

List of Acronyms

G	
GAP	Gap Analysis Program
GIS	Geographic Information System
GPS	Global Positioning System
GRP	Gross Regional Product
GSATS	Grand Strand Area Transportation Study
H	
HSR	High-Speed Rail
HUC	Hydrologic Unit Code
I	
ISTEA	Intermodal Surface Transportation Efficiency Act
J	
K	
L	
LUST	Leaking Underground Storage Tank
M	
Mg/L	Milligrams per Liter
MPO	Metropolitan Planning Organization
N	
NAACP	National Association for the Advancement of Colored People
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NEPA	National Environmental Protection Agency
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory

List of Acronyms

O	
ORW	Outstanding Resource Water
P	
pH	Hydrogen Ion Concentration
PPM	Parts Per Million
PPP	Public Private Partnership
Q	
R	
RCRA	Resource Conservation and Recovery Act
REMI	Regional Economic Models Incorporated
RIDE	Road Improvement and Development Effort
ROD	Record of Decision
S	
S1	Critically imperiled statewide because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation
S2	Imperiled statewide because of rarity or factor(s) making it vulnerable
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SCCCL	South Carolina Coastal Conservation League
SCDAH	South Carolina Department of Archives and History
SCDHEC	South Carolina Department of Health and Environmental Control
SCDHEC-OCRM	South Carolina Department of Health and Environmental Control, Office of Coastal Resource Management
SCDNR	South Carolina Department of Natural Resources
SCDOT	South Carolina Department of Transportation
SCEMD	South Carolina Emergency Management Division
SCPRT	South Carolina Parks, Recreation and Tourism
SDWIS	Safe Drinking Water Information System
SELC	Southern Environmental Law Center
SHPO	State Historic Preservation Office
SIB	State Infrastructure Bank
SOP	Standard Operating Procedures
STORET	Storage and Retrieval System (EPA Database)

List of Acronyms

T	
TEA-21	Transportation Equity Act for the 21st Century
TIFIA	Transportation Infrastructure Finance and Innovation Act
TNC	The Nature Conservancy
TNM	Traffic Noise Model
U	
$\mu G/M^3$	micrograms per cubic meter
USACE	United States Army Corp of Engineers
USCG	United States Coast Guard
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
V	
V/C	Volume to Capacity Ratio
VHT	Vehicle Hours Traveled
VMT	Vehicle Miles Traveled
W	
WWQA	Watershed Water Quality Assessment
X	
Y	
Z	

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Appendix A

Agency Le

U.S. Department of Transportation
Federal Highway Administration

SCDOT

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: November 4, 2004

In Reply Refer To:
HDA-SC

Mr. Ed Duncan
S.C. Department of Natural Resources
P.O. Box 12559
Charleston, SC 29412

Subject: I-73 Cooperating Agency Invitation

Dear Mr. Duncan:

As we discussed during the Agency Scoping Meeting on August 12, 2004, all members of the Agency Coordination Team are invited to become cooperating agencies on the I-73 project. As stated in *40 CFR 1501.6,* the FHWA, as the lead federal agency, may request any other agency that has jurisdiction by law or special expertise with respect to an environmental issue to be a cooperating agency.

In accordance with the above stated regulations, the FHWA and SCDOT take this opportunity to formally invite your agency to become a cooperating agency for the I-73 project. Attached are the CEQ Regulations *40 CFR 1501.6* that outline the duties of a lead agency and a cooperating agency. Please indicate, by signature at the bottom of this letter, your agreement to be a cooperating agency and return this letter. Please call my office at 803-765-5460 if you have any further questions.

Sincerely yours,

J. Shane Belcher
(for) Robert L. Lee
Division Administrator

As a representative of the SCDNR, I Robert E. Duncan
insert agency name *signature*
accept the invitation to become a cooperating agency on the I-73 project.

Cc: Mitchell Metts, SCDOT
Skip Johnson, The LPA Group

U.S. Department of Homeland Security
United States Coast Guard

Commander
Seventh Coast Guard District

909 SE 1st Ave. (Rm432)
Miami, Fl 33131
Staff Symbol: (obr)
Phone: 305-415-6749
Fax: 305-415-6763
Email: roverton@d7.uscg.mil

16590/SC I-73
Ser 1277
September 21, 2004

Robert L. Lee
Division Administrator
FHWA South Carolina
1835 Assembly Street
Columbia, SC 29201

Mr. Lee,

In reference to your letter dated September 2, 2004 entitled *I-73 Cooperating Agency Invitation*, I as the Coast Guard Seventh District Bridge Branch representative acknowledge receipt of and accept the invitation to be a cooperating agency.

The Coast Guard will be a cooperating agency on the South Carolina I-73 project in accordance with 40 CFR 1501.6 and as such provide comments concerning proposed bridges over navigable waterways of the United States that fall within the project corridor.

If you have any questions or concerns please call me at (305) 415-6749.

Sincerely,

RANDALL D. OVERTON
Bridge Management Specialist
U.S. Coast Guard
By direction

Enclosures: Your letter dated September 2, 2004 entitled *I-73 Cooperating Agency Invitation*.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
175 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407

September 15, 2004

Mr. Robert L. Lee
Division Administrator
Federal Highway Administration
1835 Assembly Street, Suite 1270
Columbia, SC 29201

Re: Interstate 73 Cooperating Agency Invitation

Dear Mr. Lee:

The U.S. Fish and Wildlife Service (Service) has received your letter requesting Service involvement as a cooperating agency for the proposed Interstate 73 through Marlboro, Dillon, Marion and Horry Counties, SC.

In accordance with applicable Council on Environmental Quality guidance, the Service would be pleased to serve as a National Environmental Policy Act "cooperating agency" in developing the Environmental Impact Statement (EIS). For that portion of the proposed project within South Carolina, our participation will be specifically limited to: (1) participating in meetings and field trips to obtain baseline information on project-area fish and wildlife resources in South Carolina; (2) evaluating the proposed project's impacts to fish and wildlife resources and habitats in South Carolina, and assisting in the development of measures to avoid, minimize, and/or compensate for those impacts; and (3) providing technical assistance in the development of a Biological Assessment describing the impacts of the proposed activity to federally listed threatened or endangered species and/or their critical habitat in South Carolina.

If the Service can be of further assistance to the Federal Highway Administration in this matter, please do not hesitate to contact me or our transportation liaison, Mr. Mark Caldwell, who may be reached at (843) 727-4707 ext. 12.

Sincerely,

Timothy N. Hall
Field Supervisor

TNH/MAC

FHWA South Carolina
RECEIVED
Federal Highway Administration
SEP 14 2004
DIVISION OFFICE
COLUMBIA, S.C.

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 2, 2004

In Reply Refer To:
HDA-SC

Mr. Prescott Brownell
NOAA Fisheries
217 Fort Johnson Road
Charleston, SC 29412

Subject: I-73 Cooperating Agency Invitation

Dear Mr. Brownell:

As we discussed during the Agency Scoping Meeting on August 12, 2004, all members of the Agency Coordination Team are invited to become cooperating agencies on the I-73 project. As stated in *40 CFR 1501.6*, the FHWA, as the lead federal agency, may request any other agency that has jurisdiction by law or special expertise with respect to an environmental issue to be a cooperating agency.

In accordance with the above stated regulations, the FHWA and SCDOT take this opportunity to formally invite your agency to become a cooperating agency for the I-73 project. Please indicate, by signature at the bottom of this letter, your agreement to be a cooperating agency and return this letter.

Sincerely yours,

Patrick Tyndall

for Robert L. Lee
Division Administrator

As a representative of the NOAA FISHERIES, I David Rackley
insert agency name *signature*
accept the invitation to become a cooperating agency on the I-73 project.

Cc: Mitchell Metts, SCDOT

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 2, 2004

In Reply Refer To:
HDA-SC

Mr. David Kelly
S.C. Department of Archives and History
8301 Parklane Road
Columbia, SC 29223

Subject: I-73 Cooperating Agency Invitation

Dear Mr. Kelly:

As we discussed during the Agency Scoping Meeting on August 12, 2004, all members of the Agency Coordination Team are invited to become cooperating agencies on the I-73 project. As stated in *40 CFR 1501.6*, the FHWA, as the lead federal agency, may request any other agency that has jurisdiction by law or special expertise with respect to an environmental issue to be a cooperating agency.

In accordance with the above stated regulations, the FHWA and SCDOT take this opportunity to formally invite your agency to become a cooperating agency for the I-73 project. Please indicate, by signature at the bottom of this letter, your agreement to be a cooperating agency and return this letter.

Sincerely yours,

Patrick Tyndall

for Robert L. Lee
Division Administrator

As a representative of the SC Dept of Archives + History / SC State Historic Preservation Office, I _____
insert agency name *signature*
accept the invitation to become a cooperating agency on the I-73 project.

Cc: Mitchell Metts, SCDOT

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 2, 2004

In Reply Refer To:
HDA-SC

Ms. Ramona McConney
U.S. Environmental Protection Agency
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303

Subject: I-73 Cooperating Agency Invitation

Dear Ms. McConney:

As we discussed during the Agency Scoping Meeting on August 12, 2004, all members of the Agency Coordination Team are invited to become cooperating agencies on the I-73 project. As stated in *40 CFR 1501.6*, the FHWA, as the lead federal agency, may request any other agency that has jurisdiction by law or special expertise with respect to an environmental issue to be a cooperating agency.

In accordance with the above stated regulations, the FHWA and SCDOT take this opportunity to formally invite your agency to become a cooperating agency for the I-73 project. Please indicate, by signature at the bottom of this letter, your agreement to be a cooperating agency and return this letter.

Sincerely yours,

Patrick Tyndall

for Robert L. Lee
Division Administrator

As a representative of the Elaine Mueller, I for USEPA
insert agency name *signature*
accept the invitation to become a cooperating agency on the I-73 project.

Cc: Mitchell Metts, SCDOT

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 2, 2004

Mr. Richard Chinnis
S.C. Department of Health and Environmental Control
1362 McMillan Avenue
Suite 400
Charleston, SC 29405

Subject: I-73 Cooperating Agency Invitation

Dear Mr. Chinnis:

As we discussed during the Agency Scoping Meeting on August 12, 2004, all members of the Agency Coordination Team are invited to become cooperating agencies on the I-73 project. As stated in *40 CFR 1501.6*, the FHWA, as the lead federal agency, may request any other agency that has jurisdiction by law or special expertise with respect to an environmental issue to be a cooperating agency.

In accordance with the above stated regulations, the FHWA and SCDOT take this opportunity to formally invite your agency to become a cooperating agency for the I-73 project. Please indicate, by signature at the bottom of this letter, your agreement to be a cooperating agency and return this letter.

Sincerely yours,

Patrick Tyndall

for Robert L. Lee
Division Administrator

As a representative of the SCDHEC/OCRM, I Richard Chinnis
insert agency name *signature*
accept the invitation to become a cooperating agency on the I-73 project.

Cc: Mitchell Metts, SCDOT

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 2, 2004

Mr. Charles Harrison
S.C. Department of Parks, Recreation and Tourism
1205 Pendleton Street
Columbia, SC 29201

Subject: I-73 Cooperating Agency Invitation

Dear Mr. Harrison:

As we discussed during the Agency Scoping Meeting on August 12, 2004, all members of the Agency Coordination Team are invited to become cooperating agencies on the I-73 project. As stated in *40 CFR 1501.6*, the FHWA, as the lead federal agency, may request any other agency that has jurisdiction by law or special expertise with respect to an environmental issue to be a cooperating agency.

In accordance with the above stated regulations, the FHWA and SCDOT take this opportunity to formally invite your agency to become a cooperating agency for the I-73 project. Please indicate, by signature at the bottom of this letter, your agreement to be a cooperating agency and return this letter.

Sincerely yours,

Patrick Tyndall

for Robert L. Lee
Division Administrator

As a representative of the SC Dept. Parks, Rec, Tourism I Charles Harrison
insert agency name *signature*
accept the invitation to become a cooperating agency on the I-73 project.

Cc: Mitchell Metts, SCDOT

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 2, 2004

In Reply Refer To:
HDA-SC

Mr. Randall Overton
U.S. Coast Guard
909 S.E. 1st Avenue
Miami, Fl 33131-3050

Subject: I-73 Cooperating Agency Invitation

Dear Mr. Overton:

As we discussed during the Agency Scoping Meeting on August 12, 2004, all members of the Agency Coordination Team are invited to become cooperating agencies on the I-73 project. As stated in *40 CFR 1501.6*, the FHWA, as the lead federal agency, may request any other agency that has jurisdiction by law or special expertise with respect to an environmental issue to be a cooperating agency.

In accordance with the above stated regulations, the FHWA and SCDOT take this opportunity to formally invite your agency to become a cooperating agency for the I-73 project. Please indicate, by signature at the bottom of this letter, your agreement to be a cooperating agency and return this letter.

Sincerely yours,

Patrick Rendall

for Robert L. Lee
Division Administrator

As a representative of the U.S. Coast Guard, I Randall Overton
insert agency name *signature*
accept the invitation to become a cooperating agency on the I-73 project.

Cc: Mitchell Metts, SCDOT

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 2, 2004

In Reply Refer To:
HDA-SC

Ms. Rheta Gheddings
S.C. Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Subject: I-73 Cooperating Agency Invitation

Dear Ms. Gheddings:

As we discussed during the Agency Scoping Meeting on August 12, 2004, all members of the Agency Coordination Team are invited to become cooperating agencies on the I-73 project. As stated in *40 CFR 1501.6,* the FHWA, as the lead federal agency, may request any other agency that has jurisdiction by law or special expertise with respect to an environmental issue to be a cooperating agency.

In accordance with the above stated regulations, the FHWA and SCDOT take this opportunity to formally invite your agency to become a cooperating agency for the I-73 project. Please indicate, by signature at the bottom of this letter, your agreement to be a cooperating agency and return this letter.

Sincerely yours,

Robert L. Lee
Division Administrator

As a representative of the _____, I _____
insert agency name *signature*
accept the invitation to become a cooperating agency on the I-73 project.

Cc: Mitchell Metts, SCDOT

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 2, 2004

In Reply Refer To:
HDA-SC

Mr. John Boettcher
S.C. Emergency Management Division
1100 Fish Hatchery Road
West Columbia, SC 29172

Subject: I-73 Cooperating Agency Invitation

Dear Mr. Boettcher:

As we discussed during the Agency Scoping Meeting on August 12, 2004, all members of the Agency Coordination Team are invited to become cooperating agencies on the I-73 project. As stated in *40 CFR 1501.6,* the FHWA, as the lead federal agency, may request any other agency that has jurisdiction by law or special expertise with respect to an environmental issue to be a cooperating agency.

In accordance with the above stated regulations, the FHWA and SCDOT take this opportunity to formally invite your agency to become a cooperating agency for the I-73 project. Please indicate, by signature at the bottom of this letter, your agreement to be a cooperating agency and return this letter.

Sincerely yours,

Robert L. Lee
Division Administrator

As a representative of the _____, I _____
insert agency name *signature*
accept the invitation to become a cooperating agency on the I-73 project.

Cc: Mitchell Metts, SCDOT

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 2, 2004

In Reply Refer To:
HDA-SC

Mr. Travis Hughes
U.S. Army Corps of Engineers
69A Hagood Avenue
Charleston, SC 29403

Subject: I-73 Cooperating Agency Invitation

Dear Mr. Hughes:

As we discussed during the Agency Scoping Meeting on August 12, 2004, all members of the Agency Coordination Team are invited to become cooperating agencies on the I-73 project. As stated in *40 CFR 1501.6,* the FHWA, as the lead federal agency, may request any other agency that has jurisdiction by law or special expertise with respect to an environmental issue to be a cooperating agency.

In accordance with the above stated regulations, the FHWA and SCDOT take this opportunity to formally invite your agency to become a cooperating agency for the I-73 project. Please indicate, by signature at the bottom of this letter, your agreement to be a cooperating agency and return this letter.

Sincerely yours,

Robert L. Lee
Division Administrator

As a representative of the _____, I _____
insert agency name *signature*
accept the invitation to become a cooperating agency on the I-73 project.

Cc: Mitchell Metts, SCDOT

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 2, 2004

In Reply Refer To:
HDA-SC

Ms. Tina Hadden
U.S. Army Corps of Engineers
69A Hagood Avenue
Charleston, SC 29403-5107

Subject: I-73 Cooperating Agency Invitation

Dear Ms. Hadden:

As we discussed during the Agency Scoping Meeting on August 12, 2004, all members of the Agency Coordination Team are invited to become cooperating agencies on the I-73 project. As stated in *40 CFR 1501.6,* the FHWA, as the lead federal agency, may request any other agency that has jurisdiction by law or special expertise with respect to an environmental issue to be a cooperating agency.

In accordance with the above stated regulations, the FHWA and SCDOT take this opportunity to formally invite your agency to become a cooperating agency for the I-73 project. Please indicate, by signature at the bottom of this letter, your agreement to be a cooperating agency and return this letter.

Sincerely yours,

Robert L. Lee
Division Administrator

As a representative of the _____, I _____
insert agency name *signature*
accept the invitation to become a cooperating agency on the I-73 project.

Cc: Mitchell Metts, SCDOT

The State of South Carolina
Military Department

OFFICE OF THE ADJUTANT GENERAL

STANHOPE S. SPEARS
MAJOR GENERAL
THE ADJUTANT GENERAL

November 2, 2005

Mr. Patrick Tyndall
Environmental Program Manager
Federal Highway Administration
1835 Assembly Street, Suite 1270
Columbia, SC 29201-2430

Re: I-73 Concurrence at Purpose and Need Decision Point

Dear Mr. Tyndall:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) have requested concurrence regarding the purpose and need for the I-73 project. As Director of the South Carolina Emergency Management Division, with a division representative serving on the I-73 Agency Coordination Team (ACT), I agree with the consensus of the ACT and in turn provide my concurrence at this decision point.

This concurrence is based upon evaluation and discussion of the purpose and needs for the project. Concurrence at this decision point does not guarantee permit issuance.

Sincerely,

Ronald C. Osborne
Director

Emergency Management Division
2779 Fish Hatchery Road
West Columbia, South Carolina 29172
(803) 737-8500 • Fax: (803) 737-8570

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

March 28, 2005

Mr. Patrick Tyndall
Environmental Program Manager
Federal Highway Administration
1835 Assembly Street, Suite 1270
Columbia, SC 29201-2430

Re: I-73 Concurrence at Purpose and Need Decision Point

Dear Mr. Tyndall:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) requested concurrence regarding the purpose and need statement for the I-73 project. As a representative of the Environmental Protection Agency serving on the I-73 Agency Coordination Team (ACT), I agree with the consensus of the ACT and in turn provide concurrence at this decision point.

This concurrence is based upon evaluation and discussion of the purpose and need for the project with regard to currently available information. If new information becomes available during the NEPA process, the purpose and need statement may need to be refined.

Concurrence at this decision point does not guarantee permit issuance. Please be aware that listing economic development as a primary purpose in the EIS may complicate the evaluation process that will take place under the 404(b)(1) guidelines.

While EPA realizes that one of the primary purposes of the project is to promote economic development, it is still crucial to consider a broad range of alternatives during the early scoping process. We expect that when further detailed data is evaluated, some preliminary alternatives may be eliminated from consideration due to data refinements and potential impacts. Current, accurate data should be used to ensure that a reasonable range of preliminary alternatives for a project of this magnitude and importance be considered, so that after refinements take place a range of viable alternatives will be left to be considered.

Thank you for your early coordination with us. If you have any questions, please contact Ramona McConney of my staff at (404) 562-9615.

Sincerely,

Heinz J. Mueller, Chief
EPA Program Office

U.S. Department of Homeland Security
United States Coast Guard

Commander
Seventh Coast Guard District

909 SE 1st Ave. (Rm432)
Miami, Fl 33131
Staff Symbol: (obr)
Phone: 305-415-6749
Fax: 305-415-6763
Email: roverton@d7.uscg.mil

16590/SC I-73
Ser: 1323
December 15, 2004

Mr. Patrick Tyndall
Environmental Program Manager
Federal Highway Administration
1835 Assembly Street, Suite 1270
Columbia, SC 29201-2430

Re: I-73 Concurrence at Purpose and Need Decision Point

Dear Mr. Tyndall:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) have requested concurrence regarding the purpose and need for the I-73 project. As a representative of U. S. Coast Guard Seventh District Bridge Branch, serving on the I-73 Agency Coordination Team (ACT), I agree with the consensus of the ACT and in turn provide my concurrence at this decision point.

This concurrence is based upon evaluation and discussion of the purpose and needs for the Project. Concurrence at this decision point does not guarantee permit issuance.

If you have any questions or concerns on this matter please call me at (305) 415-6749.

Sincerely,

RANDALL D. OVERTON
Bridge Management Specialist
U.S. Coast Guard
By direction

South Carolina Department of
Natural Resources

John E. Frampton
Director
John V. Miglarese
Deputy Director for
Marine Resources

December 14, 2004

Mr. Patrick Tyndall
Environmental Program Manager
Federal Highway Administration
1835 Assembly Street, Suite 1270
Columbia, SC 29201-2430

Re: I-73 Concurrence at Purpose and Need Decision Point

Dear Mr. Tyndall:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) have requested concurrence regarding the purpose and need for the I-73 project. The Purpose and Need Statement was approved by consensus of the I-73 Agency Coordination Team (ACT).

Personnel with the S.C. Department of Natural Resources have participated in the development of the Purpose and Need Statement and concur with the use of this statement for the I-73 Project.

Sincerely,

Robert E. Duncan
Environmental Programs Director

cc: Mitchell Metts - SCDOT

The South Carolina Archives & History Center
History & Heritage For All Generations

December 13, 2004

Mr. Patrick Tyndall
Environmental Program Manager
Federal Highway Administration
1835 Assembly Street, Suite 1270
Columbia, SC 29201-2430

Re: I-73 Concurrence at Purpose and Need Decision Point

Dear Mr. Tyndall:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) have requested concurrence regarding the purpose and need for the I-73 project. As a representative of the South Carolina Department of Archives and History serving on the I-73 Agency Coordination Team (ACT), I agree with the consensus of the ACT and in turn provide my concurrence at this decision point.

This concurrence is based upon evaluation and discussion of the purpose and needs for the Project. Concurrence at this decision point does not guarantee permit issuance.

Sincerely,

David P. Kelly
DOT Project Coordinator

United States Department of the Interior

FISH AND WILDLIFE SERVICE
176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407

December 13, 2004

Mr. Patrick Tyndall
Environmental Program Manager
Federal Highway Administration
1835 Assembly Street, Suite 1270
Columbia, SC 29201-2430

Re: I-73 Purpose and Need Concurrence

Dear Mr. Tyndall:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) have requested concurrence from the U.S. Fish and Wildlife Service (Service) regarding the Purpose and Need for the I-73 project. The Purpose and Need for this project was conceived and prepared jointly by the Agency Coordination Team (ACT) over the past year.

With this letter, the Service concurs with the Purpose and Need for the I-73 project. This concurrence is based upon a consensus for the final draft of the Purpose and Need discussed during the December 9, 2004, ACT meeting in Columbia, SC. If new information becomes available that could alter the final draft, this concurrence determination may be affected and further consultation with the Service may be required.

Sincerely,

Timothy N. Hall
Field Supervisor

TNH/MAC

South Carolina
Department of Parks, Recreation & Tourism

Chad Prosser, Director

December 10, 2004

Mr. Patrick Tyndall
Environmental Program Manager
Federal Highway Administration
1835 Assembly Street, Suite 1270
Columbia, SC 29201-2430

Re: I-73 Concurrence at Purpose and Need Decision Point

Dear Mr. Tyndall:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) have requested concurrence regarding the purpose and need for the I-73 project. As a representative of the Department of Parks, Recreation and Tourism serving on the I-73 Agency Coordination Team (ACT), I agree with the consensus of the ACT and in turn provide my concurrence at this decision point.

This concurrence is based upon evaluation and discussion of the purpose and needs for the Project. Concurrence at this decision point does not guarantee permit issuance.

Sincerely,

Charles W Harrison

Charles W Harrison
Deputy Director

cc: Chad Prosser
Director

Amy Duffy
Chief of Staff

1205 Pendleton Street • Columbia, South Carolina 29201 • Telephone (803) 734-0166 / Fax (803) 734-1409

DEPARTMENT OF THE ARMY
CHARLESTON DISTRICT, CORPS OF ENGINEERS
69-A Hagood Avenue
CHARLESTON, SOUTH CAROLINA 29403-5107

REPLY TO
ATTENTION OF

Regulatory Division

Mr. Robert L. Lee
Division Administrator
Federal Highway Administration
1835 Assembly Street, Suite 1270
Columbia, South Carolina 29201-2430

Dear Mr. ~~Lee~~: Bob

The Federal Highway Administration (FHWA) requested the U.S. Army Corps of Engineers, Charleston District, participate as a cooperating agency in the preparation of an Environmental Impact Statement for the I-73 project. As stated in 40 CFR 1501.6, the FHWA, as the lead Federal action agency, may request any other agency that has jurisdiction by law or special expertise with respect to an environmental issue to be a cooperating agency. In accordance with the above stated regulations, the Corps formally accepts your invitation to become a cooperating agency.

In addition, FHWA and the South Carolina Department of Transportation requested concurrence regarding the Interagency Coordination Process for the I-73 project. The Interagency Coordination Process has outlined the level of agency involvement, key decision points in the NEPA/permitting process, as well as a dispute resolution process. We accept this approach and in turn provide our concurrence on the Interagency Coordination Process. We are committed to integrating and streamlining our permit review process with your planning and environmental review processes.

Lastly, the FHWA and the SCDOT requested concurrence regarding the purpose and need for this project. We accept the stated purpose and need and provide concurrence in that regard. Please be advised that upon receipt of a permit application for the proposed project, the Corps will make a separate determination of project purpose for its evaluation under Section 404 of the Clean Water Act. The Corps determination of project purpose may differ from the applicant's when making the distinction between basic and overall project purpose.

This being the first attempt to merge the NEPA/404 processes between FHWA, SCDOT, and the Corps, Charleston District, we have recognized some fundamental differences in the way our agencies conduct an environmental review of the projects which we are involved. This is primarily due to the Corps authority under Section 404 of the Clean Water Act. The Section 404(b)(1) Guidelines require that the Corps define the project's basic and overall project purpose, determine if the project is water dependent, and conduct an analysis of practicable alternatives.

The Corps is concerned regarding critical decisions made on the EIS as a "consensus vote" when we are either unable to take a position or our position is contrary to the consensus of the interagency team. These decisions may jeopardize our ability to utilize documentation from

the EIS and require subsequent analysis, specifically, our utilization of the alternatives analysis in the EIS to determine the project's compliance with the Section 404(b)(1) Guidelines. Therefore, we feel it is paramount that FHWA, SCDOT, and the Corps meet to understand each others missions and statutory requirements, define the merged process, and resolve outstanding issues.

We appreciate your invitation and look forward to our continued collaboration with you on this project. Please be advised that our concurrences are based upon the most current information available. If new information becomes available that requires further consideration, the concurrence may in turn be affected. Although we anticipate our participation as cooperating agency will help facilitate the permit process, it can in no way guarantee permit issuance.

Bob-
I look forward to talking to you about I-73 as well as the NEPA/404 process.
Ed

Sincerely,

Edward R. Fleming
Lieutenant Colonel, U.S. Army
District Commander

Copy furnished:

Ms. Elizabeth Mabry
Executive Director
South Carolina Department of Transportation
955 Park Street
Post Office Box 191
Columbia, South Carolina 29202-0191

South Carolina
Department of Parks, Recreation & Tourism

Chad Prosser, Director

October 11, 2005

Dan Dozier
CDR Associates
7910 Woodmont Avenue
Suite 805
Bethesda, MD 20814

Re: I-73 Concurrence on the Interagency Coordination Process

Dear Mr. Metts:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) have requested concurrence regarding the Interagency Coordination Process for the I-73 project. The Interagency Coordination Process has outlined the level of agency involvement, key decision points in the NEPA/permitting process, as well as a dispute resolution process. The goals of the Interagency Coordination Process are to increase agency and public involvement, develop a mechanism that leads to decisions that stick, improve process efficiency, merge NEPA and the Section 404/401 processes, meet or exceed agency mandates, and to enhance communication and relationships.

As a representative of S.C. Parks, Recreation & Tourism serving on the I-73 Agency Coordination Team (ACT), I agree with this approach and in turn provide my agency's concurrence on the Interagency Coordination Process. This concurrence is based upon the most current scientific information. If new scientific information becomes available that could affect the decision made, the concurrence may in turn be affected. In addition, this concurrence does not guarantee permit issuance.

Sincerely,

Charles Harrison

Charles Harrison
Deputy Director

cc: Mitchell Metts

1205 Pendleton Street • Columbia, South Carolina 29201 • Telephone (803) 734-0166 / Fax (803) 734-1409

The State of South Carolina
Military Department

OFFICE OF THE ADJUTANT GENERAL

STANHOPE S. SPEARS
MAJOR GENERAL
THE ADJUTANT GENERAL

August 25, 2004

Mr. Mitchell Metts
Program Manager
South Carolina Department of Transportation
P.O. Box 191
Columbia, SC 29202

Re: I-73 Concurrence on the Interagency Coordination Process

Dear Mr. Metts:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) have requested our concurrence regarding the Interagency Coordination Process for the I-73 project. The most recent Final Process Agreement, dated August 13, 2004, adequately outlines the Interagency Coordination Process, the level of agency involvement, key decision points in the NEPA/permitting process, and the proposed dispute resolution process.

As Director of the South Carolina Emergency Management Division with a division representative serving on the I-73 Agency Coordination Team (ACT), I agree with this approach and in turn provide my division's concurrence on the Interagency Coordination Process.

Sincerely,

Ronald C. Osborne
Director

Emergency Management Division
1100 Fish Hatchery Road
West Columbia, South Carolina 29172
(803) 737-8500 • Fax: (803)-737-8570

South Carolina Department of
Natural Resources

John E. Frampton
Director

August 19, 2004

Mr. Mitchell Metts
Program Manager
South Carolina Department of Transportation
P.O. Box 191
Columbia, SC 29202

Re: Concurrence on the I-73 Interagency Coordination Process

Dear Mr. Metts:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) have requested concurrence regarding the Interagency Coordination Process for the I-73 project. This process has outlined the level of agency involvement, identified key decision points in the NEPA/permitting process, as well as provided a dispute resolution process.

Personnel with the S.C. Department of Natural Resources have participated in the development of the Interagency Coordination Process and concur with the use of this process for the I-73 Project.

Sincerely,

Ed Duncan

Robert E. Duncan
Environmental Program Director

cc: Patrick Tyndall - FHWA

Rembert C. Dennis Building • 1000 Assembly St. • P.O. Box 167 • Columbia, S.C. 29202 • Telephone: 803/734-4007
EQUAL OPPORTUNITY AGENCY • framptonj@scdnr.state.sc.us • www.dnr.state.sc.us • PRINTED ON RECYCLED PAPER

South Carolina Archives & History Center
History & Heritage For All Generations

August 18, 2004

Mr. Mitchell Metts
Program Manager
South Carolina Department of Transporta
P.O. Box 191
Columbia, SC 29202

Re: **I-73 Concurrence on the Interagency Coordination Process**

Dear Mr. Metts:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) have requested concurrence regarding the Interagency Coordination Process for the I-73 project. The Interagency Coordination Process has outlined the level of agency involvement, key decision points in the NEPA/permitting process, as well as a dispute resolution process. The goals of the Interagency Coordination Process are to increase agency and public involvement, develop a mechanism that leads to decisions that stick, improve process efficiency, merge NEPA and the Section 404/401 processes, meet or exceed agency mandates, and to enhance communication and relationships.

As a representative of the South Carolina State Historic Preservation Office, serving on the I-73 Agency Coordination Team (ACT), I agree with this approach and in turn provide my agency's concurrence on the Interagency Coordination Process. This concurrence is based upon the most current scientific information. If new scientific information becomes available that could affect the decision made, the concurrence may in turn be affected. In addition, this concurrence does not guarantee permit issuance.

Sincerely,

David P. Kelly
Department of Transportation Project Coordinator
SC State Historic Preservation Office

cc: Patrick Tyndall, FHWA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 17, 2004

Mr. Patrick Tyndall
Environmental Program Manager
Federal Highway Administration
1835 Assembly Street, Suite 1270
Columbia, SC 29201-2430

RE: I-73 Concurrence on the Interagency Coordination Process

Dear Mr. Tyndall:

This letter is in response to the request from the Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) for concurrence regarding the Interagency Coordination Process for the I-73 Project. EPA reviewed the Final Draft Interagency Coordination Process agreement, as discussed in the August 12, 2004 meeting in Columbia, SC.

EPA concurs with this approach, and is pleased with your early coordination efforts for this project. As we previously discussed, EPA's cooperating agency role does not in any way preclude our regulatory responsibilities under Section 309 of the Clean Air Act and Section 404 of the Clean Water Act.

If you need additional information, please contact Ramona McConney of my staff at (404) 562-9615. For questions regarding Section 404 issues, please contact Bob Lord at (404) 562-9408. We look forward to working with FHWA and SCDOT on this important project.

Sincerely,

Heinz Mueller

Heinz Mueller, Chief
NEPA Program Office

United States Department of the Interior

FISH AND WILDLIFE SERVICE
176 Croghan Spur Road, Suite 200
Charleston, South Carolina 29407

August 17, 2004

Mr. Patrick Tyndall
Environmental Program Manager
Federal Highway Administration
1835 Assembly Street, Suite 1270
Columbia, SC 29201-2430

Re: I-73 Concurrence on the Interagency Coordination Process and Dispute Resolution

Dear Mr. Tyndall:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) have requested concurrence from the U.S. Fish and Wildlife Service (Service) regarding the Interagency Coordination Process for the I-73 project. The Interagency Coordination Process has outlined the level of agency involvement, key decision points in the NEPA/permitting process, as well as a dispute resolution process. The goals of the Interagency Coordination Process are to increase agency and public involvement, develop a mechanism that leads to decisions that stick, improve process efficiency, merge NEPA and the Section 404/401 processes, meet or exceed agency mandates, and to enhance communication and relationships.

The Service agrees with this approach and is providing concurrence on the Interagency Coordination Process. This concurrence is based upon the most recent information revealed and discussed during the August 12, 2004, coordination meeting in Columbia, SC. If new information becomes available that could affect the original decision, this concurrence determination may be affected and further consultation with the Service may be required.

Sincerely,

Timothy N. Hall
Field Supervisor

TNH/MAC

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Habitat Conservation Division
219 Fort Johnson Road
Charleston, South Carolina 29412

August 18, 2004

Mr. Mitchell Metts
Program Manager
South Carolina Department of Transportation
P.O. Box 191
Columbia, SC 29202

Re: I-73 Interagency Coordination Process Concurrence

Dear Mr. Metts:

This responds to your request concerning concurrence regarding the Interagency Coordination Process (ICP) for the I-73 project. The ICP outlines agency involvement, identifies key decision points in the NEPA/permitting process, and establishes a dispute resolution process. The goals of the ICP are to increase agency and public involvement, develop a mechanism that leads to firm decisions, improves efficiency, merges NEPA and the Section 404/401 processes, meets or exceeds agency mandates, and enhances communication and relationships.

The National Marine Fisheries Service (NOAA Fisheries), generally agrees with this approach and the provisions set forth in the ICP. In agreeing to abide by the ICP, NOAA Fisheries in no way relinquishes its responsibilities pursuant to requirements of the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act, nor do we agree to any provision that would involve transfer or sharing of our statutory responsibilities. We further note that our views will be based upon the most current and reliable scientific information and facts; however, if new scientific information or facts become available, then such information and facts may serve as a basis for modification of existing decisions.

Finally, I would like to use this opportunity to notify you that the NOAA Fisheries' technical representative has been changed. Mr. Prescott Brownell, Fishery Biologist, will replace Jocelyn Karazsia in this capacity. Additionally, please note that this concurrence letter represents the views of NOAA Fisheries' Habitat Conservation Division and that our Protected Resources Division may provide a separate response.

We look forward to working with you and the other agencies throughout this process. If further assistance is needed, please contact Prescott Brownell at the letterhead address, or by telephone at (843) 762-8591.

Sincerely,

David H. Rackley

David H. Rackley
Supervisor
South Atlantic Branch

cc:
SCDNR
SCDNR, MRD
SCDHEC
FWS, Charleston
COE, Charleston
EPA, Atlanta
F/SER3 Bernhart

June 7, 2004

Dr. Stephania Bolden
Protected Resources Division
National Marine Fisheries
National Oceanic and Atmospheric Administration
9721 Executive Center Drive North
St. Petersburg, Florida 33702

SUBJECT: I-73 Interagency Workshop

Dear Dr. Bolden:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) are hosting an Interagency Workshop regarding the proposed I-73 project. The Workshop will be held on June 30th and July 1st at The Hilton at Charleston Harbor Resort and Marina in Mount Pleasant. We are requesting that your agency participate in this very important Workshop. The intent of the Workshop is to begin the Interagency Coordination process for the I-73 project.

Interstate 73 (I-73) is a new, major interstate roadway facility proposed from Michigan to South Carolina. Because of the nature and magnitude of this project, the SCDOT and the FHWA are proposing an Interagency Coordination process to achieve the best overall public decision on this project. The goals of this Interagency coordination are to streamline the process in a manner consistent with federal laws and policies, while at the same time insuring stewardship of resources. This would be accomplished by developing a process that will:

- Aggressively pursue improved communication and collaboration with all Federal, State, and local partners in the transportation decision making process to gain meaningful involvement;
- Streamline and improve NEPA process efficiency for an Environmental Impact Statement on the I-73 project, including the merger of the NEPA and 404 processes.

- Actively involve all partners in an open, cooperative, and collaborative process, beginning at the earliest planning stages and continuing through project development into construction.
- Help each agency meet or exceed their objectives, including the transportation objectives of this project.

We propose that two steps be taken to start the process. Both of these steps will be discussed in further detail at the Workshop.

Step 1 – Establish an Agency Coordination Team (ACT)
The ACT will serve as the primary decision-making body for the I-73 project regarding all NEPA and permit decisions. The ACT will be composed of one agency designee from the following agencies:

- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- U.S. Environmental Protection Agency
- NOAA Fisheries
- Federal Highway Administration
- U.S. Coast Guard
- S.C. Emergency Management Division Representative
- S.C. Parks, Recreation, & Tourism Representative (PRT)
- S.C. Department of Health and Environmental Control
- SCDHEC-Office of Ocean and Coastal Resource Management
- S.C. Department of Natural Resources
- State Historic Preservation Officer
- S. C. Department of Transportation

It is important to note that ACT members should be empowered to attend ACT team meetings and make important project decisions. The intent is for each agency's ACT team member to stick with the I-73 project for the duration of the EIS and permitting, approximately 3 years.

Step 2 – Produce a Signed Process Agreement
The next step is to have all ACT members agree to an Interagency Coordination Process for the I-73 project. A professional facilitator will be employed to make sure that ACT members have input to shape the design of the process. Once ACT members have agreed to a process, a written agreement will be signed by all ACT members.

The process agreement will outline the level of involvement for each agency. The agreement will also spell out key decision points in the NEPA/ permitting process. Once the ACT members have made a decision on the project, that decision will not be revisited.

The process agreement will also include a detailed dispute resolution process. If, for some reason, a decision cannot be agreed upon by the ACT members, then the decision will be elevated according to the dispute resolution process.

Please confirm that your agency will participate in the Workshop with an email to Mr. Skip Johnson (sjohnson@lpagroup.com). We will be sending you a package of information before the meeting, along with a draft process agreement that can serve as a starting point for our discussions. We look forward to working with you to develop a process that will be meaningful and can act as a model for future projects in South Carolina and the rest of the nation.

Sincerely,

Patrick

Patrick L. Tyndall
Environmental Program Manager
Federal Highway Administration

Mitchell

Mitchell Metts. P.E.
Project Manager
SC Dept. of Transportation

cc: Ms. Tina Hadden, U.S. Army Corps of Engineers
Mr. Tim Hall, U.S. Fish and Wildlife Service
Ms. Ramona McConney, U.S. Environmental Protection Agency
Mr. Prescott Brownell, NOAA Fisheries
Mr. David Rackley, NOAA Fisheries
Mr. Patrick Tyndall, Federal Highway Administration
Mr. Brodie Rich, U.S. Coast Guard
Mr. Ronald Osborne, S.C. Emergency Management Division Representative
Mr. Chad Prosser, S.C. Parks, Recreation, & Tourism Representative (PRT)
Ms. Rheta Geddings, S.C. Department of Health and Environmental Control
Mr. Richard Chinnis, SCDHEC-Office of Ocean and Coastal Resource Management
Mr. Ed Duncan, S.C. Department of Natural Resources
Ms. Mary Edmunds, State Historic Preservation Office
Mr. Wayne Hall, S. C. Department of Transportation
Mr. Skip Johnson, THE LPA GROUP

June 7, 2004

Mr. Richard Chinnis
Director, Regulatory Programs Division
Office of Ocean and Coastal Resource Management
S.C. Department of Health and Environmental Control
1362 McMillan Avenue, Suite 400
Charleston, South Carolina 29405

SUBJECT: I-73 Interagency Workshop

Dear Mr. Chinnis:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) are hosting an Interagency Workshop regarding the proposed I-73 project. The Workshop will be held on June 30th and July 1st at The Hilton at Charleston Harbor Resort and Marina in Mount Pleasant. We are requesting that your agency participate in this very important Workshop. The intent of the Workshop is to begin the Interagency Coordination process for the I-73 project.

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- Aggressively pursue improved communication and collaboration with all Federal, State, and local partners in the transportation decision making process to gain meaningful involvement;
- Streamline and improve NEPA process efficiency for an Environmental Impact Statement on the I-73 project, including the merger of the NEPA and 404 processes.

June 7, 2004

Mr. Ed Duncan
Director of Environmental Programs
S.C. Department of Natural Resources
P.O. Box 167
Columbia, South Carolina 29202

SUBJECT: I-73 Interagency Workshop

Dear Mr. Duncan:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) are hosting an Interagency Workshop regarding the proposed I-73 project. The Workshop will be held on June 30th and July 1st at The Hilton at Charleston Harbor Resort and Marina in Mount Pleasant. We are requesting that your agency participate in this very important Workshop. The intent of the Workshop is to begin the Interagency Coordination process for the I-73 project.

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June 7, 2004

Ms. Mary Edmunds
S.C. Department of Archives and History
8301 Parklane Road
Columbia, South Carolina 29223

SUBJECT: I-73 Interagency Workshop

Dear Ms. Edmunds:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) are hosting an Interagency Workshop regarding the proposed I-73 project. The Workshop will be held on June 30th and July 1st at The Hilton at Charleston Harbor Resort and Marina in Mount Pleasant. We are requesting that your agency participate in this very important Workshop. The intent of the Workshop is to begin the Interagency Coordination process for the I-73 project.

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- Actively involve all partners in an open, cooperative, and collaborative process, beginning at the earliest planning stages and continuing through project development into construction.

June 7, 2004

Ms. M. Rheta Geddings
Director
Division of Water Quality
S.C. Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

SUBJECT: I-73 Interagency Workshop

Dear Ms. Geddings:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) are hosting an Interagency Workshop regarding the proposed I-73 project. The Workshop will be held on June 30th and July 1st at The Hilton at Charleston Harbor Resort and Marina in Mount Pleasant. We are requesting that your agency participate in this very important Workshop. The intent of the Workshop is to begin the Interagency Coordination process for the I-73 project.

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June 7, 2004

Ms. Tina Hadden
Regulatory Division
U.S. Army Corps of Engineers
P.O. Box 919
Charleston, South Carolina 29402-0919

SUBJECT: I-73 Interagency Workshop

Dear Ms. Hadden:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) are hosting an Interagency Workshop regarding the proposed I-73 project. The Workshop will be held on June 30th and July 1st at The Hilton at Charleston Harbor Resort and Marina in Mount Pleasant. We are requesting that your agency participate in this very important Workshop. The intent of the Workshop is to begin the Interagency Coordination process for the I-73 project.

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June 7, 2004

Mr. Tim Hall
Project Leader
U.S. Fish and Wildlife Service
176 Croghan Spur Road
Suite 200
Charleston, South Carolina 29407

SUBJECT: I-73 Interagency Workshop

Dear Mr. Hall:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) are hosting an Interagency Workshop regarding the proposed I-73 project. The Workshop will be held on June 30th and July 1st at The Hilton at Charleston Harbor Resort and Marina in Mount Pleasant. We are requesting that your agency participate in this very important Workshop. The intent of the Workshop is to begin the Interagency Coordination process for the I-73 project.

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June 7, 2004

Mr. Heinz J. Mueller
Chief
Office of Environmental Assessment
U.S. Environmental Protection Agency, Region IV
Atlanta Federal Center
61 Forsyth Street
Atlanta, Georgia 30303

SUBJECT: I-73 Interagency Workshop

Dear Mr. Mueller:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) are hosting an Interagency Workshop regarding the proposed I-73 project. The Workshop will be held on June 30th and July 1st at The Hilton at Charleston Harbor Resort and Marina in Mount Pleasant. We are requesting that your agency participate in this very important Workshop. The intent of the Workshop is to begin the Interagency Coordination process for the I-73 project.

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June 7, 2004

Mr. Ronald C. Osborne
Director
South Carolina Emergency Management Division
1100 Fish Hatchery Road
West Columbia, South Carolina 29172

SUBJECT: I-73 Interagency Workshop

Dear Mr. Osborne:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) are hosting an Interagency Workshop regarding the proposed I-73 project. The Workshop will be held on June 30th and July 1st at The Hilton at Charleston Harbor Resort and Marina in Mount Pleasant. We are requesting that your agency participate in this very important Workshop. The intent of the Workshop is to begin the Interagency Coordination process for the I-73 project.

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June 7, 2004

Mr. Chad Prosser
Executive Director
S.C. Department of Parks, Recreation, and Tourism
1205 Pendleton Street
Columbia, South Carolina 29201

SUBJECT: I-73 Interagency Workshop

Dear Mr. Prosser:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) are hosting an Interagency Workshop regarding the proposed I-73 project. The Workshop will be held on June 30th and July 1st at The Hilton at Charleston Harbor Resort and Marina in Mount Pleasant. We are requesting that your agency participate in this very important Workshop. The intent of the Workshop is to begin the Interagency Coordination process for the I-73 project.

Interstate 73 (I-73) is a new, major interstate roadway facility proposed from Michigan to South Carolina. Because of the nature and magnitude of this project, the SCDOT and the FHWA are proposing an Interagency Coordination process to achieve the best overall public decision on this project. The goals of this Interagency coordination are to streamline the process in a manner consistent with federal laws and policies, while at the same time insuring stewardship of resources. This would be accomplished by developing a process that will:

- Aggressively pursue improved communication and collaboration with all Federal, State, and local partners in the transportation decision making process to gain meaningful involvement;
- Streamline and improve NEPA process efficiency for an Environmental Impact Statement on the I-73 project, including the merger of the NEPA and 404 processes.

June 7, 2004

Mr. Brodie Rich
Project Manager
Seventh District Bridge Section
U.S. Coast Guard
909 S.E. 1st Avenue
Miami, Florida 33131-3050

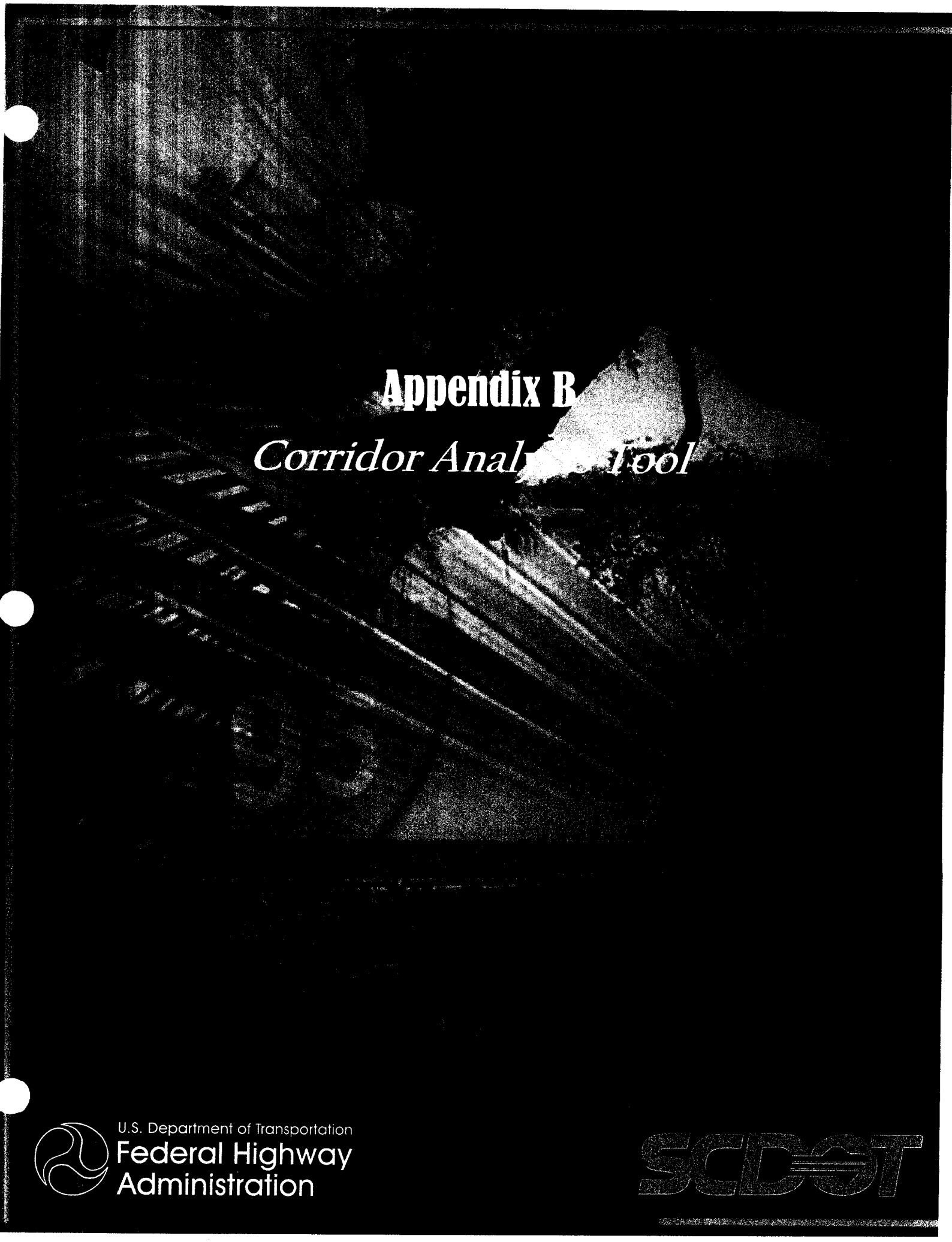
SUBJECT: I-73 Interagency Workshop

Dear Mr. Rich:

The Federal Highway Administration (FHWA) and the South Carolina Department of Transportation (SCDOT) are hosting an Interagency Workshop regarding the proposed I-73 project. The Workshop will be held on June 30th and July 1st at The Hilton at Charleston Harbor Resort and Marina in Mount Pleasant. We are requesting that your agency participate in this very important Workshop. The intent of the Workshop is to begin the Interagency Coordination process for the I-73 project.

Interstate 73 (I-73) is a new, major interstate roadway facility proposed from Michigan to South Carolina. Because of the nature and magnitude of this project, the SCDOT and the FHWA are proposing an Interagency Coordination process to achieve the best overall public decision on this project. The goals of this Interagency coordination are to streamline the process in a manner consistent with federal laws and policies, while at the same time insuring stewardship of resources. This would be accomplished by developing a process that will:

- Aggressively pursue improved communication and collaboration with all Federal, State, and local partners in the transportation decision making process to gain meaningful involvement;
- Streamline and improve NEPA process efficiency for an Environmental Impact Statement on the I-73 project, including the merger of the NEPA and 404 processes.



Appendix B

Corridor Analysis Tool

U.S. Department of Transportation
Federal Highway Administration

SCOOT

Corridor Analysis Tool
GIS LAYERS AND FEATURE VALUING WORKSHEET

Background

The worksheet is for ranking and valuing evaluation criteria for the Corridor Analysis Tool (CAT). The GIS data are organized by layers which represent major data categories (wetlands, mitigation banks/sites, roadways, etc.). Within each layer are features that describe the layer in greater detail. For example, the wetlands layer contains features such as "Estuarine Forest", "Freshwater Marshes", etc. The individual layers are assigned a percentage value representing their influence or importance, relative to other layers. The layer influence values must total 100 percent for all layers being evaluated. The percent influence values must be whole numbers. The features are valued from 1 to 10, with 1 being the feature that is least important to avoid and 10 being the most important to avoid. For example, Upland Agriculture would have a low value, while a Freshwater Marsh would have a high value. In other words, the lower the value the more desirable that feature type is for roadway siting, the higher the value the more undesirable.

Other Comments:

Status - Status indicates if the GIS data is considered appropriate for corridor evaluation. Appropriateness considered data quality and duplication, and negative, positive or no impacts to the environment, roadways, infrastructure and socioeconomic issues. Three identifiers are used for Status, 'In" means the data will be used; "Out" means the data is not used; or "Constraint" which is defined below.

Constraint - Constraint features are removed from consideration by the CAT. No roadway can be sited through a constraint feature.

Buffers - Some features, especially point features, may require a buffer to ensure avoidance. For example, it might be desirable to avoid encroaching within a specified buffer distance of a protected species habitat.

D. Demographic/Socioeconomic - These layers have been broken down into features. The features represent high, moderate or low density areas with an appropriate scale value for each density level. The range of densities will be determined based on the evaluation of the minority, low income and population densities for the project area.

Layer No.	Status	Layer Name	Layer Influence (%)	Feature (Sub Layer)	Scale Value (1 to 10)	Buffer (if required) (feet)	Comments
A. Environmental							
1a	In	Wetlands (NWI based)	40				
	Constraint			Open Ocean			
	Constraint			Beaches & Bars			
	Constraint			Bays & Sounds			
	Constraint			Impacted			
	Constraint			Not Impacted			
				Estuarine Intertidal Marsh			
				Impacted	9		
				Not Impacted	10		
				Estuarine Shrub-Scrub			
				Impacted	9		
				Not Impacted	10		
	Out			Estuarine Forested			
	Constraint			Impacted			
				Not Impacted			
				Freshwater Lakes & Impoundments	3		
				Rivers & Canals			
				Artificial Canal	5		
				Natural	8		
				Ponds & Borrow Pits			
				Impacted	5		
				Not Impacted	8		
				Unvegetated Flats			
				Impacted	2		
				Not Impacted	7		
				Savannahs & Wet Meadows			
				Impacted	7		
				Not Impacted	10		
				Freshwater Marshes			
				Impacted	7		
				Not Impacted	10		
				Aquatic Beds			
				Impacted	2		
				Not Impacted	10		
				Pine Savannahs & Wet Flatwoods			
				Impacted	4		
				Not Impacted	8		
				Bottomland Hardwoods			

				Impacted	6		
				Not Impacted	9		
				Bay Forests			
				Impacted	4		
				Not Impacted	7		
				Evergreen Shrub Bogs Pocosins			
				Impacted	4		
				Not Impacted	7		
				Deciduous Shrub Swamps			
				Impacted	3		
				Not Impacted	5		
				Flooded Swamp/Beaver Ponds			
				Impacted	3		
				Not Impacted	5		
	Constraint			Carolina Bays			Aerial photographs will be used to identify non-impacted Carolina Bays
		Uplands (NWI based)		Upland Residential	1		
				Upland Commercial/ Services	1		
				Upland Industrial	1		
				Upland Transportation & Utilities	1		
				Upland Industrial & Commercial Complex	1		
				Upland Mixed Urban	1		
				Other Urban	1		
				Upland Agriculture (Cropland/Pasture)	1		
				Upland Orchards/ Nurseries	1		
				Upland Confined Feed Operations	1		
				Upland Herbaceous Rangeland	1		
				Upland Scrub-Shrub Rangeland	1		
				Deciduous Forest	5		
				Upland Evergreen Forest	4		
				Upland Evergreen Forest (Irregularly Flooded)	4		
				Upland Mixed Forest	4		
	Constraint			Beaches	6		
				Non-Beach Sandy Areas	1		
				Bare, Exposed Rock	3		
				Quarries	3		
				Transitional Areas	1		
				Mixed, Barren Land	1		
				Unknown	1		
		Little Pee Dee River in Dillion County			10	Buffer	
2a	Out	Soils					May use later in process for more detailed analyses
3a	Constraint	Mitigation Banking Sites					Rank Scale Value High
4a	In	Species of Concern	10				Add subcategories to Species of Concern with ranking to be provided by SCDNR
5a	Constraint	Federal and State Threatened & Endangered Species				Buffer	Buffer based on species' habitat requirements
6a	In	Archaeology Sites					
	Constraint			Listed on NRHP/Eligible			
	Constraint			Potentially Eligible for NRHP			
	Out			Others			No impact to project
7a	In	Historic Resources					
	Constraint			Listed on NRHP/ Eligible			
	Constraint			Potentially Eligible for NRHP			
	Out			Others			No impact to project
8a	**Out**	**National Historic Register Sites**					
9a	Constraint	Heritage Preserves					Cross check with Land Stewardship Duplication
10a	Constraint	Parks (federal, state and local)					

Layer No.	Status	Layer Name	Layer Influence (%)	Feature (Sub Layer)	Scale Value (1 to 10)	Buffer (if required) (feet)	Comments
11a	Constraint	Wildlife Refuges					Duplication, Data in Heritage Preserves
12a	Constraint	Federal Lands (>640 acres)					None present in study area
13a	Constraint	Land Stewardship/DNR Gap Analysis					Cross-check with Heritage Preserves
14a	Constraint	Hazardous Sites					Use only NPS SPL
15a	Constraint	Landfills					
16a	Out	NPDES Sites					No impact to project
17a	Out	Streams/Rivers/Lakes					Duplication; Data in NWI
18a	Out	Streams/Rivers/Lakes-Special Designation					Duplication; Data in NWI or no impact to project
	Out			Fish Advisory Areas			Duplication; Data in NWI or no impact to project
	Out			Navigable Streams			Duplication; Data in NWI or no impact to project
	Out			Recreational Waters			Duplication; Data in NWI or no impact to project
	Out			303d Designated Streams			Duplication; Data in NWI or no impact to project
19a	Out	Watersheds					No impact to project
20a	Constraint	Flood Plain in Great Pee Dee River					Great Pee Dee River designated Constraint; other out
21a	Out	Flood Plains					All other flood plains
22a	Out	Land Cover					Duplication; Using NWI data
	Out			Fresh Water			Duplication; Using NWI data
	Out			Marine Water			Duplication; Using NWI data
	Out			Marsh/Emergent Wetland			Duplication; Using NWI data
	Out			Pocosin			Duplication; Using NWI data
	Out			Swamp			Duplication; Using NWI data
	Out			Bottomland/Floodplain Forest			Duplication; Using NWI data
	Out			Wet Soil			Duplication; Using NWI data
	Out			Wet Scrub/Shrub Thicket			Duplication; Using NWI data
	Out			Dry Scrub/Shrub Thicket			Duplication; Using NWI data
	Out			Sandy Bare Soil			Duplication; Using NWI data
	Out			Open Canopy/Recently Cleared Forest			Duplication; Using NWI data
	Out			Rock Outcrop			Duplication; Using NWI data
	Out			Aquatic Vegetation			Duplication; Using NWI data
	Out			Closed Canopy Evergreen Forest/Woodland			Duplication; Using NWI data
	Out			Needle-leaved evergreen mixed forest/woodland			Duplication; Using NWI data
	Out			Pine Woodland			Duplication; Using NWI data
	Out			Dry deciduous forest/woodland			Duplication; Using NWI data
	Out			Mesic deciduous forest/woodland			Duplication; Using NWI data
	Out			Mesic deciduous forest/woodland			Duplication; Using NWI data
	Out			dry mixed forest/woodland			Duplication; Using NWI data
	Out			mesic mixed forest/woodland			Duplication; Using NWI data
	Out			Grassland/pasture			Duplication; Using NWI data
	Out			Cultivated Land			Duplication; Using NWI data
	Out			Urban Development			Duplication; Using NWI data
	Out			Urban Residential			Duplication; Using NWI data
	Out			Wet evergreen			Duplication; Using NWI data
	Out			Maritime forest			Duplication; Using NWI data
	Out			Beach			Duplication; Using NWI data
23a	Constraint	Minor Geologic Features					
		Environmental Total	50				
B. Roadways							
1b	In	Roads	10				Break out into Functional Class and Urban/Rural
				Urban			
				Principal Arterial - Other	1		4 or more lanes
				Minor Arterial	2		2 to 4 lanes
				Major Collector	2		2 to 3 lanes
				Minor Collector	3		2 lanes
				Local	[illegible]		[illegible]

				Principal Arterial - Other	1		4 or more lanes
				Minor Arterial	3		2 lanes
				Collector	3		2 lanes
				Local	3		2 lanes
		Roadways Total	10				
C. Infrastructure							
1c	In	Infrastructure	20			Buffer	Evaluating buffer for infrastructure point features
	Out			Railroads			No impact to project
	Out			Transmission Lines			No impact to project
	Out			Oil Pipelines			No impact to project
	Out			Bridges			No impact to project
	[illegible]			Airports			
	Out			Buildings (industrial vacant)			No impact to project
	Out			Dams (Haz)			No impact to project
	In			Fire Stations	6	Buffer	Rank Scale Value Med High
	In			Administrative Buildings (government)	4	Buffer	Rank Scale Value Low Med
	In			Churches	9	Buffer	Rank Scale Value High
	In			Community Facilities (City Hall, etc)	8	Buffer	Rank Scale Value High
	In			Health Facilities (licensed)	5	Buffer	Rank Scale Value Med
	In			Hospitals	8	Buffer	Rank Scale Value High
	In			Libraries	8	Buffer	Rank Scale Value Med
	In			Mental Health Facilities	5	Buffer	Rank Scale Value Med
	[illegible]			Schools		Buffer	
	[illegible]			Cemeteries		Buffer	
	In			Incorporated Areas	6		
	Out			Municipalities			Duplication: Used Incorporated Areas data
	In			Sewer Infrastructure			
	Out			Pipe lines			No impact to project
	In			Treatment Plants	9	Buffer	Rank Scale Value High
	Out			Discharge Points			No impact to project
	In			Water Infrastructure			
	Out			Pipe lines			No impact to project
	In			Treatment Plants	9	Buffer	Rank Scale Value High
	In			Surface Withdrawal Locations	8	Buffer	Rank Scale Value High
	In			Storage Sites	7	Buffer	Rank Scale Value Med
		Infrastructure Total	20				
D. Demographic Socioeconomic							
1d	In	Minority Areas/Density	5				
				High Density (> X)	9		Determine density values/range and Scale Value
				Moderate Density (> X > Y)	6		Determine density values/range and Scale Value
				Low Density (< Y)	2		Determine density values/range and Scale Value
2d	In	Low Income Areas/Density	5				
				High Density (> X)	9		Determine density values/range and Scale Value
				Moderate Density (> X > Y)	6		Determine density values/range and Scale Value
				Low Density (< Y)	2		Determine density values/range and Scale Value
3d	In	Population Density	10				
				High Density (> X)	9		Determine density values/range and Scale Value
				Moderate Density (> X > Y)	6		Determine density values/range and Scale Value
				Low Density (< Y)	2		Determine density values/range and Scale Value
		Demographic/Socioeconomic Total	20				
		Grand Total	100				

Appendix C

Resolutions and Local Governments Letters

U.S. Department of Transportation
Federal Highway Administration

SCDOT

RESOLUTION

WHEREAS Dillon County is an economically depressed County in great need of economic stimulus: and

WHEREAS Interstate Highway 95 has created a healthy business climate in Dillon County; and

WHEREAS Interstate Highway 73 is now being planned to pass through Dillon County; and

WHEREAS Dillon County Council recognizes that Interstate Highway 73 will create many jobs in Dillon County both in the construction phase and after completion; and

WHEREAS Dillon County Council believes it will be of greater benefit to Dillon County for Interstate Highway 73 to be completed from the Marlboro County line to the Marion County line as soon as possible; and

WHEREAS Dillon County Council believes that the intersection of Interstate Highway 73 and Interstate Highway 95 should be designed so as to create the greatest economic impact for Dillon County;

NOW THEREFORE BE IT RESOLVED BY DILLON COUNTY COUNCIL

1. That Dillon County Council supports the location of Interstate Highway 73 in Dillon County.

2. That Dillon County Council supports the completion of Interstate Highway 73 through the entire area of Dillon County as soon as possible and preferably in the same construction phase.

3. That Dillon County Council supports the design of the intersection of Interstate Highway 73 and Interstate Highway 95 to allow for economic development at said intersection so that Dillon County may receive the greatest possible economic impact that can be derived from this intersection.

This Resolution is passed this the 27th day of ~~March~~ April 2005.

Dillon County

BY: Macio Williamson

Macio Williamson, Chairman

South Carolina
Department of Transportation

June 8, 2005

Mr. W. Clay Young
Dillon County Administrator
P.O. Box 449
Dillon, South Carolina 29536-0449

SUBJECT: Interstate 73

Dear Mr. Young:

The Project Team for I-73 would like to meet with the Planning and Economic Development staffs of Dillon County. As you are aware, the I-73 project has been progressing, with recent Public Information Meetings where potential alternative corridors were presented. These potential alternative corridors have been generated for the segment of I-73 from I-95 south to the Myrtle Beach area. The potential alternative corridors are in the process of being adjusted with respect to the comments received from the Public Information Meetings, comments from the associated regulatory and resource agencies, and other factors within the project study area.

Another step in the process is the identification of potential interchange locations. The project team would like to meet with you and the planning and economic development staffs to gather information that will assist us in evaluating interchange locations for the alternative corridors.

In addition, we respectfully request your help in compiling the following information pertinent to land use, economics, Environmental Justice, and community impacts:

- Demographic information on potentially affected communities, including population, growth trends, age distribution, ethnic composition and income;

- Economic characteristics including employment rates and trends, poverty status, work force characterization by SIC code, major employers, industries and employment centers;

- Comprehensive, land use, growth management, transportation, recreation and other plans from affected communities;

- Existing and planned community facilities including medical and health care, educational, religious, public works and services, recreational facilities and parks, historic and cultural facilities, and commercial centers, and;

- Local economic development opportunities for affected communities including identification of development and support programs for existing and start-up businesses, identification of available land parcels, industrial or commercial buildings for development or redevelopment, and identification of tourism resources and facilities for visitors.

We have attached two forms to illustrate the types of information that we are asking for to help with our analysis of alternatives and potential impacts. Please contact me at your earliest convenience to establish a meeting date and time. Thank you for your time and I look forward to meeting with you and your staff.

Sincerely,

Mitchell Metts, P.E.
SCDOT Program Manager
(803) 737-1617

cc: Mr. Eugene Butler, Development Board
Mr. Kenny McLaughlin, Planning Director

COUNCIL MEMBERS
[illegible]

COUNTY ADMINISTRATOR
W. CLAY YOUNG
CLERK TO COUNCIL
[illegible] GRAY

Dillon County Council
P.O. BOX 449
DILLON, SOUTH CAROLINA 29536
TELEPHONE: 843-774-1400
FAX: 843-774-1443

February 28, 2006

Mr. Mitchell D. Metts, P.E.
Program Manager
South Carolina Department of Transportation
Post Office Box 191
Columbia, South Carolina 29202-0191

Dear Mr. Metts:

As Chairman of Dillon County Council, I would like to inform you that Dillon County Council endorses and supports as its choice, the northern most route of proposed I-73 intersecting with I-95 in Dillon County.

We believe the northern route is better for several reasons: (1) it appears this route is a more direct link, (2) it appears less disruptive of homes and business, and (3) the economic impact would be more beneficial with its proximity to the I-95 Gateway Industrial Park and our proposed new airport and frontage roads all at Highway 34 and I-95.

Dillon County Council sincerely hopes that you and your staff will work with us to develop the northern route as the chosen path for proposed I-73 through Dillon County.

Sincerely,

Macio Williamson
Chairman
Dillon County Council

MW/lg

Dillon County

March 1, 2006

Mr. Mitchell D. Metts, PE
Program Manager
SC Department of Transportation
P.O. Box 191
Columiba, SC 29202-0191

Dear Mr. Metts:

The Dillon County Development Board is in support of the route for proposed I-73 crossing I-95 in Dillon County closest to Highway 34.

As a Board concerned with the growth and development of Dillon County, we strongly believe the northern most route would more favorably enhance our economic development efforts.

We believe the citizens of Dillon County would experience better opportunities for economic growth and investment through the construction of the northern route.

We encourage you and your staff to develop and support the northern route through Dillon County as the chosen corridor for Interstate 73.

Sincerely,

Charlie Vance
Chairman

Dillon, Marion and Marlboro Counties
Industrial Park
(I-95 Gateway Industrial Park)

March 1, 2006

Mr. Mitchell D. Metts, PE
Program Manager
SC Department of Transportation
P.O. Box 191
Columiba, SC 29202-0191

Dear Mr. Metts:

The Board of the I-95 Gateway Industrial Park voted in its February meeting to support the northern route through Dillon County for I-73.

The I-95 Gateway Industrial Park Board is comprised of representatives of three counties, Dillon, Marion and Marlboro. These three counties own the park in Dillon and are working to promote growth and job opportunities for our citizens. Although the I-73 corridor passes through all three counties, we believe this route will beneficially enhance our efforts to attract new job opportunities.

We ask for your support in selecting the northern route through Dillon County.

Sincerely,

Harold Moody
Chairman

COUNTY OF HORRY)
)
STATE OF SOUTH CAROLINA)

RESOLUTION R-40-05

A RESOLUTION SUPPORTING AN INTERSTATE 73 ROUTE THAT WOULD GO SOUTH OF HIGHWAY 501 AND CONNECT INTO THE SOUTHERN PORTION OF HIGHWAY 31.

WHEREAS, the State of South Carolina is in the planning process for the routing of Interstate 73 and that route is planned to go through western Horry and end somewhere in central or eastern Horry County; and

WHEREAS, the exact route into and through Horry County has not yet been determined; and

WHEREAS, the current proposed routes are north of Highway 501 and in areas that are populated with small communities and small farms; and specifically the Gallivants Ferry crossing and the related routes would adversely impact on Gallivants Ferry, Aynor and Cool Spring; and

WHEREAS, a southern route that is south of Hwy 501 would have less of an impact on the citizens of Horry County as stated at the I-73 meeting in Aynor; and

WHEREAS, a regional airport, if built, would probably be located in the I-73 corridor and the southern route would have more access to the large tracts of land that a regional airport would require; and

WHEREAS, the southern portion of Horry County does not have a good hurricane evacuation route and a southern route is planned when funds are available; and

WHEREAS, connecting I-73 into Highway 31 would create this evacuation route that would be paid for by the federal government; and this route would create a full circle highway system in Horry County in which a full loop could be made around Horry County on Highways 22 and 31; and this loop would have two interstate accesses with I-74 in the north and I-73 in the south.

NOW, THEREFORE, Horry County Council supports using I-73 as a southern connector and asks the South Carolina Department of Transportation to develop a proposed southern route. Horry County Council also rejects the Gallivants Ferry crossing as a proposed route and asks South Carolina Department of Transportation to eliminate this route and replace it with this new southern route.

AND IT IS SO RESOLVED this 5th day of April, 2005.

HORRY COUNTY COUNCIL

Liz Gilland

Liz Gilland, Chairman

Attest:

Patricia S. Hartley

Patricia S. Hartley, Clerk

South Carolina
Department of Transportation

June 8, 2005

Mr. Danny Knight
Horry County Administrator
PO Box 1236
Conway, South Carolina 29528

SUBJECT: Interstate 73

Dear Mr. Knight:

The Project Team for I-73 would like to meet with the Planning and Economic Development staffs of Horry County. As you are aware, the I-73 project has been progressing, with recent Public Information Meetings where potential alternative corridors were presented. These potential alternative corridors have been generated for the segment of I-73 from I-95 south to the Myrtle Beach area. The potential alternative corridors are in the process of being adjusted with respect to the comments received from the Public Information Meetings, comments from the associated regulatory and resource agencies, and other factors within the project study area.

Another step in the process is the identification of potential interchange locations. The project team would like to meet with you and the planning and economic development staffs to gather information that will assist us in evaluating interchange locations for the alternative corridors.

In addition, we respectfully request your help in compiling the following information pertinent to land use, economics, Environmental Justice, and community impacts:

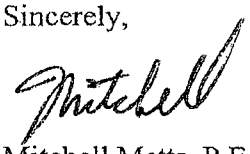
- Demographic information on potentially affected communities, including population, growth trends, age distribution, ethnic composition and income;
- Economic characteristics including employment rates and trends, poverty status, work force characterization by SIC code, major employers, industries and employment centers;
- Comprehensive, land use, growth management, transportation, recreation and other plans from affected communities;

- Existing and planned community facilities including medical and health care, educational, religious, public works and services, recreational facilities and parks, historic and cultural facilities, and commercial centers, and;

- Local economic development opportunities for affected communities including identification of development and support programs for existing and start-up businesses, identification of available land parcels, industrial or commercial buildings for development or redevelopment, and identification of tourism resources and facilities for visitors.

We have attached two forms to illustrate the types of information that we are asking for to help with our analysis of alternatives and potential impacts. Please contact me at your earliest convenience to establish a meeting date and time. Thank you for your time and I look forward to meeting with you and your staff.

Sincerely,



Mitchell Metts, P.E.
SCDOT Program Manager
(803) 737-1617

cc: Ms. Janet Carter, Planning Director

Horry County Council

Liz Gilland
Chairman

Mark Lazarus
Vice Chairman
District 2

Harold Worley
District 1

Marion D. Foxworth, III
District 3

Michael L. Ryan
District 4

Howard D. Barnard, III
District 5

Robert P. Grabowski
District 6

James Frazier
District 7

Carl H. Schwartzkopf
District 8

W. Paul Prince
District 9

Kevin J. Hardee
District 10

John C. Boyd
District 11

Patricia S. Hartley
Clerk to Council

(843) 915-5120
(843) 915-6120 Fax

March 13, 2006

Mitchell Metts
I-73 Program Manager
SC Department of Transportation
Post Office Box 191
Columbia, South Carolina 29292

Dear Mr. Metts:

We on Horry County Council continue to read with interest the stories in our local press and as broadcast on local television regarding the various proposed routes for I-73 as it runs from I-95 toward a likely intersection with SC22 in the western portion of our county. We recognize the lobbying efforts by various factions of our society and appreciate the diligence of SCDOT as a final course is considered.

It was approximately a year ago that our Council voiced its opinion that the I-73 route that would be most beneficial to the residents of Horry County. That proposed southern route now appears to be an unlikely avenue and Horry County Council accepts that decision by SCDOT. Nevertheless, we, as the local governing body, feel it essential that Horry County Council be heard and its opinion be considered in light of the most recent routes being contemplated by SCDOT, and it is for this reason that this letter is written.

There can be no debate or doubt as to the favorable impact that an interstate highway will have on Horry County. However, the disruption to existing communities within our border can be devastating if care is not taken and consideration is not given to those many longstanding permanent residents of western Horry County. Of particular concern to our Council is the proposal that suggests that I-73 be constructed along the existing route of US Highway 501, entering Horry County at Galivants Ferry and continuing in a southeastward direction through the Town of Aynor prior to its intersection with South Carolina Highway 22 approximately six (6) miles west of Conway.

By a unanimous vote of Horry County Council, we voice our opposition to this proposed route because of the disruptive impact that such a course would have on the Town of Aynor. The unified spirit of this "small-town America" community would be devastated should such a path be accepted.

Please note that Council favors the selection of the more northerly courses of I-73 so as to avoid the geographical division of Aynor. We ask that this official correspondence be made a part of SCDOT's permanent file of the I-73 South Carolina corridor and that all interested parties be notified and made aware of this Council's recommendation.

Sincerely,

Liz Gilland

Liz Gilland

Town of Aynor

600 South Main Street • P.O. Box 66
Aynor, South Carolina 29511

Telephone
(843) 358-6231
Fax (843) 358-0754

March 21, 2006

Mitchell Metts
I-73 Program Manager
SC Department of Transportation
P.O. Box 191
Columbia, South Carolina 29292

Dear Mr. Metts:

We on Aynor Town Council continue to read with interest the stories in our local press and as broadcast on local television regarding the various proposed routes for I-73 as it runs from I-95 toward a likely intersection with SC22 in the western portion of our county. We recognize the lobbying efforts by various factions of our society and appreciate the diligence of SCDOT as a final course is considered.

There can be no debate or doubt as to the favorable impact that an interstate highway will have on Horry County. However, the disruption to existing communities within our border can be devastating if care is not taken and consideration is not given to those many longstanding permanent residents of western Horry County. Of particular concern to our Council is the proposal that suggest that I-73 be constructed along the existing route of US Highway 501, entering Horry County at Galivants Ferry and continuing in a southeastward direction through our Town of Aynor prior to its intersection with South Carolina Highway 22 approximately six (6) miles west of Conway.

By a unanimous vote of Aynor Town Council, we voice our opposition to this proposed route because of the disruptive impact that such a course would have on the Town of Aynor. The unified spirit of our "small-town America" community would be devastated should such a path be accepted.

Please note that Council favors the selection of a more northerly course of I-73 so as to avoid the geographical division of Aynor. We ask that this official correspondence be made a part of SCDOT's permanent file of the I-73 South Carolina corridor and that all interested parties be notified and made aware of this Council's recommendation.

Sincerely,

Charles Dawsey
Mayor, Town of Aynor

March 24, 2006

Mayor Charles Dawsey
Post Office Box 66
Aynor, South Carolina 29511

Dear Mayor Dawsey:

Thank you for your letter expressing your concerns and Town Council's vote in opposition to the US 501 alternative for I-73. I appreciate you taking the time to send me this information and want to ensure you that this will be made a part of the official project record.

Currently, the project team is working to identify a recommended alternative for I-73 south of I-95. We have received a tremendous amount of input from the Aynor area and are considering all of it as we attempt to identify the least overall impact route. Presently, our schedule is to announce a recommended preferred route by early June. Subsequently, public hearings will be scheduled in order to receive feedback from the public. I would anticipate one of the hearings being held at Aynor High School sometime in late June. All of this will coincide with the completion of the Draft Environmental Impact Statement (DEIS). The completion of the DEIS will be a significant milestone for I-73 and will contain the recommended preferred alternative. These time frames are approximate and may be adjusted as all of the required studies must be completed prior to completion of the DEIS.

Again, thank you for sending me this information. If you have any questions or wish to discuss this project in more detail, please contact me at 803-737-1617 in Columbia.

Sincerely,

Mitchell

Mitchell D. Metts, P.E.
I-73 Project Manager

MDM:svg
File: PC/MDM

bc: Robert I. Pratt, Director of Preconstruction

Horry County Schools

April 6, 2005

Mr. Mitchell Metts, Program Manager
SCDOT
P. O. Box 191
Columbia, South Carolina 29202-0191

Dear Mr. Metts:

Horry County Schools has reviewed the three proposed routes of I-73 that could connect to S.C. 22. One of these routes, the western most, appears to conflict with three of the district's schools: Aynor High, Aynor Middle, and Aynor Elementary. While everyone realizes routes are tentative at this time; Horry County Schools feels it is important to voice our concerns before additional planning occurs. Building such a road in close proximity to the three Aynor area schools would be detrimental to the schools' instructional program and to the overall safety of our students, teachers, staff, and many patrons. Horry County Schools would be supportive of consideration given to routes that do not have the potential to intercept normal school operations.

Sincerely,

Eddie Rodelsperger

Eddie Rodelsperger
Chief Construction Management Officer

ER:jsc

c. Gerrita Postlewait
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P.O. Box 260005 • 1605 Horry Street • Conway, SC 29528-6005 • (843) 488-6710 • FAX (843) 488-6714

Horry County Schools

April 12, 2005

Mr. Skip Johnson, I-73 Project
The LPA Group, Inc.
P. O. Box 5805
Columbia, South Carolina 29250

Dear Mr. Johnson:

Horry County Schools previously voiced opinions about any of I-73's proposed routes that might negatively affect our schools. Further review of these routes has generated an additional concern. The fact that I-73 is intended to be a limited access road could negatively impact transportation routes. The two attendance areas most probably affected are Aynor and Green Sea. These two areas are our most rural and any disruption of established transportation routes could easily create one way travel times in excess of an hour. This would not be acceptable. I apologize for not pointing out the transportation issue in my earlier correspondence. Horry County Schools appreciates everyone's consideration of our comments.

Sincerely,

Eddie Rodelsperger

Eddie Rodelsperger
Chief Construction Management Officer

ER:jsc

c. Gerrita Postlewait
C:\jcollin.000\Rodelsperger\2004-2005\04120502.doc

P.O. Box 260005 • 1605 Horry Street • Conway, SC 29528-6005 • (843) 488-6710 • FAX (843) 488-6714

Horry County Schools

January 27, 2006

Mr. Skip Johnson, I-73 Project
The LPA Group, Inc.
P.O. Box 5805
Columbia, SC 29250

Dear Mr. Johnson:

Revised corridor alternatives for I-73 were recently released. A review of these routes raise several concerns. Possible negative impacts include noise pollution and extended bus routes. These and other concerns were previously mentioned (attached). We trust that attendance area boundaries and school locations have been identified and considered during the planning phase. If Horry County Schools can provide relative information, please feel free to contact me at 843-488-6711 (office), 843-997-3207 (cell) or by e-mail at erodels@do.hcs.k12.sc.us .

Thank you for your time and consideration of concerns.

Sincerely,

Eddie Rodelsperger

Eddie Rodelsperger
Chief Construction Management Officer

c: Gerrita Postlewait

P.O. Box 260005 • 1605 Horry Street • Conway, SC 29528-6005 • (843) 488-6710 • FAX (843) 488-6714

STATE OF SOUTH CAROLINA,)
)
COUNTY OF MARION.)
)

RESOLUTION

WHEREAS, Marion County Council fully supports the Interstate 73 Project which hopefully will be coming through Marion County, and further bringing much needed economic development to Marion County, and

WHEREAS, Marion County is also cognizant of the fact that the building of I-73 may impact adversely certain areas of Marion County, and

WHEREAS, Marion County Council is aware that the different proposals for the construction of I-73 may severely impact the Temperance Hill Community of Marion County, and

WHEREAS, Marion County Council is also desirous of keeping the integrity of it's County and historical areas, and

WHEREAS, wherever possible, Marion County Council requests that the I-73 Committee take into consideration the requests and integrity of the Temperance Hill Community as to any possible routes for I-73.

NOW, THEREFORE, BE IT RESOLVED that Marion County Council hereby requests that the I-73 Committee review any and all possible plans for construction of I-73 which would reduce the impact to the Temperance Hill Community of Marion County.

BE IT SO RESOLVED.

DATED this 14th day of March, 2006.

MARION COUNTY COUNCIL

Elista H. Smith, Chairman

John Q. Atkinson, Jr.
Vice Chairman

Allen W. Floyd

Milton W. Troy, II

Thomas Shaw

Eloise W. Rogers

Pearly E. Britt

ATTEST:

Edwin P. Rogers, Jr.
County Administrator

Sabrina Davis
Clerk to Council

Timothy H. Pogue
County Attorney

South Carolina
Department of Transportation

June 8, 2005

Mr. Edwin P. Rogers, Jr.
Marion County Administrator
P.O. Box 183
Marion, South Carolina 29571-0183

SUBJECT: Interstate 73

Dear Mr. Rogers:

The Project Team for I-73 would like to meet with the Planning and Economic Development staffs of Marion County. As you are aware, the I-73 project has been progressing, with recent Public Information Meetings where potential alternative corridors were presented. These potential alternative corridors have been generated for the segment of I-73 from I-95 south to the Myrtle Beach area. The potential alternative corridors are in the process of being adjusted with respect to the comments received from the Public Information Meetings, comments from the associated regulatory and resource agencies, and other factors within the project study area.

Another step in the process is the identification of potential interchange locations. The project team would like to meet with you and the planning and economic development staffs to gather information that will assist us in evaluating interchange locations for the alternative corridors.

In addition, we respectfully request your help in compiling the following information pertinent to land use, economics, Environmental Justice, and community impacts:

- Demographic information on potentially affected communities, including population, growth trends, age distribution, ethnic composition and income;
- Economic characteristics including employment rates and trends, poverty status, work force characterization by SIC code, major employers, industries and employment centers;
- Comprehensive, land use, growth management, transportation, recreation and other plans from affected communities;

- Existing and planned community facilities including medical and health care, educational, religious, public works and services, recreational facilities and parks, historic and cultural facilities, and commercial centers, and;

- Local economic development opportunities for affected communities including identification of development and support programs for existing and start-up businesses, identification of available land parcels, industrial or commercial buildings for development or redevelopment, and identification of tourism resources and facilities for visitors.

We have attached two forms to illustrate the types of information that we are asking for to help with our analysis of alternatives and potential impacts. Please contact me at your earliest convenience to establish a meeting date and time. Thank you for your time and I look forward to meeting with you and your staff.

Sincerely,

Mitchell Metts, P.E.
SCDOT Program Manager
(803) 737-1617

cc: Mr. Frank Jones, Economic Development Commission
Marion County Planning Director

COUNCIL MEMBERS

Elista H. Smith
Chairperson

John Q. Atkinson, Jr.
Vice Chairman

Pearly E. Britt
Allen W. Floyd
Eloise W. Rogers
Thomas Shaw
Milton W. Troy, II

Office Of
Marion County Council

1305 North Main Street
P.O. Box 183
(843) 423-3904 • Fax: (843) 423-8306
Marion, South Carolina 29571

Edwin P. Rogers, Jr.
Administrator

Kent M. Williams
Deputy Administrator

Sabrina Davis
Clerk To Council

Timothy H. Pogue
County Attorney

March 6, 2006

Mitchell D. Metts, P.E.
Program Manager
SCDOT
955 Park Street, Room 303
P.O. Box 191
Columbia, South Carolina 29202-0191

Dear Mr. Metts:

Marion County is currently in the process of developing an inland port on approximately 3500 acres on the main North/South CSX rail line between Sellers and Pee Dee. The property fronts U. S. Highway 301 and runs to the Great Pee Dee River. The initial plan is to develop the inland port first and then to target distribution centers (Target, Wal-Mart, and similar big box distribution warehousing operations. On the east side of 301 is a 12,000 acre tract that we propose to develop as a large general aviation airport with a 10,000 foot runway that could also accommodate cargo planes. The site would be large enough to accommodate a regional passenger airport should the need exist and if the site is chosen by the study that is currently being developed by NESA. The area around the airport could be used for distribution as well as light industrial development.

A similar development in Texas has over the last 16 years created 24,000 jobs and $23 Billion in investment. The potential of this area is unlimited. We have a developer in place as well as very strong interest from a shipping company and from CSX. The site is within 300 miles of 26 Million people. It is within 750 miles of 58.8% of the population of the United States. The prediction on the operation of the inland port is that it will receive 600,000 containers the first year and within three years 3,000,000. This means that over 8,000 containers could be off-loaded at the site every day. By loading directly from the ship in port to trains or trucks and then shipping the cargo to an inland port, the time it sits unmoved will be reduced from 10 to 14 days to 2 to 3 days. This will save the companies millions of dollars in shipping costs. Every day a ship stays in port it costs upwards of $65,000.

Based on these numbers alone, it is understandable why Marion County is so excited about the potential of this project. Any consideration the SCDOT can give to this project in the routing of I-73 will be greatly appreciated by Marion County as well as the entire Pee Dee Region. This project has the ability to become the Pee Dee's BMW.

If you should have any questions regarding the inland port or any other phase of this project, please feel free to contact me.

Sincerely,

Edwin P. Rogers, Jr.
Administrator

COUNCIL MEMBERS

Elista H. Smith
Chairperson
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Vice Chairman

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Office Of
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1305 North Main Street
P.O. Box 183
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Marion, South Carolina 29571

Edwin P. Rogers, Jr.
Administrator
Kent M. Williams
Deputy Administrator
Sabrina Davis
Clerk To Council
Timothy H. Pogue
County Attorney

March 27, 2006

Mr. Mitchell D. Metts, P.E.
Program Manager
SCDOT
955 Park Street, Room 303
P.O. Box 191
Columbia, South Carolina 29202-0191

Dear Mr. Metts:

As you are aware, a large project is planned for the area between Sellers and Pee Dee in Marion County. The impact on Marion and the entire Pee Dee could be tremendous. The first phase will involve an inland port to serve the ports from Jacksonville to Wilmington. In the initial development, it is predicted that 600,000 containers will arrive by rail annually. This represents approximately 1,644 trucks per day leaving the facility. The number of incoming containers should continue to rise until the number peaks between 2 and 3 million annually. This could mean a potential of 8,000 trucks leaving daily. The shipping company that we are working with also sees great potential for this site, due to the available land, to be an area for back loading of containers and other rail cars. This would speed the loading of ships once in the ports since the trucks would arrive and load their cargo back at our site where space is not a restriction. The approximate figures on these numbers are being calculated, but are not finalized. There are other projects that are in the planning stage, but at the present are confidential.

As is apparent from the above figures there is a great need to move these trucks to the interstate system as quickly as possible. It is also apparent that the trucking aspect of this project will create spin off jobs and businesses. Studies show that for every 1,000 acres of inland port facility 4,000 jobs are created. Our site is approximately 17,000 acres. The initial investment on this site is estimated by the parties involved to be in the billion dollar range. These are the reasons that it is vital that this site have quick access to I-73. It can greatly help ease the movement of cargo from this area.

The southern route of I-73 will help facilitate the development of this project and will contribute to the growth of economic environment, not just in Marion County, but in the whole Pee Dee area. This project could have as big an impact on the Pee Dee as BMW did on the upstate. I am including a map of the general area of the project and its proximity to population centers within a 300 mile radius of the site. The DOT's careful consideration of the route of I-73 on this project and its impact it will have is vital in determining our future. Should you need further information, please call.

Sincerely,

Edwin P. Rogers, Jr.
Administrator

THE LPA GROUP INCORPORATED
Transportation Consultants

700 HUGER STREET ■ P.O. BOX 5805 ■ COLUMBIA, SC 29250 ■ 803-254-2211 ■ FAX 803-779-874

July 30, 2004

Mr. Johnny Brown
Executive Director
Pee Dee Regional Council of Government
P.O. Box 5719
Florence, South Carolina 29502

Re: I-73 Revised Study Area

Dear Mr. Brown,

As requested, enclosed is a map that depicts the revised study area for the I-73 Environmental Impact Statement per the SCDOT Commission meeting of July 22, 2004. As I mentioned, SCDOT and FHWA decided that the study area required revision based on input received during several meetings and workshops with federal and state environmental resource agencies. The primary concern of these agencies was the potential impacts resulting from I-73 traversing the flood plain of the Great Pee Dee River.

Should you have any questions or need additional information, please let me know. In the meantime, we will keep you posted as the project progresses.

Sincerely,

THE LPA GROUP INCORPORATED

R. Kennedy Holt

Enclosure

cc: Mr. Mitchell Metts, SCDOT
Mr. I.B. Johnson, LPA

Appendix D

Draft Section 4(f) Evaluation

U.S. Department of Transportation
Federal Highway Administration

SCDOT

D R A F T

SECTION 4(f) EVALUATION

INTERSTATE 73
From I-95 to the Myrtle Beach Region

INTRODUCTION

Section 4(f) of the Department of Transportation Act of 1966, 49 USC 303 requires that prior to the use of any land from a publicly owned park, recreational area, wildlife or waterfowl refuge, or historic property or archeological site on or eligible for the National Register of Historic Places (NRHP), it must be determined that there is no prudent or feasible alternative which avoids such use and that the project includes all possible planning to minimize harm to these resources.

According to the Federal Highway Administration's (FHWA) Section 4(f) Policy Paper a Section 4(f) resource is "used" as follows: (1) a direct use occurs when land from a Section 4(f) site is permanently incorporated into a transportation project, (2) a temporary use occurs when there is a temporary occupancy of Section 4(f) property that is adverse in terms of the statute's preservationist purposes, or (3) a constructive use occurs when the proximity impacts of the transportation project on the Section 4(f) site are so severe that the protected activities, features, or attributes that qualify the resources for protection under Section 4(f) are substantially impaired (USDOT, 1989).

In order for a park, recreational area, or wildlife or waterfowl refuge to qualify for protection under Section 4(f), it must be publicly owned and officially designated as a park, recreational area, or wildlife or waterfowl refuge. When these areas are owned by private institutions and individuals, even if such areas are open to the public, Section 4(f) does not apply. The FHWA does however strongly encourage the preservation of such privately owned lands (USDOT, 1989).

Historic resources that are listed on or eligible for listing on, the National Register of Historic Places (NRHP) are not required to be publicly owned in order to be protected under Section 4(f). Archeological sites must also be in or eligible for the NRHP and important for preservation in-place in order to be considered a Section 4(f) site. Determinations of eligibility for the NRHP have been coordinated with the South Carolina State Historic Preservation Officers.

This Section 4(f) Evaluation describes resources affected by the construction of Interstate 73 and provides an estimate of impacts. Avoidance alternatives and measures to minimize and mitigate harm are discussed.

The South Carolina Department of Transportation (SCDOT) proposes to construct a new interstate highway, I-73, in Dillon, Marion, and Horry Counties, South Carolina. The facility would extend from I-95 in Dillon County to S.C. Route 22 in Horry County. The road would accommodate a six-lane facility with corridors for future multimodal facilities and allowances for frontage roads where needed. The interim design, which is proposed to be constructed initially, would accommodate two lanes of traffic in each direction. In the future, when traffic volumes increased to a point that additional lanes would be necessary in order to maintain an acceptable level of service, an additional lane in each direction could be added within the right-of-way corridor. An estimated 400-foot wide right-of-way would be acquired where frontage roads would be needed. Where frontage roads are not required, an estimated 300-foot wide right-of-way would be adequate.

A. PURPOSE AND NEED

The purpose of the proposed project is to provide an interstate link between I-95 and the Myrtle Beach region to serve residents, businesses, and tourists while fulfilling congressional intent in an environmentally responsible and community sensitive manner.

The following primary needs have been identified in connection with the proposed federal action:

- **System Linkage** – Improve national and regional connectivity by providing a direct link between I-95 and the Myrtle Beach region.
- **Economic Development** – Enhance economic opportunities and tourism in South Carolina.

These secondary needs have also been identified:

- **Hurricane Evacuation** – Facilitate a more effective evacuation of the Myrtle Beach region during emergencies.
- **Relieve Local Traffic Congestion** – Reduce existing traffic congestion on roads accessing the Myrtle Beach region.
- **Multimodal Planning** – Allow for future provision of a multimodal facility within the Interstate Corridor.

B. DESCRIPTION OF THE PROPOSED ACTION (Preferred Alternative)

Alternative 3 (Preferred Alternative) starts at the southernmost interchange with I-95, and from there extends southeast on the western side of Latta where it would have an interchange with U.S. Route 501, crosses to the east immediately north of Temperance Hill, then extends southeast where it would interchange with S.C. Route 41A. It continues southeast and would have an interchange with U.S. Route 76 on the western side of Mullins. Once south of Mullins it angles slightly east and crosses the Little Pee Dee River at the existing S.C. Route 917 crossing. It would have an interchange with Road S-308, then continues southeast on new alignment to an interchange with S.C. Route 22 near Bakers Chapel, about two

miles west of the S.C. Route 701/S.C. Route 22 interchange. The interchange with S.C. Route 22 would be designed so that the traffic movement from I-73 to S.C. Route 22 would be the predominant movement through the interchange. Like all of the Build Alternatives, it would follow S.C. Route 22 to its terminus with U.S. Route 17 near Briarcliff Acres.

This alternative would have the lowest total wetland impacts (384 acres) and would avoid crossing Buck Swamp, which has been identified as an important resource by the resource agencies. It is also the alternative with the lowest cost ($1.296 billion). It would have the lowest farmland impacts (1,708 acres) as well. The proposed floodplain impacts (94 acres) are also the lowest for this alternative. It is one of three alternatives, with the other two being Alternatives 5 and 7, indicated as preferred by SCDNR and USFWS. The SHPO has indicated this route is their preferred because of the lack of impacts to cultural resources. It is in close proximity to the proposed "inland port" designated by Marion County as stated in their letters of March 2006.

This alternative would impact a Section 4(f) resource, the Vaughn tract, part of the Little Pee Dee River Heritage Preserve around the S.C. Route 917 crossing of the Little Pee Dee River. The Preserve is approximately 10,238 acres in size. The project would be built parallel, and to the south of existing S.C. Route 917 crossing of the Little Pee Dee River and would use approximately 30 acres of the Preserve. The alignment was moved to this location to avoid creating a new crossing of the Little Pee Dee River, which could lead to fragmentation of wildlife habitat. The Little Pee Dee River swamp has been given a high value by the resource agencies. The areas outside of the Heritage Preserve are rated no less highly than the areas within the Preserve. The former alignment had 408 acres of wetland impact, 24 more than the current alignment. It also would cost $118 million more than the Preferred Alternative.

C. SECTION 4 (f) RESOURCES

Parks, Recreation Areas, or Wildlife Refuges

One site was identified as within or adjacent to the Preferred Alternative, the Little Pee Dee River Heritage Preserve. No other parks, recreational facilities, or wildlife refuges were noted as being within or adjacent to the Preferred Alternative.

Little Pee Dee River Heritage Preserve is a property owned by SCDNR's Heritage Trust Program (Figure 1). The preserve can be used by the public for various activities including fishing, hunting, boating, hiking, camping, and wildlife viewing. Due to the location of the preserve in relation to the Little Pee Dee River system, the property also protects wetlands and species' habitats. The Preserve contains approximately 10,238 acres and is split into five tracts of land: Dargan, Vaughn,

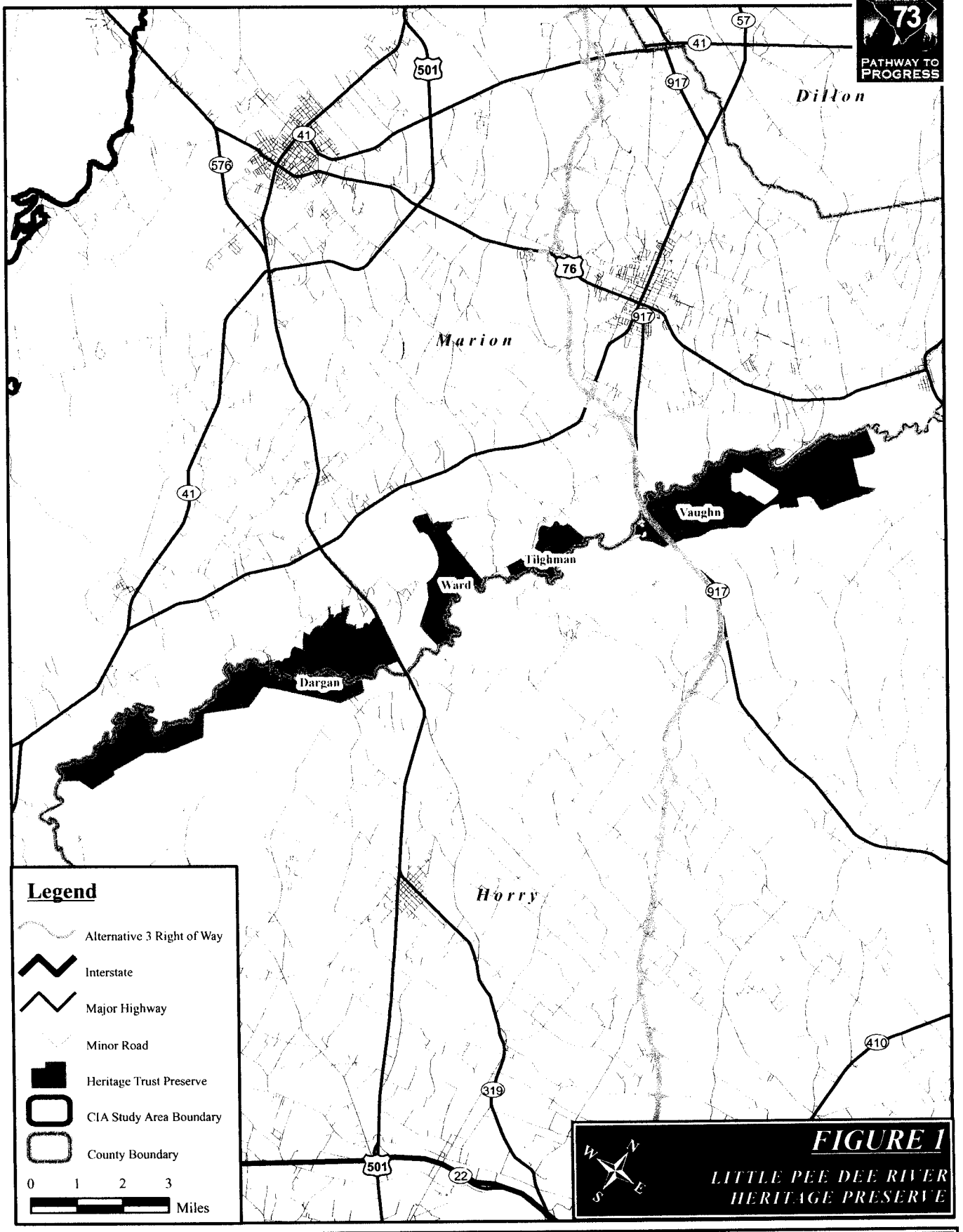

FIGURE 1

LITTLE PEE DEE RIVER HERITAGE PRESERVE

Tilghman, Ward, and Johnson. Two of the Preserve's tracts, Dargan and Vaughn, are adjacent to an alternative corridor. The Dargan tract lies south of Galivants Ferry and is accessed from U.S. Route 501 and the Vaughn tract is to the north and accessible from S.C. Route 917.

Impact – The Vaughn Tract is situated on both sides of existing S.C. Route 917 roadway. Approximately 30 acres of the preserve would be taken to construct a crossing of the Little Pee Dee River that would be parallel on the south side to the existing S.C. Route 917 crossing. Access to the preserve would be maintained; however, recreational activities may be temporarily disrupted due to construction.

Mitigation - Mitigation would occur for the impacted property. This would include locating and purchasing compensatory acreage, which would be done in coordination with SCDNR through a Memorandum of Agreement prior to issuance of the Record of Decision.

Historic Properties

Section 4(f) of the Department of Transportation Act of 1966 takes into account impacts that are a use of the historic property, whether it is of a direct, temporary, or constructive nature. A Section 4(f) use does not always include visual intrusion impacts or impacts that are not of an adverse nature. SHPO would make the determination as to whether an eligible site would be or would not be adversely impacted, while the use of a historic property is determined by FHWA. Archaeological sites eligible for the NRHP are only considered Section 4(f) properties if they warrant preservation in place, which indicates that the sites contain unique features or information that would be of value only if they are preserved in place.

The Preferred Alternative would have no direct impact to an historic property or historic district. There would be impacts of a visual nature to the Ketchuptown store.

The **Ketchuptown Store** was constructed in 1927 and became the gathering point for local farmers in the area west of Lake Swamp in Horry County (Figure 2). It is now used as the community center and a museum.

Impact – The preferred alternative would not directly impact this resource but would have a visual effect on the property due to its proximity to the alternative. The proximity impacts would not constitute a constructive use of this resource because the visual effect would not substantially impair the features that qualify the property for Section 4(f) protection.

Mitigation – No mitigation is required for this resource under Section 4(f).

D. ALTERNATIVES AND FINDINGS

SCDOT considered various alternatives to avoid impacting Section 4(f) properties.

FIGURE 2

KETCHUPTOWN STORE

1. **No Build Alternative** – The No-build would not provide the interstate link between I-95 and the Myrtle Beach region. Failure to provide this link would lead to the loss of projected economic opportunities, the potential loss of tourism due to in-season congestion for tourists visiting Myrtle Beach, no improvement in local traffic congestion, longer travel times, the loss of the multimodal opportunities provided by the corridor, and no improvement in hurricane evacuation.

2. **Alternative** 1 - This alternative would have the most relocation of residents and businesses (121). It would have one of the highest costs, $1.498 billion, $202 million more than the Preferred Alternative. It would impact 418 acres of wetlands, roughly 34 acres more than the Preferred Alternative.

Horry County in a letter dated March 13, 2006, reported a unanimous vote against the route that crossed at Galivants Ferry and extended southeast along U.S. Route 501 through Aynor. The Town of Aynor voted unanimously to oppose the route that would be constructed along existing U.S. Route 501 at Galivants Ferry and through Aynor. Letters were also received from the Horry County School administration that expressed opposition to the segment that would go through Aynor along U.S. Route 501. Comments received at the public information meetings included those from a large number of people opposing this route. The SCDNR and USFWS also expressed opposition to this segment.

Alternative 1 would have one-way frontage roads along U.S. Route 501 in Aynor, which, although they are the best way to maintain access to properties on both sides of I-73, will be inconvenient for local residents used to accessing each side of U.S. Route 501. Construction of this alternative would also impact the athletic facility associated with Aynor High School, which, because it is also available for public use, would be considered a Section 4(f) impact as well (refer to Chapter 3 for information on Section 4(f)).

Based upon coordination with the SHPO, this alternative would also be expected to have the potential for negative visual impacts to the Galivants Ferry Historic District.

This alternative would not be a prudent alternative to the Preferred Alternative since it would have a Section 4(f) impact, substantially higher construction cost (more than $200 million), cause the relocation of more residents, and have more wetland impacts. It is also contrary to the stated position of the elected officials with jurisdiction over a portion of the study area.

3. **Alternative 2** –This alternative would have no Section 4(f) impacts. It has one of the highest costs of all the alternatives ($1.548 billion). It would potentially have visual impacts to two historic districts, one at Galivants Ferry and the other at the Bethea Property. This alternative would relocate three churches, the Dothan Baptist Church, north of I-95, the New Memorial Temple of Christ, at

the interchange of I-73 and U.S. Route 501, and the Spring Grove Baptist Church, just south of where this alignment crosses S.C. Route 917.

A petition signed by 258 people was received from the "residents living in the Northern Potential Corridor of the Southern Project" requesting that I-73 not be routed through the northern corridor from I-95. This alternative would impact residents along Winburn road. Several letters were received from people along Winburn Road objecting to the road being routed through their neighborhood.

This alternative would impact the Gateway Industrial Park, located just south of I-95. It would have approximately 444 acres of wetland impacts. These impacts would include a crossing of Buck Swamp. Farmland impacts (2,009 acres) would be higher than most of the other alternatives.

This alternative would not be a prudent alternative to the Preferred Alternative since it would have substantially higher construction cost (more than $250 million), cause the relocation of 3 churches, impact more farmland, and have more wetland impacts (64 acres).

4. Alternative 4 - This alternative would have the highest wetland impacts at 497 acres. As mentioned above, this alternative would go through Aynor, similar to Alternative 1. Its cost would be $1.404 billion, $108 million more than the Preferred Alternative. All the concerns raised by Horry County officials and the Town of Aynor and all of the other impacts that would result from the segment that follows U.S. Route 501 through Aynor (one-way frontage roads, school access, Section 4(f) impacts) would apply to this alternative as well. SCDNR and USFWS also expressed opposition to this segment. This alternative would have two Section 4(f) impacts, one associated with an archaeological site along U.S. Route 501 east of Marion and the other associated with the Aynor High School athletic facilities. There would also be a visual impact to the Galivants Ferry Historic District.

The Datwyler Rubber facility, located at U.S. Route 76 and U.S. Route 501 Bypass, could be impacted by this alignment. This is one of the largest employers in the County and the impacts could have effects throughout this area.

This alternative would not be a prudent alternative to the Preferred Alternative since it would have two Section 4(f) impacts, substantially higher construction cost (more than $100 million), and have substantially more wetland impacts (113 acres).

5. Alternative 5 - This alternative would have low wetland impacts (413 acres), which would be about 29 acres more than Alternative 3. Alternative 5 would have no Section 4(f) impacts. The cost for this alternative would be $1.436 billion, about $140 million more than the Preferred Alternative. It is one of two

with the highest potential farmland impacts (2,136 acres). It would also result in a relatively high number of relocations (98).

Based upon coordination with the SHPO, this alternative would also be expected to have the potential for negative visual impacts to the Galivants Ferry Historic District.

This alternative would not be a prudent alternative to the Preferred Alternative since it would have substantially higher construction cost (more than $140 million), impact more farmland, and have more wetland impacts (29 acres).

6. **Alternative 6** - This alternative would impact the same Section 4(f) site, the Vaughn tract of the Little Pee Dee River Heritage Preserve, as the Preferred Alternative. It would cost $1.408 billion, $112 million more than the Preferred. Alternative 6 would also have 29 acres more wetland impacts and farmland impacts (1,835 acres) than the Preferred Alternative. It would result in the relocation of three churches - the Dothan Baptist Church, the New Memorial Temple of Christ, and the Spring Grove Baptist Church.

It would be close to the proposed Bethea Historic District which might result in visual impacts to this district. Alternative 6 would also impact a portion of the Gateway Industrial Park located immediately south of I-95.

This alternative would not be a prudent alternative to the Preferred Alternative since it would have substantially higher construction cost (more than $116 million), cause the relocation of 3 churches, impact more farmland, and have more wetland impacts (29 acres).

7. **Alternative 7** - Alternative 7 would cost $1.362 billion, $66 million more than the Preferred Alternative. It would also have a high number of wetland impacts (492 acres). This alternative would have the most floodplain impacts of all the alternatives.

It would impact a potentially eligible (for listing on the list of National Register of Historic Places) archaeological site near Marion and might have visual impacts on the Galivants Ferry Historic District. It would also impact the Winburn Road community.

This alternative would not be a prudent alternative to the Preferred Alternative since it would have higher construction cost (more than $60 million), cause the relocation of 3 churches, impact more farmland, and have substantially more wetland impacts (106 acres).

8. **Alternative 8** - Alternative 8 would have the highest cost ($1.596 billion) and a high number of total relocations (116). It would have the highest impact to farmland (2,155 acres). There would be 3 churches relocated, the same as

Alternatives 2 and 6. It would potentially have visual impacts to the potential Bethea Historic District and the Galivants Ferry Historic District.

It would impact the Gateway Industrial Park. It would extend through Aynor. Horry County and the Town of Aynor voted unanimously to oppose the route that would be constructed along existing U.S. Route 501 at Galivants Ferry and through Aynor. Letters that expressed opposition to this segment were also received from the Horry County School District administration. A large number of people expressed their opposition to this segment at the public information meetings. The SCDNR and USFWS also expressed opposition to this segment.

Alternative 8, like Alternatives 1 and 4 would have one-way frontage roads along U.S. Route 501 in Aynor, which, as previously described, will be inconvenient for local residents used to accessing each side of U.S. Route 501. Construction of this alternative would also impact the athletic facility associated with Aynor High School, which, because it is also available for public use, would be considered a Section 4(f) impact as well.

This alternative would not be a prudent alternative to the Preferred Alternative since it would have substantially higher construction cost (more than $300 million), cause the relocation of 116 residences and businesses and 3 churches, impact more farmland, and have more wetland impacts (64 acres).

E. MEASURES TO MINIMIZE HARM

In order to minimize harm to the Little Pee Dee River Heritage Preserve, compensatory acreage would need to be located and purchased, which would be done in coordination with SCDNR through a Memorandum of Agreement prior to issuance of the Record of Decision.

F. COORDINATION

This project has been coordinated with the agencies and officials having jurisdiction over Section 4(f) resources that could be affected. Archaeological and historical reports are being coordinated with the SCSHPO for determinations of eligibility and effects. Reviews of parks, recreational areas, and refuges are being coordinated with agencies and officials having jurisdiction over these resources.

As the alternatives were developed, the Agency Coordination Team (ACT), which included representatives from SCDNR and SHPO (as part of SCDAH), met regularly between 2004 and 2006. Shifting the alignment at the crossing of the Little Pee Dee River to parallel S.C. Route 917 was discussed at the January 19, 2006 meeting of the ACT. This is the portion of the preferred alternative that directly impacts the Little Pee Dee River Heritage Preserve. A field meeting was held February 23, 2006 with representatives from SCDOT and SHPO to discuss the eligibility of the Ketchuptown Store. These agency coordination meetings are described in Chapter 4.

Coordination will continue with SCDNR and SHPO through the refinement of the preferred alternative and the Final Environmental Impact Statement. Additionally, during the Public Hearing phase, property owners and area residents will be afforded the opportunity to comment on this project. Public sentiment and the wishes of the property owners will be considered in the final design of the project.

Appendix E

Notice of I

U.S. Department of Transportation
Federal Highway Administration

SCDOT

[Federal Register: Augus 2004 (Volume 69, Number 152)
[Notices]
[Page 48271]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr09au04-108]

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Environmental Impact Statement; South Carolina

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of intent.

SUMMARY: The FHWA is issuing this notice to advise the public that a Tiered environmental impact statement will be prepared for the proposed Interstate 73 (I-73) highway project in eastern South Carolina.

FOR FURTHER INFORMATION CONTACT: Mr. Patrick L. Tyndall, Environmental Program Manager, Federal Highway Administration, 1835 Assembly Street, Suite 1270, Columbia, South Carolina 29201; Telephone (803) 765-5411; email: Patrick.tyndall@fhwa.dot.gov.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the South Carolina Department of Transportation (SCDOT), will prepare a Tier 1 environmental impact statement (EIS) on the proposed I-73 project. The proposed interstate highway is planned to connect to I-73 in North Carolina and would enter South Carolina near Marlboro County. The portion of the roadway to be evaluated in this proposed Tier 1 EIS is the portion from the South Carolina/North Carolina state line to the vicinity of I-95, a distance of approximately 35 miles. The proposed study area includes Marlboro and Dillon Counties.

Improvements to the corridor are considered necessary to improve national and regional connectivity to the Conway/Myrtle Beach area of South Carolina by providing a direct link to North Carolina. This link will enhance economic opportunities and tourism in South Carolina. The proposed project would fulfill part of the congressional intent, as originally proposed in the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and confirmed in the Transportation Equity Act (TEA-21) of 1998. Alternatives to be evaluated include the no action alternative, the upgrade of existing roads, construction on new alignment, and combinations of upgrades and new alignments.

The FHWA and SCDOT are seeking input as a part of the scoping process to assist in identifying issues relative to this project. Letters describing the proposed action and soliciting comments will be sent to appropriate Federal, State, and local agencies, and to private organizations and citizens who have previously expressed or are known to have interest in this proposal. An interagency coordination process will begin soon, with the invitations to Cooperating Agencies and a formal scoping meeting to occur in the fall of 2004. A public involvement plan is being developed for this project and will include a variety of opportunities for interested parties to be involved in the project. A public scoping meeting will be held in the fall of 2004 in northeastern South Carolina. This meeting will be well publicized in advance, giving the location and time the meeting. Additional coordination with the public, public interest groups, elected

officials, and state and deral agencies will be perform between the Fall of 2004 and Summer of 2006. The draft Tier 1 EIS will be available for public and agency review and comment prior to the public hearing.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning this proposed action and the EIS should be directed to the FHWA at the address provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Research Planning and Construction. The regulation implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Issued on: August 3, 2004.

Robert D. Thomas,
Acting Division Administrator, Federal Highway Administration, Columbia, South Carolina.

[FR Doc. 04-18114 Filed 8-6-04; 8:45 am]

BILLING CODE 4910-22-P

[Federal Register: Augus 2004 (Volume 69, Number 152)
[Notices]
[Page 48270-48271]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr09au04-107]

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Environmental Impact Statement; South Carolina

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of intent.

SUMMARY: The FHWA is issuing this notice to advise the public that an environmental impact statement will be prepared for the proposed Interstate 73 (I-73) highway project in eastern South Carolina.

FOR FURTHER INFORMATION CONTACT: Mr. Patrick L. Tyndall, Environmental Program Manager, Federal Highway Administration, 1835 Assembly Street, Suite 1270, Columbia, South Carolina 29201; Telephone (803) 765-5411; email: Patrick.tyndall@fhwa.dot.gov.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the South Carolina Department of Transportation (SCDOT), will prepare an environmental impact statement (EIS) on the proposed I-73 project. The proposed interstate highway is ultimately planned to connect to I-73 in North Carolina and would enter South Carolina near Marlboro County. The portion of the roadway to be evaluated in this proposed EIS is the portion from the vicinity of I-95, southeast to the Conway/Myrtle Beach area, a distance of approximately 60 miles. The proposed study area includes Dillon, Marion, and Horry Counties.

Improvements to the corridor are considered necessary to improve national and regional connectivity to the Conway/Myrtle Beach area of South Carolina by providing a direct interstate link. This link will enhance economic opportunities and tourism in South Carolina. The proposed project would fulfill part of the congressional intent, as originally proposed in the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and confirmed in the Transportation Equity Act (TEA-21) of 1998. The proposed action will also facilitate a more effective evacuation of the Conway/Myrtle Beach area during emergencies. Alternatives to be evaluated include the no action alternative, the upgrade of existing roads, construction on new alignment, and combinations of upgrades and new alignments.

The FHWA and SCDOT are seeking input as a part of the scoping process to assist in identifying issues relative to this project. Letters describing the proposed action and soliciting comments will be sent to appropriate Federal, State, and local agencies, and to private organizations and citizens who have previously expressed or are known to have interest in this proposal. An interagency coordination process will begin soon, with the invitations to Cooperating Agencies and a formal scoping meeting to occur in the late summer of 2004. A public involvement plan is being developed for this project and will include a variety of opportunities for interested parties to be involved in the project. Two public interest group/public scoping meetings will be held in September 2004 at different locations in eastern South Carolina.

These meetings will be publicized in advance, giving the location and time for each meeting. Additional coordination with the public, public interest groups, elected officials, and state and federal agencies will be performed between September 2004 and July 2006. The draft EIS will be available for public and agency review and comment prior to the public hearing.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning this proposed action and the EIS should be

[[Page 48271]]

directed to the FHWA at the address provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Research Planning and Construction. The regulation implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Issued on: August 3, 2004.

Robert D. Thomas,
Acting Division Administrator, Federal Highway Administration, Columbia, South Carolina.

[FR Doc. 04-18113 Filed 8-6-04; 8:45 am]

BILLING CODE 4910-22-P

Appendix F

Correspondence with Native Americans

U.S. Department of Transportation
Federal Highway Administration

SCDOT

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: May 1, 2006

In Reply Refer To:
HDA-SC

Ms. Lisa Stopp
Acting Tribal Historic Preservation Officer
United Keetoowah Band of Cherokees
2450 South Muskogee Ave.
Tahlequah, OK 74464

Subject:: Proposed Interstate 73 (I-73) Correspondence

Dear Ms. Stopp:

As a follow up to our conversation on April 24, 2006 I am forwarding you all the written correspondence that has been sent to the United Keetoowah Band of Cherokees regarding the proposed I-73 project in South Carolina for your records. The Federal Highway Administration (FHWA) did not receive a formal response from the United Keetoowah Band of Cherokees but has included the tribe as an interested party based on an e-mail from Mr. Archie Mouse dated November 10, 2004 (attached).

At this time a preferred alternative has not been identified. The FHWA does hope to issue the Draft Environmental Impact Statement (DEIS) later this month which will identify a preferred alternative. Once the draft cultural report and DEIS has been submitted to FHWA we will forward the tribe copies for review. This project does lie outside of the Cherokee ancestral lands for South Carolina as noted on our recently signed consultation agreement. Unless we are notified that the United Keetoowahs are no longer interested in this project we will continue to consult and provide updates.

As mentioned on the phone an interactive web site has been developed for the proposed project and can be viewed at www.I73inSC.com. The site contains maps and status reports for the proposed project.

Please do not hesitate to forward any comments or questions you may have to this office to Mr. Shane Belcher at 803-253-3187 or by e-mail at

Sincerely yours,

J. Shane Belcher

(for) Robert L. Lee
Division Administrator

Attachments

Cc: Mr. Wayne Hall, SCDOT
Mr. Mitchell Metts, SCDOT
Mr. Skip Johnson, The LPA Group

File: 47.205B

Catawba Indian Nation
Tribal Historic Preservation Office
P. O. Box 750
Rock Hill, South Carolina 29731
803-328-2427 Fax 803-328-5791

THPO #2006-133-1 c

14 November 2005

Attention: Shane Belcher
1835 Assembly Street
Columbia, SC 29201

Re: HAD-SC
FHWA THPO number 2006-133-1 I-73 Project Scoping: EIS for the proposed northern portion of I-73 in SC

Dear Shane,

Thank you for your update on the proposed Interstate-73 project in South Carolina. We will look forward to the cultural report.

Early historic and pre-contact ceded homelands of the Siouan speaking Indians, which include the Catawba, covered much of the Piedmont region of North and South Carolina, as well as southern Virginia. **The Catawba are to be notified if Native American archaeological sites and / or human remains are located during the construction phase of this project.** The Catawba expect to be consulted with regard to the anticipated impact and final deposition of these sites. In addition, a copy of any final survey report is to be sent to our office.

If you have questions please feel free to contact our office 803-328-2427, Beckee Garris, ext. 232 or Sandra Reinhardt, ext 233.

Sincerely,

Sandra Reinhardt
for Wenonah G. Haire
Tribal Historic Preservation Officer

cc: Gilbert Blue, Chief, Catawba Indian Nation
Executive Committee, Catawba Indian Nation
John E. George, Traditional Medicine, Catawba Indian Nation

SHAWNEE TRIBE

P.O. Box 189 ✦ Miami, OK 74355
918-542-2441 ✦ Fax: 918-542-2922

November 16, 2004

FHWA South Carolina
Division Administrator/Mr. Robert L. Lee
1835 Assembly Street
Suite 1270
Columbia, SC 29201

Dear Mr. Lee,

Enclosed you will find the questioner completed, of the letter sent to our office dated September 9, 2004.

Any correspondence you should require, please contact our tribal administrator, Rebecca Hawkins.

Sincerely,

Rhonda Dick

Rhonda Dick/Admin. Assist.

interest in attending a meeting or the project in general by checking the appropriate box below and returning this letter. Feel free to contact Mr. J. Shane Belcher of my staff at 803-253-3187 if you have any questions.

Sincerely yours,

Robert L. Lee
Division Administrator

☒ **YES: We would like to meet with officials from South Carolina to discuss this project.**

☐ **NO: We do not need to meet with South Carolina Officials but would like to be included in future mailings about this project.**

☐ **NO: We do not have an interest in this project.**

Attachment

Cc: Lt. Governor Kenneth Blanchard, Absentee-Shawnee Tribe of OK
Mr. Gilbert Blue, Catawba Tribe of SC
Principal Chief Chadwick Smith, Cherokee Nation of OK
Chief Gregory E. Pyle, Choctaw Nation of OK
Principal Chief Michell Hicks, Eastern Band of the Cherokee Nation
Chief Charles D. Enyart, Eastern Shawnee Tribe of OK
Chief Christine Norris, Jena Band of Choctaw Indians
Chief Phillip Martin, Mississippi Band of Choctaw Indians
Principal Chief A.D. Ellis, Muscogee (Creek) Nation
Chairman Eddie Tullis, Poarch Band of Creek Indians
Ms. Rebecca Hawkins, Shawnee Tribe
Principal Chief Kenneth E. Chambers, Seminole Nation of OK
Chairman/Vice-President Mitchell Cypress, Seminole Tribe of FL
Governor Bill Anoatubby, The Chickasaw Nation
Chief Leo R. Henry, Tuscarora Nation
Chief Dallas Proctor, United Keetoowah Band of Cherokee Indians of OK
Mitchell Metts, SCDOT
Skip Johnson, The LPA Group

File: 47.205B

Belcher, Jeffrey

From: Stephen mouse
Sent: Wednesday, November 10, 2004 12:55 PM
To: Belcher, Jeffrey
Subject: RE: Proposed Interstate 73 in South Carolina - message from Federal Hwy. Adm. So

Mr. Belcher My name is Stephen " Archie" Mouse" and currentley I am the NAGPRA OFFICER for the United Keetoowah BAnd and I did not recieve the communica between yourself and Chief Proctor. We would be very interested in your roads proposal and if it would mean a consultation please let us know and also who else may be invited , Thank you--archie--UKB

>From: "Belcher, Jeffrey"
>To:
>Subject: Proposed Interstate 73 in South Carolina - message from
>Federal
>Hwy. Adm. South Carolina
>Date: Tue, 9 Nov 2004 12:53:37 -0500
>
>This is a follow-up e-mail to correspondence that was sent to Chief
>Proctor in September (Attached). The letter discussed a proposed
>interstate in South Carolina and requested if the United Keetoowah Band
>of Cherokee Indians would like to meet with South Carolina officials to
>discuss the project or if the Tribe would simply be interested or have
>information that would help ensure avoidance of any traditional
>cultural or historic resources of interest to the Tribe.
>
>If the Tribe has no interest in projects within the State of South
>Carolina, that information would be useful for future correspondence.
>
>Thank you,
>
>J. Shane Belcher
>Environmental Coordinator
>FHWA-SC
>1835 Assembly Street, Suite 1270
>Columbia, SC 29201
>Phone: 803-253-3187
>Fax: 803-253-3989
>
>
><< UnitedKeetoowahBand,CherokeeIndians.doc >>

general by checking the appropriate box below and returning this letter. Feel free to contact Mr. J. Shane Belcher of my staff at 803-253-3187 if you have any questions.

Sincerely yours,

J. Shane Belcher
for Robert L. Lee
Division Administrator

☒ **YES: We would like to meet with officials from South Carolina to discuss this project.**

☐ **NO: We do not need to meet with South Carolina Officials but would like to be included in future mailings about this project.**

☐ **NO: We do not have an interest in this project.**

Attachment

Cc: Lt. Governor Kenneth Blanchard, Absentee-Shawnee Tribe of OK
Mr. Gilbert Blue, Catawba Tribe of SC
Principal Chief Chadwick Smith, Cherokee Nation of OK
Chief Gregory E. Pyle, Choctaw Nation of OK
Principal Chief Michell Hicks, Eastern Band of the Cherokee Nation
Chief Charles D. Enyart, Eastern Shawnee Tribe of OK
Chief Christine Norris, Jena Band of Choctaw Indians
Chief Phillip Martin, Mississippi Band of Choctaw Indians
Principal Chief A.D. Ellis, Muscogee (Creek) Nation
Chairman Eddie Tullis, Poarch Band of Creek Indians
Chairman Ron Sparkman, Shawnee Tribe
Ms. Rebecca Hawkins, Shawnee Tribe
Principal Chief Kenneth E. Chambers, Seminole Nation of OK
Chairman/Vice-President Mitchell Cypress, Seminole Tribe of FL
Governor Bill Anoatubby, The Chickasaw Nation
Chief Dallas Proctor, United Keetoowah Band of Cherokee Indians of OK
Mitchell Metts, SCDOT
Skip Johnson, The LPA Group

File: 47.205B

Chief Leon Henry, Clerk
Tuscarora Nation
2006 Mt. Hope Rd
via: Lewiston, NY 14092

Belcher, Jeffrey

From: Belcher, Jeffrey

Sent: Tuesday, November 09, 2004 2:18 PM

To:

Cc:

Subject: Proposed Interstate 73 in South Carolina - message from Federal Hwy. Adm. South Carolina

This is a follow-up e-mail to correspondence that was sent to Governor Anoatubby in September (Attached). The letter discussed a proposed interstate in South Carolina and requested if the Chickasaw Nation would like to meet with South Carolina officials to discuss the project or if the Nation would simply be interested in the project or have information that would help ensure avoidance of any traditional cultural or historic resources of interest to the Nation. Also, attached is a map of the project study area.

If the Chicasaw Nation has no interest in projects within the State of South Carolina, that information would be useful for future correspondence.

Thank you,

J. Shane Belcher
Environmental Coordinator
FHWA-SC
1835 Assembly Street, Suite 1270
Columbia, SC 29201
Phone: 803-253-3187
Fax: 803-253-3989

Belcher, Jeffrey

From: Belcher, Jeffrey

Sent: Tuesday, November 09, 2004 2:09 PM

To:

Subject: Proposed Interstate 73 in South Carolina - message from Federal Hwy. Adm. South Carolina

This is a follow-up e-mail to correspondence that was sent to Chairman Cypress in September (Attached). The letter discussed a proposed interstate in South Carolina and requested if the Seminole Tribe of Florida would like to meet with South Carolina officials to discuss the project or if the Tribe would simply be interested in the project or have information that would help ensure avoidance of any traditional cultural or historic resources of interest to the Tribe. Also, attached is a map of the project study area.

If the Seminole Tribe of Florida has no interest in projects within the State of South Carolina, that information would be useful for future correspondence.

Thank you,

J. Shane Belcher
Environmental Coordinator
FHWA-SC
1835 Assembly Street, Suite 1270
Columbia, SC 29201
Phone: 803-253-3187
Fax: 803-253-3989

Belcher, Jeffrey

From: Belcher, Jeffrey

Sent: Tuesday, November 09, 2004 2:02 PM

To:

Subject: Proposed Interstate 73 in South Carolina - message from Federal Hwy. Adm. South Carolina

This is a follow-up e-mail to correspondence that was sent to Principal Chief Chambers in September (Attached). The letter discussed a proposed interstate in South Carolina and requested if the Seminole Nation would like to meet with South Carolina officials to discuss the project or if the Nation would simply be interested in the project or have information that would help ensure avoidance of any traditional cultural or historic resources of interest to the Nation. Also, attached is a map of the project study area.

If the Seminole Nation has no interest in projects within the State of South Carolina, that information would be useful for future correspondence.

Thank you,

J. Shane Belcher
Environmental Coordinator
FHWA-SC
1835 Assembly Street, Suite 1270
Columbia, SC 29201
Phone: 803-253-3187
Fax: 803-253-3989

Belcher, Jeffrey

From: Belcher, Jeffrey

Sent: Tuesday, November 09, 2004 1:52 PM

To:

Cc:

Subject: Proposed Interstate 73 in South Carolina - message from Federal Hwy. Adm. South Carolina

This is a follow-up e-mail to correspondence that was sent to Chairman Sparkman in September (Attached). The letter discussed a proposed interstate in South Carolina and requested if the Shawnee Tribe would like to meet with South Carolina officials to discuss the project or if the Tribe would simply be interested in the project or have information that would help ensure avoidance of any traditional cultural or historic resources of interest to the Tribe. Also, attached is a map of the project study area.

If the Shawnee Tribe has no interest in projects within the State of South Carolina, that information would be useful for future correspondence.

Thank you,

J. Shane Belcher
Environmental Coordinator
FHWA-SC
1835 Assembly Street, Suite 1270
Columbia, SC 29201
Phone: 803-253-3187
Fax: 803-253-3989

Belcher, Jeffrey

From: Belcher, Jeffrey

Sent: Tuesday, November 09, 2004 1:45 PM

To:

Subject: Proposed Interstate 73 in South Carolina - message from Federal Hwy. Adm. South Carolina

This is a follow-up e-mail to correspondence that was sent to Chief Tullis in September (Attached). The letter discussed a proposed interstate in South Carolina and requested if the Poarch Band of Creek Indians would like to meet with South Carolina officials to discuss the project or if the Tribe would simply be interested in the project or have information that would help ensure avoidance of any traditional cultural or historic resources of interest to the Tribe. Also, attached is a map of the project study area.

If the Poarch Band of Creek Indians has no interest in projects within the State of South Carolina, that information would be useful for future correspondence.

Thank you,

J. Shane Belcher
Environmental Coordinator
FHWA-SC
1835 Assembly Street, Suite 1270
Columbia, SC 29201
Phone: 803-253-3187
Fax: 803-253-3989

Belcher, Jeffrey

From: Belcher, Jeffrey

Sent: Tuesday, November 09, 2004 1:52 PM

To:

Cc:

Subject: Proposed Interstate 73 in South Carolina - message from Federal Hwy. Adm. South Carolina

This is a follow-up e-mail to correspondence that was sent to Chairman Sparkman in September (Attached). The letter discussed a proposed interstate in South Carolina and requested if the Shawnee Tribe would like to meet with South Carolina officials to discuss the project or if the Tribe would simply be interested in the project or have information that would help ensure avoidance of any traditional cultural or historic resources of interest to the Tribe. Also, attached is a map of the project study area.

If the Shawnee Tribe has no interest in projects within the State of South Carolina, that information would be useful for future correspondence.

Thank you,

J. Shane Belcher
Environmental Coordinator
FHWA-SC
1835 Assembly Street, Suite 1270
Columbia, SC 29201
Phone: 803-253-3187
Fax: 803-253-3989

Belcher, Jeffrey

From: Belcher, Jeffrey

Sent: Tuesday, November 09, 2004 1:27 PM

To:

Subject: Proposed Interstate 73 in South Carolina - message from Federal Hwy. Adm. South Carolina

This is a follow-up e-mail to correspondence that was sent to Chief Pyle in September (Attached). The letter discussed a proposed interstate in South Carolina and requested if the Choctaw Nation would like to meet with South Carolina officials to discuss the project or if the Nation would simply be interested in the project or have information that would help ensure avoidance of any traditional cultural or historic resources of interest to the Nation. Also, attached is a map of the project study area.

If the Choctaw Nation has no interest in projects within the State of South Carolina, that information would be useful for future correspondence.

Thank you,

J. Shane Belcher
Environmental Coordinator
FHWA-SC
1835 Assembly Street, Suite 1270
Columbia, SC 29201
Phone: 803-253-3187
Fax: 803-253-3989

Belcher, Jeffrey

From: Belcher, Jeffrey

Sent: Tuesday, November 09, 2004 1:20 PM

To:

Cc:

Subject: Proposed Interstate 73 in South Carolina - message from Federal Hwy. Adm. South Carolina

This is a follow-up e-mail to correspondence that was sent to Chief Smith in September (Attached). The letter discussed a proposed interstate in South Carolina and requested if the Cherokee Nation would like to meet with South Carolina officials to discuss the project or if the Nation would simply be interested in the project or have information that would help ensure avoidance of any traditional cultural or historic resources of interest to the Nation. Also, attached is a map of the project study area.

If the Cherokee Nation has no interest in projects within the State of South Carolina, that information would be useful for future correspondence.

J. Shane Belcher
Environmental Coordinator
FHWA-SC
1835 Assembly Street, Suite 1270
Columbia, SC 29201
Phone: 803-253-3187
Fax: 803-253-3989

Belcher, Jeffrey

From: Belcher, Jeffrey

Sent: Tuesday, November 09, 2004 1:05 PM

To:

Cc:

Subject: Proposed Interstate 73 in South Carolina - message from Federal Hwy. Adm. South Carolina

This is a follow-up e-mail to correspondence that was sent to Lt. Governor Blanchard in September (Attached). The letter discussed a proposed interstate in South Carolina and requested if the Absentee-Shawnee Tribe would like to meet with South Carolina officials to discuss the project or if the Tribe would simply be interested or have information that would help ensure avoidance of any traditional cultural or historic resources of interest to the Tribe. Also, attached is a map of the project study area.

If the Tribe has no interest in projects within the State of South Carolina, that information would be useful for future correspondence.

Thank you,

J. Shane Belcher
Environmental Coordinator
FHWA-SC
1835 Assembly Street, Suite 1270
Columbia, SC 29201
Phone: 803-253-3187
Fax: 803-253-3989

Belcher, Jeffrey

From: Belcher, Jeffrey

Sent: Tuesday, November 09, 2004 12:54 PM

To:

Subject: Proposed Interstate 73 in South Carolina - message from Federal Hwy. Adm. South Carolina

This is a follow-up e-mail to correspondence that was sent to Chief Proctor in September (Attached). The letter discussed a proposed interstate in South Carolina and requested if the United Keetoowah Band of Cherokee Indians would like to meet with South Carolina officials to discuss the project or if the Tribe would simply be interested or have information that would help ensure avoidance of any traditional cultural or historic resources of interest to the Tribe.

If the Tribe has no interest in projects within the State of South Carolina, that information would be useful for future correspondence.

Thank you,

J. Shane Belcher
Environmental Coordinator
FHWA-SC
1835 Assembly Street, Suite 1270
Columbia, SC 29201
Phone: 803-253-3187
Fax: 803-253-3989

Belcher, Jeffrey

From: Belcher, Jeffrey

Sent: Tuesday, November 09, 2004 12:46 PM

To:

Subject: Proposed Interstate 73 in South Carolina - message from Federal Hwy. Adm. South Carolina

This is a follow-up e-mail to correspondence that was sent to Chief Ellis in September (Attached). The letter discussed a proposed interstate in South Carolina and requested if the Muscogee (Creek) Nation would like to meet with South Carolina officials to discuss the project or if the Nation would simply be interested or have information that would help ensure avoidance of any traditional cultural or historic resources of interest to the Nation.

If the Muscogee Nation has no interest in projects within the State of South Carolina, that information would be useful for future correspondence.

Thank you,

J. Shane Belcher
Environmental Coordinator
FHWA-SC
1835 Assembly Street, Suite 1270
Columbia, SC 29201
Phone: 803-253-3187
Fax: 803-253-3989

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: November 4, 2004

In Reply Refer To:
HDA-SC

Chief Leo R. Henry
Tuscarora Nation
2006 Mt. Hope Road
Lewiston, NY 14092

Subject: Proposed Interstate 73 Project in South Carolina Environmental Impact Statement

Dear Chief Henry:

Thank you for your response to our consultation letter dated September 9, 2004. In your response, you indicated that the Tuscarora Nation would like to meet with South Carolina representatives to discuss the subject project. It is our understanding that Mr. Rick Hill is the cultural and historic resources contact for the Tuscarora Nation. We have attempted to contact Mr. Hill on several occasions to discuss setting up a meeting but have been unsuccessful. Please let us know if you would prefer us to contact you personnally to discuss the project. If Mr. Hill is not the appropriate contact for the Tuscarora Nation, please provide us with a contact name and phone number or e-mail address so we may discuss the project with that person.

Thank you for your assistance on this project. Please feel free to call this office at 803-253-3187 if you have any further questions.

Sincerely yours,

J. Shane Belcher
(for)Robert L. Lee
Division Administrator

Attachment

Cc: Mr. Mitchell Metts, SCDOT Project Manager
Mr. Wayne Hall, SCDOT Environmental Manager
Mr. Skip Johnson, The LPA Group

File: 47.205B

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chief Gregory E. Pyle
Choctaw Nation of Oklahoma
Post Office Drawer 1210
Durant, OK 74702

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Chief Pyle:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

Plans are for the new interstate to extend from the North Carolina/South Carolina border near US 1 to the Conway/Myrtle Beach area, a distance of approximately 80 miles. The study area for the project is a portion of northeast South Carolina that includes four counties, Marlboro, Dillon, Marion, and Horry (see study area map and fact sheet attached).

The EIS for this proposed new interstate is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality regulation implementing NEPA (40 CFR 1500-1508); Section 106 of the Historic Preservation Act; and, the FHWA environmental impact and related procedures (23 CFR 771).

FHWA feels that bringing the tribes to South Carolina for a meeting will foster improved relationships and bring out any tribal concerns early in the process. Also, if you have any knowledge of other tribes that should be notified please let us know. Please indicate your interest in attending a meeting or the project in

general by checking the appropriate box below and returning this letter. Feel free to contact Mr. J. Shane Belcher of my staff at 803-253-3187 if you have any questions.

Sincerely yours,

J. Shane Belcher
for Robert L. Lee
Division Administrator

☐ **YES: We would like to meet with officials from South Carolina to discuss this project.**

☒ **NO: We do not need to meet with South Carolina Officials but would like to be included in future mailings about this project.**

☐ **NO: We do not have an interest in this project.**

Attachment

Cc: Lt. Governor Kenneth Blanchard, Absentee-Shawnee Tribe of OK
Mr. Gilbert Blue, Catawba Tribe of SC
Principal Chief Chadwick Smith, Cherokee Nation of OK
Principal Chief Michell Hicks, Eastern Band of the Cherokee Nation
Chief Charles D. Enyart, Eastern Shawnee Tribe of OK
Chief Christine Norris, Jena Band of Choctaw Indians
Chief Phillip Martin, Mississippi Band of Choctaw Indians
Principal Chief A.D. Ellis, Muscogee (Creek) Nation
Chairman Eddie Tullis, Poarch Band of Creek Indians
Chairman Ron Sparkman, Shawnee Tribe
Ms. Rebecca Hawkins, Shawnee Tribe
Principal Chief Kenneth E. Chambers, Seminole Nation of OK
Chairman/Vice-President Mitchell Cypress, Seminole Tribe of FL
Governor Bill Anoatubby, The Chickasaw Nation
Chief Leo R. Henry, Tuscarora Nation
Chief Dallas Proctor, United Keetoowah Band of Cherokee Indians of OK
Mitchell Metts, SCDOT
Skip Johnson, The LPA Group

File: 47.205B

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chief Christine Norris
Jena Band of Choctaw Indians
Post Office Box 14
Jena, LA 71342

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Chief Norris:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

Plans are for the new interstate to extend from the North Carolina/South Carolina border near US 1 to the Conway/Myrtle Beach area, a distance of approximately 80 miles. The study area for the project is a portion of northeast South Carolina that includes four counties, Marlboro, Dillon, Marion, and Horry (see study area map and fact sheet attached).

The EIS for this proposed new interstate is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality regulation implementing NEPA (40 CFR 1500-1508); Section 106 of the Historic Preservation Act; and, the FHWA environmental impact and related procedures (23 CFR 771).

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general by checking the appropriate box below and returning this letter. Feel free to contact Mr. J. Shane Belcher of my staff at 803-253-3187 if you have any questions.

Sincerely yours,

J. Shane Belcher
for Robert L. Lee
Division Administrator

☐ **YES: We would like to meet with officials from South Carolina to discuss this project.**

☐ **NO: We do not need to meet with South Carolina Officials but would like to be included in future mailings about this project.**

☑ **NO: We do not have an interest in this project.**

Attachment

Cc: Lt. Governor Kenneth Blanchard, Absentee-Shawnee Tribe of OK
Mr. Gilbert Blue, Catawba Tribe of SC
Principal Chief Chadwick Smith, Cherokee Nation of OK
Chief Gregory E. Pyle, Choctaw Nation of OK
Principal Chief Michell Hicks, Eastern Band of the Cherokee Nation
Chief Charles D. Enyart, Eastern Shawnee Tribe of OK
Chief Phillip Martin, Mississippi Band of Choctaw Indians
Principal Chief A.D. Ellis, Muscogee (Creek) Nation
Chairman Eddie Tullis, Poarch Band of Creek Indians
Chairman Ron Sparkman, Shawnee Tribe
Ms. Rebecca Hawkins, Shawnee Tribe
Principal Chief Kenneth E. Chambers, Seminole Nation of OK
Chairman/Vice-President Mitchell Cypress, Seminole Tribe of FL
Governor Bill Anoatubby, The Chickasaw Nation
Chief Leo R. Henry, Tuscarora Nation
Chief Dallas Proctor, United Keetoowah Band of Cherokee Indians of OK
Mitchell Metts, SCDOT
Skip Johnson, The LPA Group

File: 47.205B

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Mr. Gilbert Blue
The Catawba Indian Nation
P.O. Box 188
Catawba, SC 29704

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Mr. Blue:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

Plans are for the new interstate to extend from the North Carolina/South Carolina border near US 1 to the Conway/Myrtle Beach area, a distance of approximately 80 miles. The study area for the project is a portion of northeast South Carolina that includes four counties, Marlboro, Dillon, Marion, and Horry (see study area map and fact sheet attached).

The EIS for this proposed new interstate is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality regulation implementing NEPA (40 CFR 1500-1508); Section 106 of the Historic Preservation Act; and, the FHWA environmental impact and related procedures (23 CFR 771).

FHWA feels that bringing the tribes to South Carolina for a meeting will foster improved relationships and bring out any tribal concerns early in the process. Also, if you have any knowledge of other tribes that should be notified please let us know. Please indicate your interest in attending a meeting or the project in

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Principal Chief Chadwick Smith
Cherokee Nation of Oklahoma
Post Office Box 948
Tahlequah, OK 74465

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Principal Chief Smith:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

Plans are for the new interstate to extend from the North Carolina/South Carolina border near US 1 to the Conway/Myrtle Beach area, a distance of approximately 80 miles. The study area for the project is a portion of northeast South Carolina that includes four counties, Marlboro, Dillon, Marion, and Horry (see study area map and fact sheet attached).

The EIS for this proposed new interstate is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality regulation implementing NEPA (40 CFR 1500-1508); Section 106 of the Historic Preservation Act; and, the FHWA environmental impact and related procedures (23 CFR 771).

FHWA feels that bringing the tribes to South Carolina for a meeting will foster improved relationships and bring out any tribal concerns early in the process. Also, if you have any knowledge of other tribes that should be notified please let us know. Please indicate your interest in attending a meeting or the project in

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Principal Chief Michell Hicks
Eastern Band of the Cherokee Nation
Post Office Box 455
Cherokee, NC 28719

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Principal Chief Hicks:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

Plans are for the new interstate to extend from the North Carolina/South Carolina border near US 1 to the Conway/Myrtle Beach area, a distance of approximately 80 miles. The study area for the project is a portion of northeast South Carolina that includes four counties, Marlboro, Dillon, Marion, and Horry (see study area map and fact sheet attached).

The EIS for this proposed new interstate is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality regulation implementing NEPA (40 CFR 1500-1508); Section 106 of the Historic Preservation Act; and, the FHWA environmental impact and related procedures (23 CFR 771).

FHWA feels that bringing the tribes to South Carolina for a meeting will foster improved relationships and bring out any tribal concerns early in the process. Also, if you have any knowledge of other tribes that should be notified please let us know. Please indicate your interest in attending a meeting or the project in

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chief Charles D. Enyart
Eastern Shawnee Tribe of Oklahoma
Post Office Box 350q
Seneca, MO 64865

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Chief Enyart:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

Plans are for the new interstate to extend from the North Carolina/South Carolina border near US 1 to the Conway/Myrtle Beach area, a distance of approximately 80 miles. The study area for the project is a portion of northeast South Carolina that includes four counties, Marlboro, Dillon, Marion, and Horry (see study area map and fact sheet attached).

The EIS for this proposed new interstate is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality regulation implementing NEPA (40 CFR 1500-1508); Section 106 of the Historic Preservation Act; and, the FHWA environmental impact and related procedures (23 CFR 771).

FHWA feels that bringing the tribes to South Carolina for a meeting will foster improved relationships and bring out any tribal concerns early in the process. Also, if you have any knowledge of other tribes that should be notified please let us know. Please indicate your interest in attending a meeting or the project in

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chief Phillip Martin
Mississippi Band of Choctaw Indians
Box 6010
Choctaw Branch
Choctaw, MS 39350

Subject: Project Scoping Meeting for I-73 in South Carolina
Environmental Impact Statement

Dear Chief Martin:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

Plans are for the new interstate to extend from the North Carolina/South Carolina border near US 1 to the Conway/Myrtle Beach area, a distance of approximately 80 miles. The study area for the project is a portion of northeast South Carolina that includes four counties, Marlboro, Dillon, Marion, and Horry (see study area map and fact sheet attached).

The EIS for this proposed new interstate is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality regulation implementing NEPA (40 CFR 1500-1508); Section 106 of the Historic Preservation Act; and, the FHWA environmental impact and related procedures (23 CFR 771).

FHWA feels that bringing the tribes to South Carolina for a meeting will foster improved relationships and bring out any tribal concerns early in the process. Also, if you have any knowledge of other tribes that should be notified please let

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Principal Chief A.D. Ellis
Muscogee (Creek) Nation
Highway 75, Loop 56
Post Office Box 580
Okmulgee, OK 74447

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Principal Chief Ellis:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

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1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chairman Eddie Tullis
Poarch Band of Creek Indians
HCR 69A
Post Office Box 85B
Atmore, AL 36502

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Chairman Tullis:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

Plans are for the new interstate to extend from the North Carolina/South Carolina border near US 1 to the Conway/Myrtle Beach area, a distance of approximately 80 miles. The study area for the project is a portion of northeast South Carolina that includes four counties, Marlboro, Dillon, Marion, and Horry (see study area map and fact sheet attached).

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1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chairman Ron Sparkman
Shawnee Tribe
P.O. Box 189
Miami, OK 74355

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Chairman Sparkman:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

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1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Lt. Governor Kenneth Blanchard
Abesentee-Shawnee Tribe of Oklahoma
2025 S. Gordon Cooper Drive
Shawnee, OK 74801

Subject: Project Scoping Meeting for I-73 in South Carolina
Environmental Impact Statement

Dear Lt. Governor Blanchard:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

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1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Principal Chief Kenneth E. Chambers
Seminole Nation of Oklahoma
Post Office Box 1498
Wewoka, OK 74884

Subject: Project Scoping Meeting for I-73 in South Carolina
Environmental Impact Statement

Dear Principal Chief Chambers:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

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1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chairman/Vice-President Mitchell Cypress
Seminole Tribe of Florida
6300 Stirling Road
Hollywood, FL 33024

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Chairman/Vice-President Cypress:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

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1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Governor Bill Anoatubby
The Chickasaw Nation
Post Office Box 1548
Ada, OK 74821-1548

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Governor Anoatubby:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

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1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chief Leo R. Henry
Tuscarora Nation
2006 Mt. Hope Road
Lewiston, NY 14092

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Chief Henry:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

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1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chief Dallas Proctor
United Keetoowah Band of Cherokee Indians of Oklahoma
Post Office Box 746
Tahlequah, OK 74465-0746

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Chief Proctor:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

Plans are for the new interstate to extend from the North Carolina/South Carolina border near US 1 to the Conway/Myrtle Beach area, a distance of approximately 80 miles. The study area for the project is a portion of northeast South Carolina that includes four counties, Marlboro, Dillon, Marion, and Horry (see study area map and fact sheet attached).

The EIS for this proposed new interstate is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality regulation implementing NEPA (40 CFR 1500-1508); Section 106 of the Historic Preservation Act; and, the FHWA environmental impact and related procedures (23 CFR 771).

FHWA feels that bringing the tribes to South Carolina for a meeting will foster improved relationships and bring out any tribal concerns early in the process. Also, if you have any knowledge of other tribes that should be notified please let us know. Please indicate your interest in attending a meeting or the project in

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Ms. Rebecca Hawkins
Shawnee Tribe
21 N. 8 Tribes Trail
Miami, OK 74354

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Ms. Hawkins:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

Plans are for the new interstate to extend from the North Carolina/South Carolina border near US 1 to the Conway/Myrtle Beach area, a distance of approximately 80 miles. The study area for the project is a portion of northeast South Carolina that includes four counties, Marlboro, Dillon, Marion, and Horry (see study area map and fact sheet attached).

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1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chief Leo R. Henry
Tuscarora Nation
2006 Mt. Hope Road
Lewiston, NY 14092

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Chief Henry:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

Plans are for the new interstate to extend from the North Carolina/South Carolina border near US 1 to the Conway/Myrtle Beach area, a distance of approximately 80 miles. The study area for the project is a portion of northeast South Carolina that includes four counties, Marlboro, Dillon, Marion, and Horry (see study area map and fact sheet attached).

The EIS for this proposed new interstate is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality regulation implementing NEPA (40 CFR 1500-1508); Section 106 of the Historic Preservation Act; and, the FHWA environmental impact and related procedures (23 CFR 771).

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1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Principal Chief Michell Hicks
Eastern Band of the Cherokee Nation
Post Office Box 455
Cherokee, NC 28719

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Principal Chief Hicks:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

Plans are for the new interstate to extend from the North Carolina/South Carolina border near US 1 to the Conway/Myrtle Beach area, a distance of approximately 80 miles. The study area for the project is a portion of northeast South Carolina that includes four counties, Marlboro, Dillon, Marion, and Horry (see study area map and fact sheet attached).

The EIS for this proposed new interstate is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality regulation implementing NEPA (40 CFR 1500-1508); Section 106 of the Historic Preservation Act; and, the FHWA environmental impact and related procedures (23 CFR 771).

FHWA feels that bringing the tribes to South Carolina for a meeting will foster improved relationships and bring out any tribal concerns early in the process. Also, if you have any knowledge of other tribes that should be notified please let us know. Please indicate your interest in attending a meeting or the project in

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chief Phillip Martin
Mississippi Band of Choctaw Indians
Box 6010
Choctaw Branch
Choctaw, MS 39350

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Chief Martin:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

Plans are for the new interstate to extend from the North Carolina/South Carolina border near US 1 to the Conway/Myrtle Beach area, a distance of approximately 80 miles. The study area for the project is a portion of northeast South Carolina that includes four counties, Marlboro, Dillon, Marion, and Horry (see study area map and fact sheet attached).

The EIS for this proposed new interstate is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality regulation implementing NEPA (40 CFR 1500-1508); Section 106 of the Historic Preservation Act; and, the FHWA environmental impact and related procedures (23 CFR 771).

FHWA feels that bringing the tribes to South Carolina for a meeting will foster improved relationships and bring out any tribal concerns early in the process. Also, if you have any knowledge of other tribes that should be notified please let

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chief Christine Norris
Jena Band of Choctaw Indians
Post Office Box 14
Jena, LA 71342

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Chief Norris:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

Plans are for the new interstate to extend from the North Carolina/South Carolina border near US 1 to the Conway/Myrtle Beach area, a distance of approximately 80 miles. The study area for the project is a portion of northeast South Carolina that includes four counties, Marlboro, Dillon, Marion, and Horry (see study area map and fact sheet attached).

The EIS for this proposed new interstate is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality regulation implementing NEPA (40 CFR 1500-1508); Section 106 of the Historic Preservation Act; and, the FHWA environmental impact and related procedures (23 CFR 771).

FHWA feels that bringing the tribes to South Carolina for a meeting will foster improved relationships and bring out any tribal concerns early in the process. Also, if you have any knowledge of other tribes that should be notified please let us know. Please indicate your interest in attending a meeting or the project in

general by checking the appropriate box below and returning this letter. Feel free to contact Mr. J. Shane Belcher of my staff at 803-253-3187 if you have any questions.

Sincerely yours,

J. Shane Belcher
for Robert L. Lee
Division Administrator

☐ YES: **We would like to meet with officials from South Carolina to discuss this project.**

☐ NO: **We do not need to meet with South Carolina Officials but would like to be included in future mailings about this project.**

☑ NO: **We do not have an interest in this project.**

Attachment

Cc: Lt. Governor Kenneth Blanchard, Absentee-Shawnee Tribe of OK
Mr. Gilbert Blue, Catawba Tribe of SC
Principal Chief Chadwick Smith, Cherokee Nation of OK
Chief Gregory E. Pyle, Choctaw Nation of OK
Principal Chief Michell Hicks, Eastern Band of the Cherokee Nation
Chief Charles D. Enyart, Eastern Shawnee Tribe of OK
Chief Phillip Martin, Mississippi Band of Choctaw Indians
Principal Chief A.D. Ellis, Muscogee (Creek) Nation
Chairman Eddie Tullis, Poarch Band of Creek Indians
Chairman Ron Sparkman, Shawnee Tribe
Ms. Rebecca Hawkins, Shawnee Tribe
Principal Chief Kenneth E. Chambers, Seminole Nation of OK
Chairman/Vice-President Mitchell Cypress, Seminole Tribe of FL
Governor Bill Anoatubby, The Chickasaw Nation
Chief Leo R. Henry, Tuscarora Nation
Chief Dallas Proctor, United Keetoowah Band of Cherokee Indians of OK
Mitchell Metts, SCDOT
Skip Johnson, The LPA Group

File: 47.205B

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chief Dallas Proctor
United Keetoowah Band of Cherokee Indians of Oklahoma
Post Office Box 746
Tahlequah, OK 74465-0746

Subject: Project Scoping Meeting for I-73 in South Carolina
Environmental Impact Statement

Dear Chief Proctor:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

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1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chief Gregory E. Pyle
Choctaw Nation of Oklahoma
Post Office Drawer 1210
Durant, OK 74702

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Chief Pyle:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

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Sincerely yours,

J. Shane Belcher
for Robert L. Lee
Division Administrator

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Cc: Lt. Governor Kenneth Blanchard, Absentee-Shawnee Tribe of OK
Mr. Gilbert Blue, Catawba Tribe of SC
Principal Chief Chadwick Smith, Cherokee Nation of OK
Principal Chief Michell Hicks, Eastern Band of the Cherokee Nation
Chief Charles D. Enyart, Eastern Shawnee Tribe of OK
Chief Christine Norris, Jena Band of Choctaw Indians
Chief Phillip Martin, Mississippi Band of Choctaw Indians
Principal Chief A.D. Ellis, Muscogee (Creek) Nation
Chairman Eddie Tullis, Poarch Band of Creek Indians
Chairman Ron Sparkman, Shawnee Tribe
Ms. Rebecca Hawkins, Shawnee Tribe
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Chairman/Vice-President Mitchell Cypress, Seminole Tribe of FL
Governor Bill Anoatubby, The Chickasaw Nation
Chief Leo R. Henry, Tuscarora Nation
Chief Dallas Proctor, United Keetoowah Band of Cherokee Indians of OK
Mitchell Metts, SCDOT
Skip Johnson, The LPA Group

File: 47.205B

1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Principal Chief Chadwick Smith
Cherokee Nation of Oklahoma
Post Office Box 948
Tahlequah, OK 74465

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Principal Chief Smith:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

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1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chairman Ron Sparkman
Shawnee Tribe
P.O. Box 189
Miami, OK 74355

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Chairman Sparkman:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

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1835 Assembly Street
Suite 1270
Columbia, SC 29201

Date: September 9, 2004

In Reply Refer To:
HDA-SC

Chairman Eddie Tullis
Poarch Band of Creek Indians
HCR 69A
Post Office Box 85B
Atmore, AL 36502

Subject: Project Scoping Meeting for I-73 in South Carolina Environmental Impact Statement

Dear Chairman Tullis:

The Federal Highway Administration (FHWA), the lead federal agency for the preparation of an Environmental Impact Statement (EIS) for the proposed Interstate 73 in South Carolina, would like to discuss the project with the federally recognized tribes that hold interests in the state. The FHWA would like to hold a meeting with all interested tribes at once to discuss the project in general and to gather information on tribal concerns you may have. Please let our office know if this type of meeting would be useful to your tribe. If there are other means by which your tribe would like to be involved in the project, that information would also be useful. The project is in its early stages of developing the EIS and any information you could provide would be of interest.

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