



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

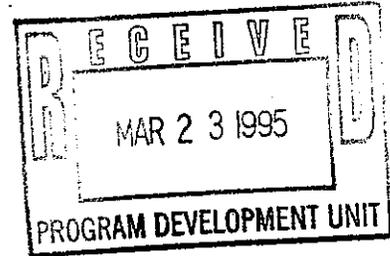
JAMES B. HUNT, JR.
GOVERNOR

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*cc: Kelly
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RHW 3-22-95*

R. SAMUEL HUNT III
SECRETARY

March 20, 1995



Ms. Chrys Baggett
North Carolina Department of Administration
State Clearinghouse
116 West Jones Street
Raleigh, North Carolina 27603-8003

Dear Ms. Baggett:

SUBJECT: Sparta Western Loop, From SR 1172 to US 21 North, Alleghany County,
State Project No. 9.8112515; TIP ID No. R-3117

The State Environmental Assessment/Finding of No Significant Impact (SEA/FONSI) for the subject project was approved by the NCDOT in September, 1994. The document was then distributed through the State Clearinghouse for comments. The agencies that commented through the State Clearinghouse felt that the NCDOT did not adequately address viable alternatives, including wetland avoidance alternatives. This memo is to address the concerns of the State Clearinghouse agencies and to provide these agencies with the necessary information to concur with the recommendation in the SEA/FONSI.

PURPOSE OF PROJECT

The need for the project first grew out of traffic problems in downtown Sparta. The close proximity of the buildings at the existing intersection of US 21 and NC 18 in downtown Sparta has created a turning movement problem for the truck traffic that travels from US 21 to NC 18 and visa versa (see Figure 1 for vicinity mapping). This has also created a periodic downtown traffic congestion problem. There is inadequate space to widen this intersection and solve this traffic problem.

In addition, Bristol Compressors has built a manufacturing plant south of this intersection on NC 18. The truck traffic from this facility will only add to the existing traffic problem in downtown Sparta. The proposed Sparta Western Loop will help to alleviate the problem by bypassing the downtown intersection and provide a more direct route between US 21 and NC 18.



DOCUMENT BACKGROUND

The project began as a Division 11 design/construct project. The SEA/FONSI was approved by this branch in September, 1994. The document recommended Alignment 1A (referred to as Alternative C in this memo).

COORDINATION WITH ENVIRONMENTAL AGENCIES:

The project was first presented at the monthly Permit Review Meeting in December, 1993. Representatives of the NCDOT and the U.S. Army Corps of Engineer (COE) met at the project in August, 1994 to delineate the wetland sites; Sites 1-8 were identified. The permit application was sent to the COE in January, 1995.

To address the concerns generated through the State Clearinghouse, the project was presented at the February 16, 1995 Permit Review Meeting. In addition, a meeting was held with the Department of Environment, Health and Natural Resources, the Natural Heritage Program, and the Wildlife Resources Commission (WRC) on February 27, 1995 and with the Fish and Wildlife Service and the WRC on March 13, 1995 to address their concerns.

ALTERNATIVE COMPARISON

During the life of the project, four alternatives were evaluated (see Figure 2); they are referred to in this memo as Alternatives A, B, C, and D (Alternative C corresponds to the recommended Alignment 1A in the SEA/FONSI). Alternatives A and B were first evaluated by the Division 11 design office; due to anticipated impacts of wetlands associated with Alternative A and terrain problems associated with Alternative B, both alternatives were eliminated from further consideration and replaced with Alternative C. Two variations of Alternative C were developed and evaluated in the SEA/FONSI; they were identified as Alignments 1 and 1A in the document. Alternative D was developed as the best attempt to avoid prime wetland areas between NC 18 and SR 1172. Table 1 (see attached) lists the criteria used to evaluate the four alternatives.

WETLAND IMPACTS

Table 2 (see attached) compares the wetland impacts associated with each alternative. Alternative A impacts the highest acreage of wetlands; of the 2.57 total acres listed, 2.41 acres are considered mountain bogs. Alternative D has the lowest impacts; of 0.34 acres of wetlands, 0.18 acres are identified as mountain bogs. The recommended Alternative C impacts a total of 0.99 acres of wetlands; 0.83 acres are identified as mountain bogs. Table 3 (see attached) gives a description of each impacted wetland site, including a DEM rating for each site.

SOCIAL IMPACTS

Alternative A has the lowest relocatee potential, three residences. Alternative D impacts the highest number, 14 residences. Recommended Alternative C will impact six residences.

DESIGN AND CONSTRUCTION IMPACTS

Alternative B follows a ridge that parallels Bledsoe Creek. The elevation changes in this area would make tying to NC 18 difficult and would require raising the grade along NC 18 (this would entail additional disturbance to wetlands). Therefore, it was eliminated early on by the Division.

To minimize impacts to residences and businesses, Alternative D utilizes a portion of Duncan Street, tying to SR 1172 (Grandview Drive) at the existing intersection of Duncan Street and SR 1172. The sight distance at this intersection is limited due to the poor vertical and horizontal alignment of SR 1172. The current conditions at this intersection have already created a safety hazard; the hazard would worsen if the truck traffic using the proposed loop were forced to use this intersection. The curve on SR 1172 would need to be removed and SR 1172 be realigned to reduce this safety hazard; this design revision would require the relocation of additional homes along SR 1172.

INDUSTRIAL ACCESS

A primary purpose of this project is provide direct access to Bristol Compressors, located between NC 18 and SR 1172. Bristol Compressors plans to tie directly into the proposed roadway, thus allowing trucks to follow US 21 north or south without having to access NC 18. Alternative D defeats this purpose of the project by relocating the proposed roadway farther north, away from the newly constructed plant.

COMPATIBILITY WITH THOROUGHFARE PLAN

The latest Sparta thoroughfare plan was adopted in 1992. A portion of the proposed loop was included in the original plan. An extension of the loop to complete a US 21 bypass of downtown Sparta was added to the thoroughfare plan in 1993.

The southern terminal of Alternatives A, B, and C was purposely located to allow for the extension of the proposed loop southward to eventually tie back to US 21. Alternative D does not allow for any future extension of the proposed loop without impacting additional residences along SR 1172 and side streets.

COST

The recommended Alternative C is the least expensive alignment at \$2,878,000. Alternative D is the most expensive alignment at \$4,263,000. The additional expense for Alternative D is largely due to the additional relocatees in the vicinity of SR 1172.

RECOMMENDATION

On the basis of the planning and environmental studies of the four alternatives, Alternative C is the best overall alternative that minimizes both cost and impacts to the natural and human environment. Alternative C

best meets the purpose and need of the project. Therefore, it is the recommendation of the NCDOT that Alternative C, known as Alignment 1A in the SEA/FONSI, be constructed.

GENERAL COMMENTS

In addition to the Clearinghouse comments addressing viable alternatives, other general comments made during the coordination meetings with the environmental agencies are addressed below:

MOUNTAIN BOG WETLANDS

NCDOT has made a commitment to avoid and minimize impacts to the mountain bogs, whenever practicable. The comparison of viable alternatives showed that attempts were made to avoid mountain bogs where possible, such as by recommending Alternative C over Alternatives A and B. In addition, the proposed roadway grade between NC 18 and SR 1172 (where the majority of the impacted mountain bogs are located) has been lowered to further reduce impacts to the wetland sites along the project.

PROTECTED SPECIES

The Grays lily (Lilium grayi) and the bog turtle (Clemmys muhlenbergii) are listed by the U.S. Fish and Wildlife Service as federal candidate species, which are not afforded federal protection under the Endangered Species Act. Grays lily has been identified in the project area, and habitat also exists for the bog turtle. As an effort to minimize impacts to these unique mountain bog habitats and thus minimize impacts to these species, NCDOT plans to contract with Mr. Dennis Herman of the Atlanta Zoo to verify if either species exists in the impacted bog sites and to offer mitigation advice on adjacent degraded (grazed, filled, or drained) bog sites.

BRIDGING

Bridging some of the impacted wetland areas was evaluated as a minimization option. If wetland Site 5 and Bledsoe Creek were bridged together (just south of NC 18) and Site 8 and Bledsoe Creek were bridged together (just north of the SR 1172 terminal), the cost increase for the recommended Alternative C would be approximately \$1.2 million. Since bridging would still impact the bogs (due to shading impacts). NCDOT believes protection of adjacent bog areas is a more practical and beneficial alternative.

PERMITS AND MITIGATION

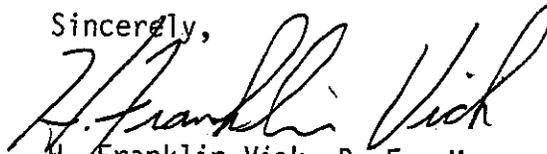
The SEA/FONSI identified that 1.51 acres of wetlands would be impacted by the recommended alignment. Since that time, a delineation of the wetland areas have shown that 0.99 acres will be impacted. It is anticipated that the project can be issued under a COE Nationwide 14 Permit. However, due to the concern over impacts to the mountain bogs, mitigation will be considered as part of the application package. The following are options that will be considered by the NCDOT Permit staff to be included in a mitigation plan:

- purchase of mountain bog remnants adjacent to the project limits
- placement of rip rap along severely eroding stream banks
- elimination of manmade devices, such as ditches, in the project area

CLOSING

As was mentioned earlier in the letter, we have been coordinating with several of the commenting environmental agencies, such as EHNR, DEM, WRC, and USFWS. From the discussion with these agencies, we feel that we have adequately addressed the concerns of the agencies. Based on the environmental studies, we still recommend Alternative C (Alignment 1A in the document) and are planning to pursue the proper permits with the COE. Please circulate this letter through the State Clearinghouse as soon as possible; Ms. Melba McGee of EHNR said she would work to help speed up the process. If you have any additional questions concerning this project, please contact me at 919/733-3141.

Sincerely,

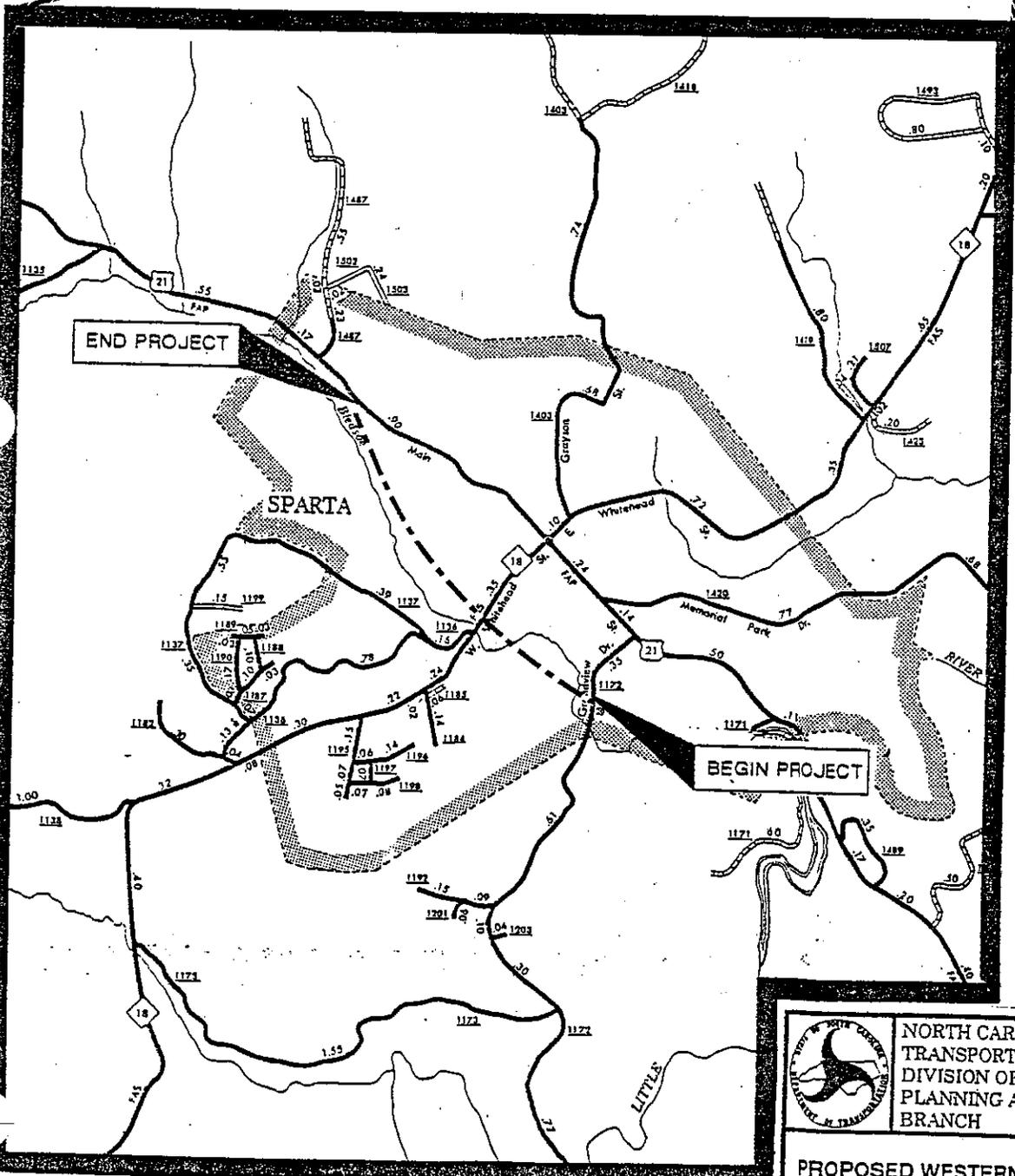
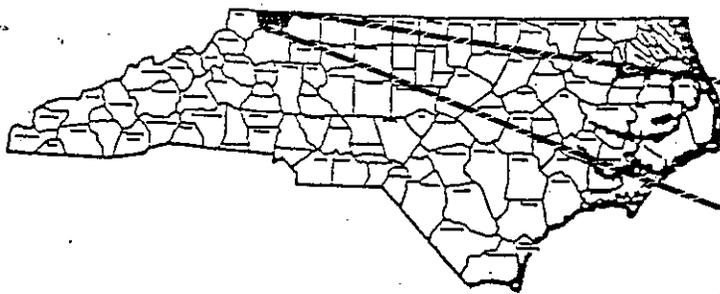


H. Franklin Vick, P. E., Manager
Planning and Environmental Branch

HFV/plr

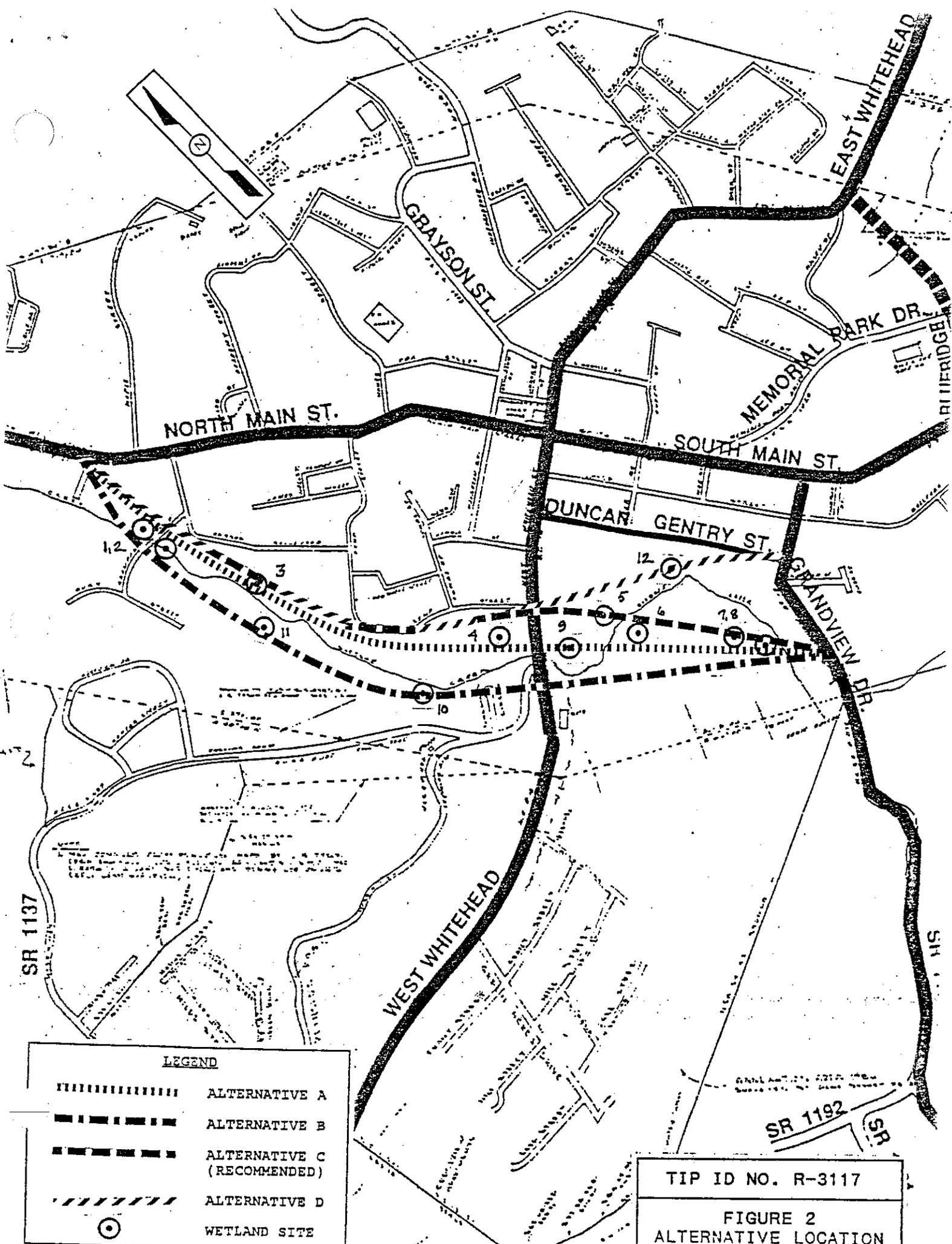
Attachments

cc: Larry R. Goode, Ph.D., P.E., State Highway Administrator
Calvin W. Leggett, P.E., Director of Planning and Programming
Whitmel H. Webb, P.E., Manager, Program Development Branch
W. E. Hoke, P.E.; Division 11



NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION
DIVISION OF HIGHWAYS
PLANNING AND ENVIRONMENTAL
BRANCH

PROPOSED WESTERN LOOP FROM SR 1172
TO US 21 NORTH
SPARTA, ALLEGHANY COUNTY
T. I. P. PROJECT NO. R - 3117



LEGEND	
	ALTERNATIVE A
	ALTERNATIVE B
	ALTERNATIVE C (RECOMMENDED)
	ALTERNATIVE D
	WETLAND SITE

TIP ID NO. R-3117

FIGURE 2
ALTERNATIVE LOCATION

TIP R-3117, SPARTA WESTERN LOOP
 FEBRUARY, 1995

TABLE 1: ALTERNATIVE COMPARISON

DESCRIPTION	ALT A	ALT B	ALT C (RECOMM.)	ALT D
TOTAL COST:	\$ 3,111,000	\$ 3,780,000	\$ 2,878,000	\$ 4,263,000
CONSTRUCTION COST	(\$ 2,450,000)	(\$ 3,000,000)	(\$ 1,900,000)	(\$ 2,350,000)
RIGHT OF WAY COST	(\$ 661,000)	(\$ 780,000)	(\$ 978,000)	(\$ 1,913,000)
WETLAND IMPACTS (AC):				
MOUNTAIN BOGS	2.57	1.10	0.99	0.34
OTHERS	(2.41)	(0.92)	(0.83)	(0.18)
	(0.16)	(0.18)	(0.16)	(0.16)
CREEK CROSSINGS	2	2	2	0
TERRAIN PROBLEMS	NO	YES	NO	NO
DESIGN PROBLEMS	NO	NO	NO	YES
RELOCATEES (RESIDENCES/BUSINESSES)	3/0	5/1	6/0	14/0
ALLOW FOR COMPLETION OF SPARTA LOOP	YES	YES	YES	NO
SUITABLE ACCESS TO BRISTOL COMPRESSORS	YES	YES	YES	NO
IMPACTS TO SPARTA WELLS	NO	YES	NO	NO

Corrected 2/20/95

TIP R-3117, SPARTA WESTERN LOOP
 FEBRUARY, 1995

TABLE 2: WETLAND COMPARISON (IN ACRES)

WETLAND SITE	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C (RECOMMENDED)	ALTERNATIVE D
1	0.08	0.08	0.08	0.08
2	0.01	n.a.	0.01	0.01
3	0.07	n.a.	0.07	0.07
4*	1.38	n.a.	0.07	0.07
5*	0.08	n.a.	0.20	n.a.
6*	0.15	n.a.	0.15	n.a.
7,8*	0.41	0.41	0.41	n.a.
9*	0.39	n.a.	n.a.	n.a.
10	n.a.	0.10	n.a.	n.a.
11*	n.a.	0.51	n.a.	n.a.
12*	n.a.	n.a.	n.a.	0.11
*Mtn Bogs	2.41	0.92	0.83	0.18
Others	0.16	0.18	0.16	0.16
TOTAL:	2.57	1.10	0.99	0.34

Chart Corrected 2/20/95

TIP R-3117, SPARTA WESTERN LOOP
 FEBRUARY, 1995

TABLE 3: WETLAND DESCRIPTION

	LOCATION	NWI CLASSIFICATION	MUNSELL SOIL CLASSIFICATION	HYDROLOGICAL EVIDENCE	DEM WETLAND RATING
SITE 1 (pasture)	50 ft. west of Alleghany Builders Mart	PEM1E	10 YR (5/2-3/2)	Saturation, mottled soils, oxid. rhizospheres	39.5
SITE 2 (seep)	Southeast quad of Cranford Rd., Bleds. Creek crossing	PSS6E	10 YR (3/2)	Sat., inundation, mottled soils, oxid. rhizospheres	48
SITE 3 (remnant bog)	100 ft. east of Bled. Creek, 300 ft. west of Carson Blvd.	PSS6E	10 YR (5/1-3/1)	Oxid. rhizospheres	20.5
SITE 4 (bog)	North of NC 18 and west of Kemp St.	PEM1E/PSS6E	10 YR (5/2-2/1)	Inundation, satur., mottled soils, oxid. rhizospheres	71.8
SITE 5 (bog)	20 ft. north of Bled. Creek, and 500 ft. south of NC 18	PEM1E	10 YR (5/2-3/2)	Inundation, satur., oxid. rhizospheres	71.8
SITE 6 (bog)	50 ft. southeast of Bledsoe Ck, 400 ft. west of Duncan St	PEM1E	10 YR (5/2-3/2)	Oxid rhizospheres	54.5
SITE 7,8 (bog)	300 ft. north of Grandview Dr., 100 ft. north of Bledsoe Ck.	PEM1E	10 YR (5/2-3/2)	Inundation, satur., oxid. rhizospheres	58.5
SITE 9 (bog)	South of NC 18, 250 ft. east of abandoned store	PEM1E	10 YR (5/2-3/2)	Inundation, satur., oxid. rhizospheres	65.5
SITE 10 (bottomland hardwood)	200 ft. north of Dogwood Dr. west of Bledsoe Creek	PFO1E	10 YR (3/2)	Saturation	53.8
SITE 11 (bog)	Pasture west of Bledsoe Creek	PEM1E	10 YR (3/2)	Inundation, satur., oxid. rhizospheres	62.8
SITE 12 (bog)	North of pasture, west of Bledsoe Ck	PEM1E/PSS6E	10 YR (3/2)	Inundation, satur., oxid. rhizospheres	69.8