

RECORD OF DECISION

U.S. Department of Transportation
Federal Highway Administration

Fayetteville Outer Loop
From I-95 South of Fayetteville
To US 401 (Ramsey Street)
Cumberland, Hoke, and Robeson Counties

Federal Aid No.: DRP-0100(001) and DPR-0100(002)
State Project No.: 8.2441301 and 8.T441302
FHWA-NC-EIS-99-01-F
TIP Project No.: U-2519 and X-0002

JANUARY 2006

I. DECISION

This document records the decision of the Federal Highway Administration (FHWA) with regard to the Fayetteville Outer Loop Corridor Study in Robeson and Cumberland Counties, North Carolina. In making this decision, the agency considered the information, analysis, and public comments contained in the Draft Environmental Impact Statement (DEIS), published in March 1999; the Reevaluation of the DEIS, approved in February 2005; and the Condensed Final Impact Statement (FEIS), approved in August 2005, for the proposed project.

This Record of Decision (ROD), prepared in accordance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR 1505.2 – *Record of decision in cases requiring environmental impact statements*), as well as FHWA's Environmental Impact and Related Procedures (23 CFR 771) and Technical Advisory T6640.8A, is for the Fayetteville Outer Loop Corridor Study in Robeson and Cumberland Counties, North Carolina.

The proposed action consists of a 27.8-mile controlled-access freeway facility through Robeson and Cumberland Counties west and north of Fayetteville. The freeway facility will provide a circumferential facility (Outer Loop) around the city, reduce the volume of traffic on portions of the local street network, and connect the major radial routes in the south, west, and north portions of Fayetteville. The project is a Congressionally-approved National Highway System (NHS)-Other Principal Arterial Route [I-95 south of Fayetteville to South Raeford Road (US 401)] and a NHS-Strategic Highway Corridor Network (STRAHNET) Route [South Raeford Road (US 401) to I-95 north of Fayetteville]. It will serve the Fort Bragg Military Reservation with a direct connection to I-95 both south and north of Fayetteville. The proposed action is identified in the 2006-2012 North Carolina Transportation Improvement Program (TIP) as U-2519, including Sections AA, AB, BA, BB, CA, CB, DA, and TIP X-0002, including Sections B and C. The project begins in Robeson County at an interchange with I-95, continues north through Cumberland County, turns eastward along the southern boundary of the Fort Bragg Military Reservation, and ends at an interchange with Ramsey Street (US 401). The project location and the project study area are shown on Exhibits 1 and 2. Alternate D, one of thirteen build corridors examined in detail, was chosen as the Selected Alternative for the proposed action based on comments received at the Corridor Public Hearing, comments on the DEIS, and agency coordination. The FEIS includes details of the decision-making process and reasons for selecting Alternate D for the project. A complete

description of the anticipated impacts of the Selected Alternative is also included in the FEIS, dated August 17, 2005, and is incorporated by reference.

II. ALTERNATIVES CONSIDERED

Five basic alternatives were established and investigated for this project. These alternatives included:

- No-Build Alternative consisting of maintaining the existing roadway system
- Mass Transit Alternative
- Transportation Systems Management (TSM) Alternative
- Improve Existing Facilities Alternative
- Build Alternative

The Mass Transit Alternative, the Transportation Systems Management Alternative, and the Improve Existing Facilities Alternative were determined not to meet the purpose and need for the project and were eliminated from detailed study. The No-Build Alternative and the Build Alternative, including thirteen alternate corridors, were examined in detail in the DEIS and are described briefly below:

- ***No-Build Alternative***

The No-Build Alternative still consists of not implementing the proposed project or any major improvements to the existing routes, except those currently planned or programmed in the TIP. The No-Build Alternative still does not meet the purpose of or need for the project; however, it was retained for evaluation comparison purposes during the determination of the Selected Alternative.

- ***Build Alternative***

The Build Alternative consists of constructing a new freeway to complete an outer circumferential facility around Fayetteville. Thirteen build alternates were considered for the project and followed numerous routes through the southern portion of the project between I-95 in Robeson County and Cliffdale Road (SR 1400) in Cumberland County. All the build alternates followed a single route through the northern portion of the study area between Cliffdale Road (SR 1400) and Ramsey Street (US 401). The locations of the build alternates are shown on Exhibit 3.

A. BASIS FOR SELECTION

A series of meetings and field visits were held with the Merger Team (a group of federal, state, and local agency representatives) in 2000 to determine the “least environmentally damaging practicable alternative” (LEDPA) from among the thirteen build alternates identified for detail study in the DEIS.

The first of these meetings was held on September 13, 2000 at the NCDOT Division 6 Office in Fayetteville, which also included a field visit. All thirteen alternates, shown on Exhibit 3, had the same southern terminus along I-95 south of the Cumberland/Robeson County line, and all shared the same alignment from approximately Cliffdale Road (SR 1400) to the northern terminus along Ramsey Street (US 401) through the Fort Bragg Military Reservation. Therefore, discussions at the meeting focused on differences in the southern portion of the roadway. Project team members determined that the Outer Loop should cross Rockfish Creek to the east or downstream of Upchurches Pond; avoid crossing Stewarts Creek; and minimize impacts to Bones Creek, Little Rockfish Creek, and Section 4(f) properties. At the meeting, the following decisions were made and alternates eliminated:

- Alternates B, F, G, H, and K were eliminated because they directly impact a USFWS conservation easement/wildlife refuge at Brisson Road (SR 1177) and Parkton Road (SR 1118).

Alternates C, D, E, I, J, L, M, and N remained. The meeting proceeded to the field where several areas were visited to assess stream and wetland quality and view the locations of proposed crossings. Locations reviewed in the field included:

- Two areas along Horsepen Branch,
- Rockfish Creek crossing upstream of Upchurches Pond,
- Rockfish Creek crossing downstream of Upchurches Pond,
- Stewarts Creek south of King Road (SR 1425),
- Stewarts Creek crossing at Gillis Hill Road (SR 1420),
- Little Rockfish Creek at Lake William,
- Bones Creek at South Raeford Road (US 401) crossing, and
- Tributary to Bones Creek and Lake Rim along Reilly Road (SR 1403).

After the field visit, the following alternates were eliminated:

- Alternates L, M, and N were eliminated based on overall impacts. Though these alternates avoid the Shaw-Gillis Historic District, they have greater impacts to other resources (such as relocations, hazardous material sites, and wetlands). These alternates are therefore not considered reasonable and prudent alternatives.
- Alternates C and J were eliminated because they cross Rockfish Creek to the west, upstream of Upchurches Pond. Regulatory and resource agencies determined that it is more desirable for the roadway to cross east, or downstream, of the dam for Upchurches Pond.
- Alternate I was eliminated because it contains two crossings of Stewarts Creek, and the other remaining alternates (Alternates D and E) do not cross Stewarts Creek.

A meeting was held on October 5, 2000 at the NCDOT Transportation Building in Raleigh to review Alternates D and E and select a LEDPA. Based on the comments received on the DEIS, at the Corridor Public Hearing, and during agency field visits and the overall impacts of each alternate, the Merger Team concurred on Build Alternate D as the LEDPA. Alternate D was officially adopted as the project's Preferred Alternative by the Secretary of Transportation on November 3, 2000. Specifically Alternate D was selected because it:

- Meets the purpose and need for the project by providing a circumferential route around the City of Fayetteville and provide access to I-95 north and south of the city,
- Avoids the wildlife refuge on the USFWS Conservation Easement located in the vicinity of Brisson Road (SR 1177) and Parkton Road (SR 1118),
- Avoids Stewarts Creek,
- Crosses Rockfish Creek east of Upchurches Pond to avoid the high-quality wetlands located west of Upchurches Pond,
- Impacts less wetlands and streams, and
- Provides more opportunities for avoidance and minimization of impacts.

B. DESCRIPTION OF THE SELECTED ALTERNATIVE (ALTERNATE D)

The Selected Alternative, Alternate D, for the Fayetteville Outer Loop consists of a 27.8-mile controlled-access freeway facility through Robeson and Cumberland Counties south, west, and north of the City of Fayetteville. The Selected Alternative, shown on Exhibit 4, extends from I-95 south of Fayetteville northwest approximately 15 miles, and turns east extending approximately 13 miles to just west of Ramsey Street (US 401) north of Fayetteville. The Selected Alternative will connect to a section of another NCDOT project, TIP Project No. X-0002, section DA, just west of Ramsey Street (US 401). Section DA includes a single-point diamond interchange at US

401. The portion of the X-0002 Section DA project between the X-0002 C section and Ramsey Road (US 401), including the remainder of the interchange at Ramsey Street (US 401) will be constructed along with this project. The sections of X-0002 D from Ramsey Street (US 401) to I-95 north of Fayetteville were opened to traffic on July 8, 2005.

The Selected Alternative is located along the following route:

- Starts at I-95 in Robeson County just south of the Cumberland/Robeson County line and Green Springs Road (SR 1718);
- Extends northwest to an interchange with Leeper Road (SR 1717), crosses the Cumberland/Robeson County line and the CSX Railroad, and continues to an interchange at Lake Upchurch Road;
- Passes east of Upchurches Pond, continues northwest to an interchange with Camden Road (SR 1003), and turns north crossing King Road (SR 1112) and Stoney Point Road (SR 1100);
- Continues north to an interchange just south of Strickland Bridge Road (SR 1104), Century Circle (SR 1140), and the Aberdeen and Rockfish Railroad;
- Continues north to an interchange with South Raeford Road (US 401) and extends north between Lake Rim and Reilly Road (SR 1403) to an interchange at Cliffdale Road (SR 1400);
- Extends north, then east along the Fort Bragg Military Reservation boundary to an interchange at Canopy Lane, and crosses Reilly Road (SR 1403) and Yadkin Road (SR 1415) prior to the All American Freeway (SR 1007) interchange;
- Continues east through interchanges with Bragg Boulevard (NC 24) and Murchison Road (NC 87/210) and extends south of Smith Lake to an interchange at McArthur Road (SR 1600);
- Turns northeast and parallels Andrews Road (SR 1611) and ends just west of an existing interchange at Ramsey Street (US 401).

The proposed four-lane median-divided freeway, along with associated bridges, interchange ramps, and service roads, were designed using NCDOT design standards and design guidelines developed by the American Association of State Highway Transportation Officials (AASHTO) for interstate facilities. The typical roadway section for the Outer Loop will be a four-lane median-divided freeway with full access control. Two typical sections with a minimum right-of-way width of 350 feet were developed. The two typical sections contain four travel lanes divided by either a 70-foot or 46-foot wide depressed vegetated median. A 46-foot median is proposed for much of the project on the Fort Bragg Military Reservation from west of All American Freeway (SR 1007) through Murchison Road (NC 87/210) to minimize right of way impacts. Both the 46-foot and 70-foot median widths will accommodate additional travel lanes in the future when warranted.

C. IMPACTS

Evaluation criteria for selecting a preferred alternative included socioeconomic, cultural resources, community facilities, air quality, noise impacts, natural environment, protected species, and water resources. Impacts of the proposed project were minimized during the preliminary design process and through the NEPA/Section 404 Merger 01 Process. Impacts associated with the Selected Alternative are discussed in detail in Section 6 of the FEIS and summarized in Table 1 below.

| Resource | Units | Impacts |
|--|----------------------------------|--------------------------|
| Corridor Length | Miles | 27.8 |
| Residential Relocations | Total | 252 |
| | Minority | 69 |
| Business Relocations | Total | 8 |
| | Minority | 3 |
| Non-Profit Relocations | Total | 3 |
| Right of Way | Parcels | 477 |
| Archaeological Resources | National Register Eligible Sites | 10 |
| Architectural Resources | National Register Eligible Sites | 1 |
| Potential Hazardous Materials Sites | Each | 19 |
| Wetlands | Acres | 63.4 ¹ |
| Stream Impacts | Linear Feet | 12,833 ¹ |
| Farmland | Acres | 219.8 |
| Noise (without sound barriers) | Impacted Properties | 323 |
| Sound Barriers | Feasible barriers | 6 (189 properties) |
| Noise (with sound barriers) | Impacted Properties | 134 |
| Air Quality 1-Hour | Carbon Monoxide (ppm) | 2.8 |
| Air Quality 8-Hour | Carbon Monoxide (ppm) | 1.7 |
| Utilities | Number of Crossings | 32 |
| Wetland/Stream Mitigation Cost | Dollars | --- ² |
| Right of Way Cost | Dollars | 99,356,000 ³ |
| Construction Cost | Dollars | 483,200,000 ³ |

¹Impacts to wetlands and streams will be revised based on final design plans during the permitting process.

²Not discernible at this time as it is uncertain what portion of the project's mitigation will be requested from the NC Ecosystem Enhancement Program.

³Based on cost estimate from December 2004/January 2005.

III. SECTION 4(F)

In accordance with Section 4(f) of the 1966 Department of Transportation Act, an evaluation of the project area was conducted for properties determined to be qualified for Section 4(f) evaluation. The Draft Section 4(f) Evaluation reviewed the impacts of the detail study alternates on Section 4(f) properties in the project area. A Final Section 4(f) Evaluation is included in the approved FEIS.

In the project area, ten properties qualified for Section 4(f) evaluation, including seven historic properties, two parks, and a wildlife conservation easement. Historic properties include the Shaw-Gillis Historic District, Keithville Rental Units, Buena Vista, William John Gillis House No. 1, Wood's Store, McInnis House, and Stryker Golf Course. Though these properties have all been determined eligible for listing on the National Register of Historic Places, none are currently listed.

Parks in the project area include the North Carolina Wildlife Resources (NCWRC) Lake Rim Public Recreation Area, located in western Cumberland County. The park is divided by Raeford Road (SR 3569) into two distinct land uses: the lake is located north of Raeford Road (SR 3569) and is managed for public use; while, the portion of the property south of Raeford Road (SR 3569) and east of Bones Creek contains maintenance buildings and the former fish hatchery operations of NCWRC. In addition, Cumberland County operates a 30-acre park south of Raeford Road (SR 3569) and west of Bones Creek.

The U.S. Fish and Wildlife Service's Roanoke River National Wildlife Refuge manages a 14.3-acre conservation easement in southwestern Cumberland County, approximately three miles south of the Town of Hope Mills. The conservation easement is divided by Parkton Road (SR 1118) into two tracts. The northern tract is also bounded on the west by Brisson Road (SR 1117). The property is privately owned.

Two Section 4(f) properties would be impacted by alternates considered for the project. Alternates B, C, D, E, G, H, I, and J impact the National Register eligible Shaw-Gillis Historic District, and Alternates B, F, G, H, and K impact the wildlife conservation easement with Section 4(f) protection. Detailed descriptions of the impacts and measures taken to avoid and minimize impacts to these two properties are included in the Final Section 4(f) Evaluation.

The Selected Alternative, Alternate D, selected for the project in November 2000, will impact only the Shaw-Gillis Historic District. Though the Keithville Rental Units, Buena Vista property, Stryker Golf Course, and the North Carolina Wildlife Resources Commission Lake Rim Public Recreation Area are adjacent to the Selected Alternative, no right of way will be required from any of these properties. Avoidance measures such as alignment shifts and retaining walls were included in the design to avoid these properties. For the Keithville Rental Units, a retaining wall

is provided to avoid acquisition of any of the property. The North Carolina State Historic Preservation Office (HPO) requested adding vegetative screening along the Bragg Boulevard (NC 24) interchange to minimize harm. The Section 106 determinations of effect for the Selected Alternative on historic resources in the project study area were coordinated with HPO. A “no effect,” based on the condition to add vegetative screening to mitigate the visual effects of the project, was determined. The HPO concurred with the Selected Alternative and mitigation measures in March 2004.

Based upon a review of all the alternates and cumulative impacts to all resources, there is no feasible and prudent alternative to the use of land from the Shaw-Gillis Historic District, and the proposed action includes all possible planning to minimize harm to the Shaw-Gillis Historic District.

IV. MEASURES TO MINIMIZE HARM

Avoidance and minimization measures were incorporated throughout the project planning and design process to minimize impacts to human and natural resources. A complete discussion of these measures can be found in Section 6 of the FEIS. Examples of measures to minimize impacts are summarized below:

- **Relocations** – Actions taken to reduce relocations included choosing an alignment that avoids residential development as much as possible; eliminating an interchange at King Road (SR 1425); compressing the interchange design at South Raeford Road (US 401); and locating the proposed project on the Fort Bragg Military Reservation property.

NCDOT will provide relocation assistance to residences and businesses displaced during acquisition of right of way in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646) and the North Carolina Relocation Assistance Act (GS-133-5 through 133-18).

- **Cultural Resources** – Impacts to cultural resources were minimized through the use of retaining walls adjacent to the Shaw-Gillis Historic District and the Keithville Rental Units. In addition, the interchange adjacent to the Shaw-Gillis Historic District was redesigned to minimize impacts. Vegetative screening will be provided at the Keithville

Rental Units to reduce visual impacts to the property. The alignment of the Selected Alternative was shifted to the west to avoid the Buena Vista historic property. For archaeological resources impacted by the project, data recovery has been recommended. Impacts to cultural resources were coordinated with the North Carolina Office of State Archaeology and the North Carolina State Historic Preservation Office.

- **Noise Impacts** – A design noise study completed for the project resulted in six feasible noise barriers. These barriers will benefit a total of 189 properties or 58 percent of the total impacted properties.

- **Protected Species** – Habitat exists within the Selected Alternative corridor for federally protected plant species, including American chaffseed (*Schwalbea americana*), southern spicebush (*Lindera melissifolia*), rough-leaf loosestrife (*Lysimachia asperulaefolia*), and Michaux's sumac (*Rhus michauxii*); however, no individuals have been located to date. Suitable habitat also exists within the corridor for St. Francis' satyr (*Neonympha mitchelli francisca*) and for American alligator (*Alligator mississippiensis*), but field surveys have located no individuals. Field surveys for these species will be conducted again immediately prior to construction.

A Biological Opinion for impacts to red-cockaded woodpecker (RCW) (*Picoides borealis*) was rendered by US Fish and Wildlife Service in April 2005. NCDOT compensated for direct RCW impacts by the purchase of the 2,500-acre Calloway tract in Hoke County, and as a reasonable and prudent measure to minimize the impacts of incidental takes of RCW, NCDOT will provide financial contribution for additional property acquisition in the Northern Corridor. Where possible, designs for the proposed project make use of existing cleared areas to minimize impacts to RCW habitat.

- **Water Resources** – Impacts to jurisdictional wetlands and streams within the project area were minimized through use of additional or longer bridges and/or retaining walls; shifting alignments away from water resources; eliminating a proposed interchange at Morganton Road (SR 1404); and redesigning the interchange at South Raeford Road (US 401). It should be noted that impacts to wetlands and streams presented in the FEIS will be updated during the permitting process based on final design plans and further minimization efforts.

A mitigation plan for jurisdictional impacts will be developed by NCDOT during the permitting process. Once on-site mitigation opportunities are exhausted, compensatory mitigation will be requested from the North Carolina Ecosystem Enhancement Program.

- **Construction Impacts** – Construction-related impacts associated with the proposed action will be minimized by adhering to applicable rules, regulations, and permit conditions and by NCDOT’s Guidelines for Best Management Practices for Protection of Surface Waters, NCDOT’s Guidelines for Best Management Practices for Bridge Demolition and Removal, NCDOT’s Stream Crossing Guidelines for Anadromous Fish Passage, and by special bridge construction techniques to be determined during design and permitting.

V. MONITORING AND ENFORCEMENT PROGRAM

Coordination will be maintained with regulatory and resource agencies during final design, permitting, right of way acquisition and construction to ensure that the avoidance, minimization, and compensatory mitigation measures will be initiated.

A. PROJECT COMMITMENTS

Project Commitments, see in Appendix A, are commitments that materialized during the development of the FEIS and design phase of this project.

VI. ERRATA AND UPDATES

A. CORRECTIONS TO THE REEVALUATION

- **IV) Environmental Consequences, Noise Impacts (Reevaluation page 21)**

The Reevaluation states: “Because the alternates have not changed, noise impacts within the project study area have not changed since the DEIS. A design noise study will be prepared for the Preferred Alternative and summarized in the FEIS.”

This statement should read: “Because the alternates have not changed and development has occurred proportionally across the study area, noise impacts within the project study

area have not disproportionately changed. A design noise study will be prepared for the Preferred Alternative and summarized in the FEIS.”

B. CORRECTIONS TO THE FEIS

- **Section 3 Comments and Coordination, 3.1.3 Responses to Comments (FEIS page 3-12)**

The response to Comment (15) states: “Wetland impacts for the Preferred Alternative are approximately 50 acres.”

The statement should read, “Wetland impacts for the Preferred Alternative are approximately 63 acres.”

- **Section 6 Impacts of the Preferred Alternative, Table 6-1 (FEIS page 6-1)**

According to the table, the number of properties impacted by noise (without sound barriers) is 433, and the number of properties impacted by noise (with sound barriers) is 306.

These numbers should be 323 and 134, respectively.

- **Section 6 Impacts of the Preferred Alternative, 6.7.4 Mitigation and FHWA Step Down Compliance (FEIS page 6-24)**

The FEIS states: “Consideration must be given to mitigation within the right of way and should include the enhancement of existing wetlands and the creation of new wetlands in the highway median, borrow pit areas, interchange areas, and along the roadside.”

The statement should read: “Consideration must be given to on-site mitigation and should include the enhancement of existing wetlands.”

VII. COMMENTS ON THE FEIS

Correspondence was received from the following agencies regarding the FEIS:

- US Environmental Protection Agency
- NC Department of Environment and Natural Resources
- NC Department of Environment and Natural Resources, Division of Water Quality
- NC Department of Environment and Natural Resources, Natural Heritage Program
- NC Wildlife Resources Commission

Copies of the agency letters are included in Appendix B. The official closing date for agency comments on the FEIS was November 7, 2005.

US Environmental Protection Agency (November 3, 2005)

PURPOSE AND NEED

Comment (1): “The Outer Loop is proposed to be 27.8 miles in length and a four-lane divided freeway with full control of access. It is indicated that a capacity analysis for the new design year of 2030 will be done and utilized in the final design plans. Could higher predicted traffic volumes than originally estimated cause a design with more lanes, larger interchanges or service roads? If this is the case, EPA urges NCDOT to advise the agencies of the analysis results as soon as possible, and to call for additional Merger Team consideration. Additional capacity likely would increase the scope of the project’s impacts.”

Response: Preliminary designs for the Outer Loop accounted for future expansion, which may include additional lanes on the freeway, as well as at interchanges. Any future widening is anticipated to be accomplished within the existing preliminary design; therefore, the scope of the project’s impacts should not increase.

Comment (2): “EPA commented on the 1999 Draft EIS that since the proposed facility is being planned to support military deployments from Fort Bragg, it would be good to provide data on recent deployments and their utilization of roadways in comparison to rail and air conveyance. While this data could be easily obtained, no such data was provided in this document.”

Response: Designs for the proposed facility were developed in coordination with Fort Bragg and are based on input from the base regarding normal operating staff numbers and anticipated growth. It is the understanding of NCDOT that method of

deployment (overland via roadway or rail, and/or air) and the amount of usage of each is dependent on the location and type of action the military has been/is/will be engaged in and therefore no comparison can be made from one deployment to the next.

ALTERNATIVES

Comment (3): “EPA notes the additional evaluations done by NCDOT at the request of the Merger Team on the “Improve Existing” alternative. The agencies ultimately agreed that there was no reasonable alternative to a new alignment project, and also reached consensus on Alternative D.”

Response: Comment Noted.

AFFECTED ENVIRONMENT

Comment (4): “Natural areas are numerous within the project area, and terrestrial forests are an important component. EPA did not find data in the Final EIS on the amount of forested land that would be lost by the preferred alternative. This habitat has been estimated in Table IV-12 of the Draft EIS but the estimate needs to be verified and the direct loss documented at the present stage of the review as was done for the other impacts.”

Response: This estimate was calculated based on preliminary design construction limits dated August 2005. The amount of terrestrial forest impacted is approximately 885 acres.

ENVIRONMENTAL CONSEQUENCES

Comment (5): “Table III-8 of the Draft EIS identifies 32 Federal Species of Concern (FSC). While these species presently have no formal statutory protection, they are candidates for listing as threatened or endangered. Of these FSC, the Bachman’s sparrow is the only avian species that has potentially available habitat within the project area. According to Audubon WatchList, habitat loss is likely the largest threat to its survival. Bachmans sparrow would likely be a candidate for protection under the Migratory Bird Treaty Act. Accordingly, EPA requests that NCDOT consult informally with USFWS on the potential avoidance and minimization measures during the nesting/breeding season which coincides closely with that of the red-cockaded woodpecker (RCW), primarily April through July. Adjusting the construction schedule to avoid high use habitat during

this crucial period is one method that seems reasonable and feasible for minimizing the indirect killing of eggs and nestlings.”

Response: Because Bachmans sparrow habitat and breeding season often coincides with RCW in our region, indirect effects to both species will be minimized by conservation measures prescribed in the US Fish and Wildlife Service (USFWS) Biological Opinion for impacts to RCW.

Comment (6): “EPA expressed concern during the Draft EIS review about the potential effects on the RCW habitat associated with the Green Belt zone within Fort Bragg. This is a major impact of the project because the freeway would occupy 357 acres of this Green Belt. This Final EIS improves the documentation of the consideration for and the consultation regarding the Red-cockaded woodpecker and we defer to the Biological Opinion rendered by the U.S. Fish and Wildlife Service, and for appropriate mitigation. We note that the right of way (ROW) width has been reduced by shrinking the median width by 24’. However, our concern remains because this road project narrows the available forest habitat of RCW within the Green Belt. Further, the Final EIS states that the U.S. Army has plans for approximately 40 base operation projects within the Green Belt just through 2009 that are likely to further diminish RCW foraging ability in the future.”

Response: Biological Assessments for the Fayetteville Outer Loop and for proposed projects on Fort Bragg were reviewed concurrently by USFWS to determine potential cumulative impacts on RCW. The Biological Opinion rendered by USFWS for this project represents the results of the concurrent review. In addition, a neighborhood analysis was conducted to “account for the potential negative impacts [from the] project on RCW demography through habitat loss or fragmentation at the neighborhood level.” The results were included in the Biological Assessment and reviewed prior to concluding the Biological Opinion. The effect of the Fayetteville Outer Loop with regards to the Green Belt is discussed in pages 25-30 of the Biological Opinion.

Noise Impacts

Comment (7): “The noise impacts analysis reported in the Draft EIS indicates that Alternative D would result in noise impacts to 354 properties. The Draft EIS Reevaluation concludes that project study area noise impacts have not changed since that analysis for the 1999 Draft EIS. Because the data in the Final EIS indicate a total of 433

impacted properties, the statement in the Reevaluation appears to be incorrect. Further the receptors that would be substantially affected also have increased during that time from 130 to 323. And finally, after the NCDOT cost-effectiveness criteria are applied there would be 189 receptors to receive mitigation by noise barrier installations, leaving 134 substantially affected receptors without mitigation. These results are indicative of additional development constructed in close proximity of the proposed project subsequent to the public and local officials having knowledge of the project and its potential adverse noise impacts.”

Response: This statement has been clarified in errata information for the Reevaluation of the DEIS contained in Section VI of this document. The data in the Final EIS has also been corrected in errata information for the Final EIS in Section VI of this document to show a total of 323 impacted properties (without noise barriers) and 134 impacted properties (with noise barriers). This information represents an updated Design Noise Study completed in February 2005 to recently revised NCDOT standards for noise analysis (published September 2005).

Cultural Resources

Comment (8): “EPA is aware of the concern and mitigation analysis for the Shaw-Gillis Historic District. The Merger Team concurred with use of a tight diamond configuration proposed by NCDOT for the South Raeford Road to minimize those impacts. This design represents good mitigation for a significant historic resource.”

Response: Comments noted.

Wetland Impacts

Comment (9): “There are numerous wetland sites identified within the alternative corridors particularly south of Cliffdale Road. The Merger Team has conducted repeated site investigations of the important water crossings and associated wetlands, and has reached agreement for appropriate avoidance and minimization. At numerous sites, the alignment was shifted and/or the design modified to reduce the direct wetland loss. From the early stages of the project review to the present, Merger Team efforts have reduced wetland impacts within the ROW from 85.9 acres to 63.4 acres (Table 6-1) for selected Alternative D. Please check the apparent inconsistent statement on page 3-12 of the text where the impact is defined as 50 acres.”

Response: This statement has been corrected in errata information for the FEIS included in Section VI of this document.

Stream Impacts

Comment (10):“Several important creek systems would be impacted, most notably the Rockfish, Cross, and Cold Camp Creek systems. The impacts were estimated to be 26,455 linear feet as stated in the Draft EIS. Impacts have been reduced to 12,833 linear feet primarily due to additional bridging and narrowed corridors at water crossings. While this direct loss of functional aquatic habitat has been reduced to less than half from the Draft EIS stage, future development associated with stream culverting for secondary roads and other encroachment is likely to cancel the Merger Team’s mitigation efforts. Because of the number of stream crossings, it is essential for the project plans to include carefully designed stormwater treatment facilities in order to maintain water quality and indigenous aquatic life.”

Response: Local government agencies can further assist in continuing with the minimization of impacts to streams during the preparation of zoning and land use regulations. NCDOT will forward this comment to local planners for their consideration. Final design plans for the project will include erosion and sediment control measures, as well as stormwater treatment facilities, as required by federal and state standards.

Comment (11):“Baseline environmental impacts tabulation has been done for this project. As part of EPA’s standard review procedure, the quantifiable impacts of this project have been compared to baseline data for projects on new alignment within eastern North Carolina.

| Proposed Project | Baseline (Eastern NC New Location) | |
|------------------|------------------------------------|------------------------|
| Relocations | | |
| Residential | 9.06/mile | 3.1/mile |
| Business | 0.28/mile | 0.4/mile |
| Streams | 461.6 linear feet/mile | 473.0 linear feet/mile |
| Wetlands | 2.28 acres/mile | 2.58 acres/mile |
| Farmland | 7.9 acres/mile | 6.2 acres/mile |
| Noise Receptors | 15.6/mile | 8.9/mile |

| | | |
|------------------|-----------|-----------|
| Noise Receptors* | 11.0/mile | 8.9/mile |
| Historic/Arch. | 0.39/mile | 0.19/mile |
| Churches/Schools | 0.10/mile | 0.17/mile |
| Forestland | ND | |

* Noise receptors substantially impacted with constructed noise barriers

ND – There is no data in the EIS to document terrestrial forests impact to compare to the Baseline.

The residential relocations and noise impacts are high relative to the Baseline, which includes a broad array of projects in less developed areas. Much of the project area is suburban and some of the residences affected by the Fayetteville Outer Loop are old trailer parks where dwellings are fairly dense. Residential relocations have been reduced by three to 252 for the 27.8 mile project.”

Response: Comments noted.

SUMMARY

Comment (12):“EPA concurs with the selection of Alternative D as the preferred alternative. Significant avoidance and minimization of adverse impacts has been accomplished for this large project. Nevertheless, the outer loop would result in substantial impacts to both natural and man-made communities despite the efforts of NCDOT and other Merger Team Agencies. EPA continues to have environmental concerns primarily because of the increased noise impacts to sensitive receptors, and the likely continued loss of RCW habitat associated with the project’s incursion into the Green Belt and future Ft. Bragg operations within the Green Belt.”

Response: Comments noted.

Comment (13):“EPA is requesting the data for project impacts to terrestrial forest land cover for our environmental tracking database. EPA also wishes to receive a copy of the Record of Decision, and requests that it include a complete and accurate summary of the commitments made to avoid and minimize impacts.”

Response: Comments noted, see response to Comment 4, page 13.

NC Division of Water Quality (November 1, 2005)

Comment (1): “DOT should regularly update the public and the Merger Team on the status of the commitments listed in the Project Commitments Section of the FEIS. If DOT feels that any commitments cannot be fulfilled DOT should inform the public and the Merger Team immediately.”

Response: NCDOT will continue to meet with the Merger Team at key points in the project through the final design process and preparation of construction plans. All project commitments will be updated and provided to the Merger Team at these meetings. In addition, agency representatives will have the opportunity to review project commitments during the permitting process. All information regarding the project and commitments are available to the public if requested and will be presented to the public during public notice of the permit application for the project.

Comment (2): “The City of Fayetteville has indicated that the Preferred Alternative would potentially impact a water supply pump station from the Fayetteville Public Works Commission to Fort Bragg. The Project Commitments Section should include a commitment to relocate and replace any water supply pump stations impacted by the FOL.”

Response: Conflicts with existing utilities, including water supply pump stations, will be identified and coordinated with the appropriate agency during the development of final design and construction plans. Coordination between NCDOT Utilities Coordination Unit and Fayetteville Public Works Commission is ongoing and will continue through construction of the project.

Comment (3): “The City of Fayetteville has indicated that the FOL would impact sites designated as Red Cockaded Woodpecker (RCW) habitat enhancement areas. DOT should work with the City of Fayetteville to avoid these areas and to place them under a conservation easement. If these areas cannot be avoided, DOT should attempt to find additional RCW habitat enhancement areas to replace the City of Fayetteville’s efforts.”

Response: A Biological Assessment of impacts to RCW was completed in 2004. This assessment included analysis of RCW neighborhood demographics, anticipated secondary and cumulative impacts to RCW populations, and possible conservation measures. This assessment and the measures to avoid and/or minimize impacts to RCW were coordinated during the design process with the Merger Team and USFWS. USFWS

concluded with the assessment and conservation measures in a Biological Opinion, rendered in April 2005.

Comment (4): “In Section 6.11.1, the FEIS lists four projects that would be considered on-site mitigation projects for impacts to jurisdictional streams and wetlands. DWQ is very supportive of on-site mitigation projects. DOT should strive to conduct as much on-site mitigation as possible for the impacts associated with this project.”

Response: As noted in the FEIS, a search for on-site wetland and stream mitigation was completed in August 2004, and four potential sites were identified at that time. NCDOT will continue to investigate possible on-site mitigation options. Remaining required mitigation will be requested from the NC Ecosystem Enhancement Program.

Comment (5): “The FOL would cross Little Cross Creek and Cross Creek upstream of the water supply Critical Areas associated with Bonnie Doone Lake and Rose Lake. Although the FOL would not impact the Critical Area, DOT should implement sedimentation and erosion control measures that meet the *Design Standards in Sensitive Watersheds* (15A NCAC 04B .0124) in the areas adjacent to Little Cross Creek and Cross Creek and their tributaries.”

Response: This will be taken under consideration in the development of erosion and sediment control plans and will be coordinated through NCDOT’s Roadside Environmental Unit. [*Design Standards in Sensitive Watersheds* are only required when high quality waters has been defined as per 15A NCAC 2B .0101(e) (5)]. Where practicable NCDOT will add sluice gates for water quality issues regarding hazardous spill concerns associated with Bonnie Doone Lake.

General Comment (1): “In accordance with the Environmental Management Commission’s Rules [15A NCAC 2H.0506 (b) (6)], mitigation will be required for impacts of greater than 150 linear feet to any single perennial stream. In the event that mitigation is required, the mitigation plan should be designed to replace appropriate lost functions and values. In accordance with the Environmental Management Commission’s Rules [15A NCAC 2H.0506 (h) (3)], the NC Ecosystem Enhancement Program may be available for use as stream mitigation. A discussion of potential mitigation strategies should be included in the EA.”

Response: Compensatory Stream Mitigation opportunities were noted in Section 6.11.1 of the FEIS.

General Comment (2): “The 401 Water Quality Certification application will need to specifically address the proposed methods for storm water management. More specifically, it is suggested that storm water not be permitted to discharge directly into streams or surface waters.”

Response: Comment noted. Final Design Plans will reflect no direct discharges.

General Comment (3): “If applicable, NCDOT should not install the bridge bents in the creek, to the maximum extent practicable.”

Response: Comment noted.

General Comment (4): “For all bridges on the project, bridge deck drains should not discharge directly into the stream. Storm water should be directed across the bridge and pre-treated through site-appropriate means (grasses swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to NCDOT Best Management Practices for the Protection of Surface Waters.”

Response: Comment noted.

General Comment (5): “If foundation test borings are necessary; it should be noted in the document. Geotechnical work is approved under General 401 Certification Number 3027/Nationwide Permit No. 6 for Survey Activities.”

Response: Foundation test boring will be necessary.

General Comment (6): “Sediment and erosion control measures should not be placed in wetlands.”

Response: NCDOT will strive to prevent sediment from accumulating into wetlands that are adjacent to the project’s fill sections by utilizing the appropriate erosion and sediment control devices in accordance with the Sedimentation Pollution Act of 1973. In the event that erosion and sediment devices must be utilized in the wetlands, NCDOT will comply with federal and state regulations for permitting and mitigation.

General Comment (7): “Borrow/waste areas should avoid wetlands to the maximum extent practicable. Impacts to wetlands in borrow/waste areas could precipitate compensatory mitigation.”

Response: NCDOT will make every effort to avoid developing borrow/waste areas in jurisdictional wetlands; however, if unavoidable, NCDOT will comply with federal and state regulations for permitting and mitigation.

**NC Department of Environment and Natural Resources, Natural Heritage Program
(October 19, 2005)**

Comment (1): “The western and southern portions of the proposed Outer Loop will come in contact with, or close contact with, two other identified Natural Heritage Areas. The proposed loop appears to run just west of the Fort Bragg Hutaff Lake natural area, of State significance. (An enclosed copy of the site report ranked the site at a lower Regional significance). This man-made lake supports the largest population in the state for State Threatened and Federal Species of Concern loose watermilfoil (*Myriophyllum laxum*), an aquatic plant. It is therefore very important that the construction for the project not directly impact the lake, and even if there are no direct impacts, it is important that proper sedimentation controls be in place to prevent sediment from reaching the lake. The proposed Outer Loop is planned to be routed below the dam of Upchurches Pond. Though this route, as opposed to locating the crossing of Rockfish Creek above the pond, will impact less wetland acres (according to the FEIS), there are records of American alligators (*Alligator mississippiensis*), a State Threatened and Federal Threatened due to Similarity of Appearance species, from this creek in the project area. Also, the Rockfish Creek Corridor site, of State significance, might be slightly impacted. Thus, it is very important that road and bridge construction span as much of the wetlands and floodplain along Rockfish Creek as possible, and proper sedimentation controls need to be in place to avoid impacting this important creek.”

Response: The preliminary designs for the Outer Loop were shifted west to minimize impacts to Lake Hutaff and its associated wetland system and a bridge is proposed to further minimize impacts in this area. Similarly, the area of the Rockfish Creek Corridor Site will be bridged as part of the effort to minimize impacts to wetlands and streams. During construction, NCDOT will use appropriate sediment and erosion control measures to reduce impacts to wetlands, streams, and protected species

Comment (2): “A number of Federal and State Endangered red-cockaded woodpeckers (*Picoides borealis*) clusters will be impacted by this project on Fort Bragg. However, the FEIS indicates that much mitigation by NCDOT has already been done for these impacts, such as the purchasing of Calloway tract in Hoke County, which contains at least five active clusters of woodpeckers. In addition, DOT is proposing additional mitigative measures there and elsewhere to increase populations of the woodpeckers (pages 6-32 and 6-33). Thus, our Program is satisfied with the mitigation proposals and believe that DOT and the U.S. Fish and Wildlife Service need to finalize mitigation plans for the woodpecker.”

Response: Comment noted.

Comment (3): “The northeastern terminus of the proposed Outer Loop is planned to run south of Andrews Road. Thus, it should not have any impacts to the new Cavers Creek State Park, located roughly 1.5 miles to the north (mainly north of McCloskey Road).”

Response: Comment noted.

NC Wildlife Resources Commission (October 28, 2005)

Comment (1): “[T]he document does not fully address mitigation measures and opportunities for the proposed project. Mitigation measures outlined in section 6.7.4 list Big Branch as the only potential onsite stream mitigation, with onsite wetland mitigation opportunities to include: “the creation of new wetlands in the highway median, borrow pit areas, interchange areas, and along the roadside.” Creation of wetlands in these locations is not considered functional replacements for the wetlands lost due to construction of the proposed facility and should not be considered as mitigation. WRC does not object to EEP providing mitigation for the remaining impacts.”

Response: Section 6.11.1 of the FEIS includes: a search for on-site wetland and mitigation was completed in August 2004, and four potential sites were identified. NCDOT has determined that three of these sites are viable mitigation options, and NCDOT will continue to investigate opportunities for on-site mitigation. The remaining required mitigation will be requested from the North Carolina Ecosystem Enhancement Program.

The statement regarding creation of wetlands in the highway median (Section 6.7.4, page 6-24) has been corrected in errata information for the FEIS included in Section VI of this document.

VIII. CONCLUSION

The final statement is in conformance with applicable provisions of 23 CFR 771 and satisfactorily covers the anticipated environmental impacts including physiographic and cultural effects. All correspondence received between the FEIS and the date this ROD is signed have been reviewed, see Appendix B for copies of the comments on the FEIS. Based on this review, the Federal Highway Administration finds that there were no new substantive issues of impacts identified; therefore, the FEIS remains valid.

Based on the analysis and evaluation contained in this project's FEIS and after careful consideration of all social, economic, and environmental factors and input from the public involvement process, it is my decision to adopt the recommended alternative, Alternative D, as the proposed action for this project.

1/19/06

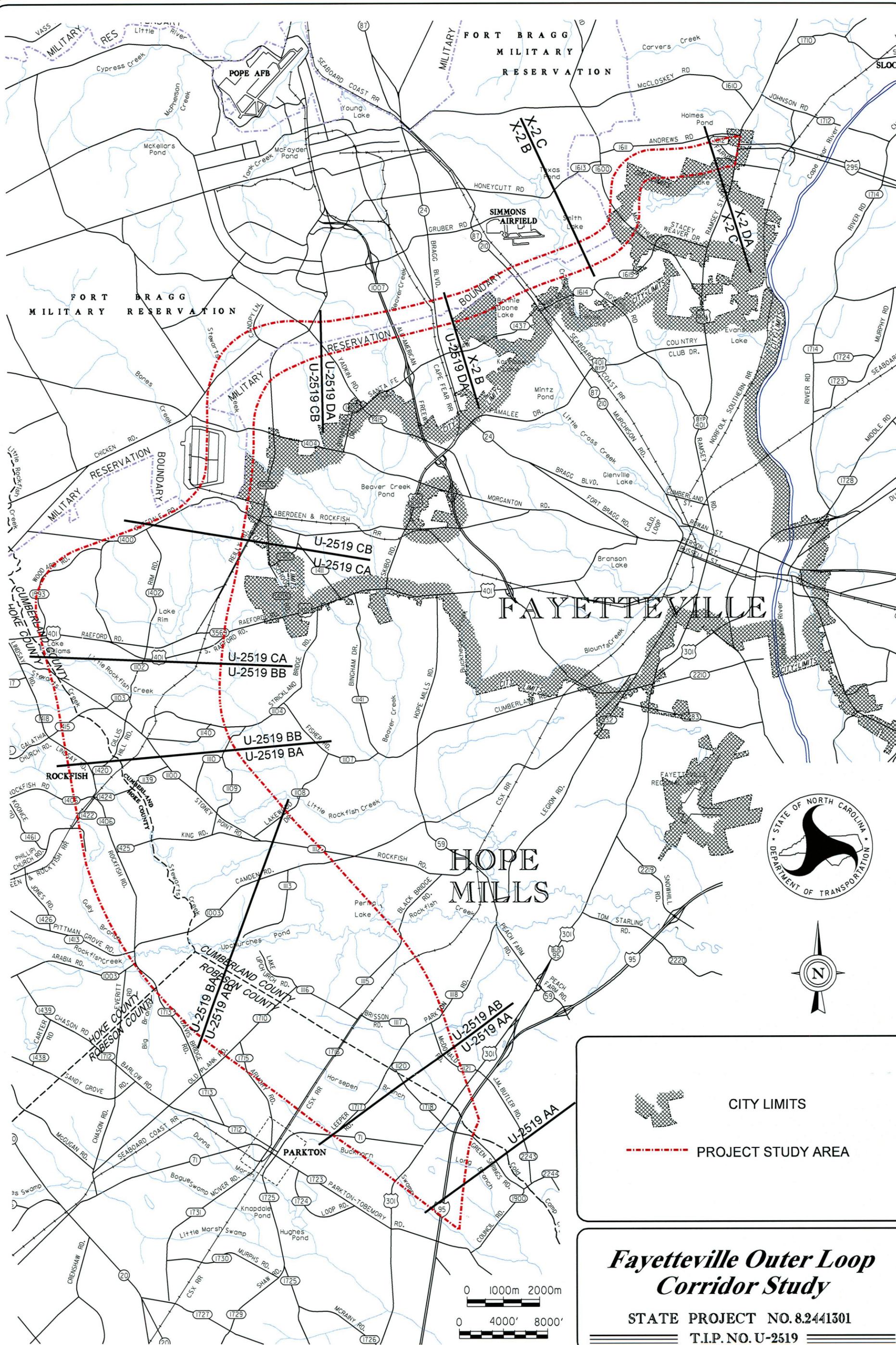
Date

Clarence W. Coleman III.

John F. Sullivan, III, PE Division Administrator
Federal Highway Administration

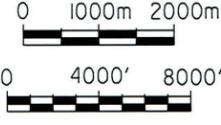
EXHIBITS

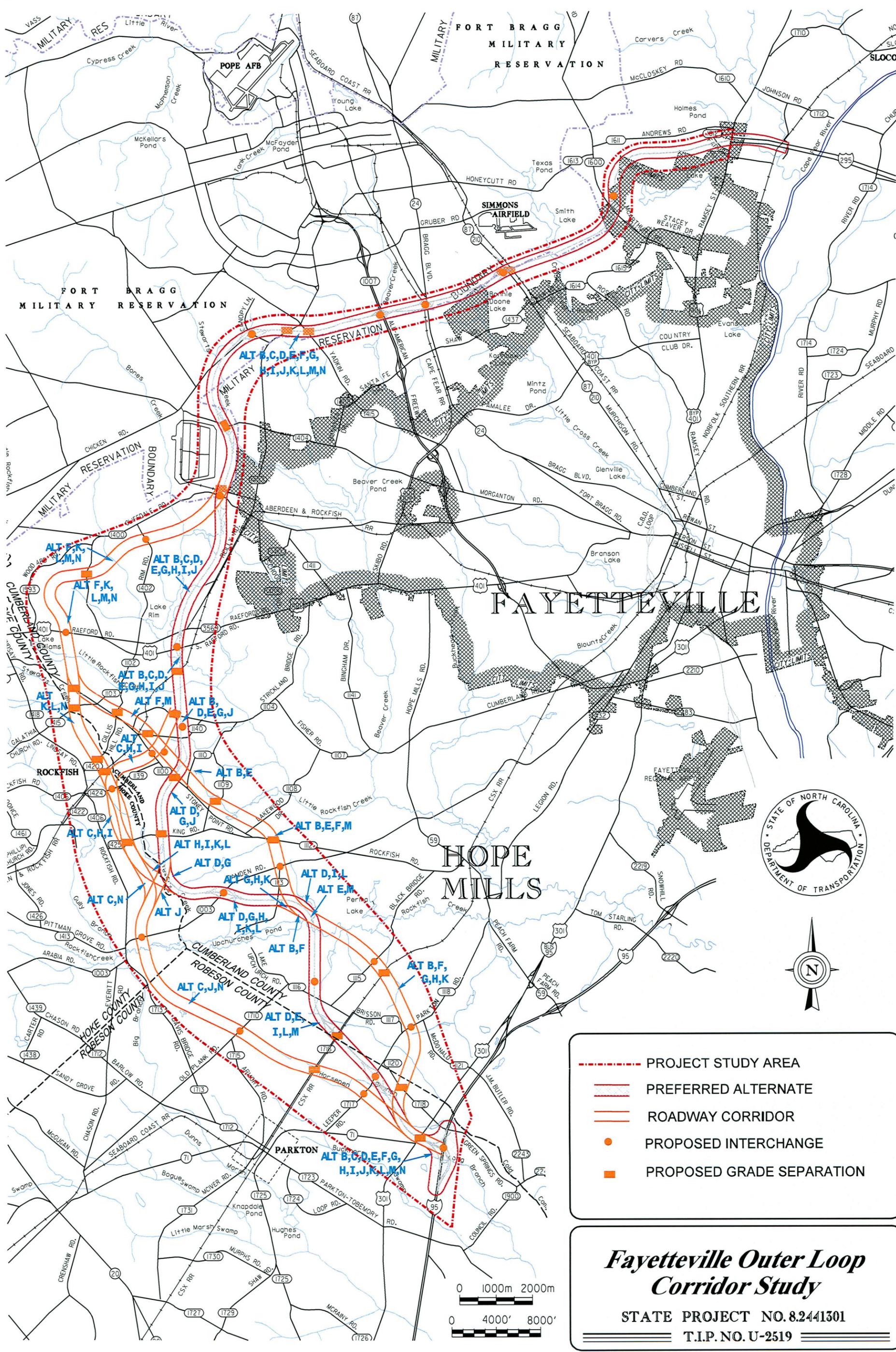
- EXHIBIT 1 – PROJECT VICINITY
- EXHIBIT 2 – PROJECT STUDY AREA
- EXHIBIT 3 – BUILD ALTERNATES
- EXHIBIT 4 – SELECTED ALTERNATE (ALTERNATE D)



 CITY LIMITS
 PROJECT STUDY AREA

***Fayetteville Outer Loop
Corridor Study***
 STATE PROJECT NO. 8.2441301
 T.I.P. NO. U-2519

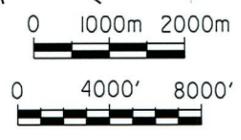


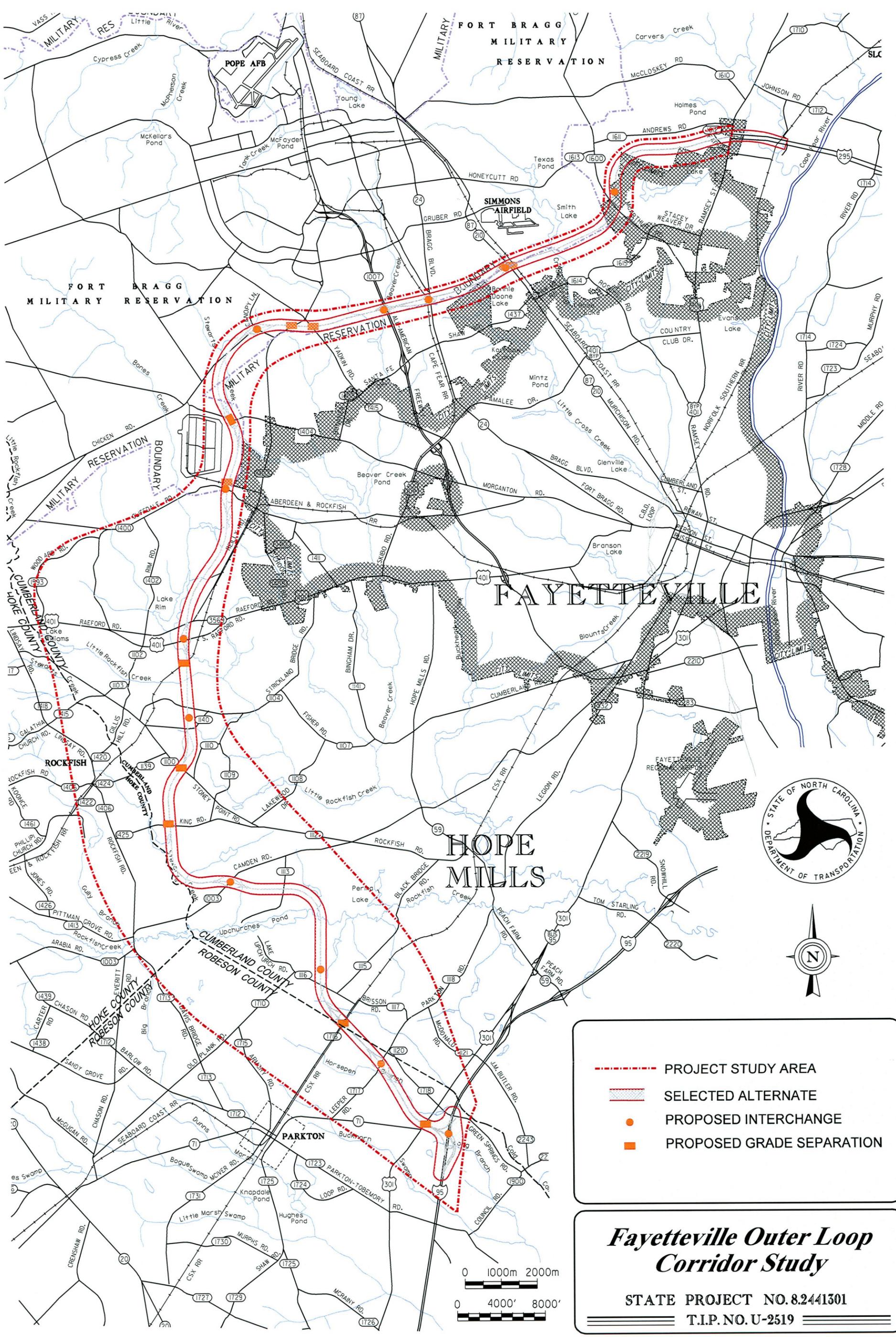


- - - - PROJECT STUDY AREA
- = PREFERRED ALTERNATE
- = ROADWAY CORRIDOR
- PROPOSED INTERCHANGE
- PROPOSED GRADE SEPARATION

Fayetteville Outer Loop Corridor Study

STATE PROJECT NO. 8.2441301
T.I.P. NO. U-2519

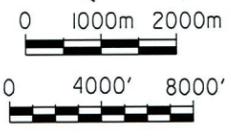




- - - - - PROJECT STUDY AREA
- SELECTED ALTERNATE
- PROPOSED INTERCHANGE
- PROPOSED GRADE SEPARATION

***Fayetteville Outer Loop
Corridor Study***

STATE PROJECT NO. 8.2441301
T.I.P. NO. U-2519



Selected Alternate (Alternate D)

Exhibit 4

APPENDIX A

PROJECT COMMITMENTS

PROJECT COMMITMENTS

FAYETTEVILLE OUTER LOOP

Cumberland, Hoke, and Robeson Counties
Federal Aid No.: DPR-0100(001) and DPR-0100(002)
State Project No. 8.2441301
TIP No.: U-2519 and X-0002 B & C

In addition to the standard Nationwide Permit #33 and #23 Conditions, the General Nationwide Permit Conditions, Section 404 Only Conditions, Regional Conditions, State Consistency Conditions, NCDOT's Guidelines for Best Management Practices for Protection of Surface Waters, NCDOT's Guidelines for Best Management Practices for Bridge Demolition and Removal, General Certification Conditions, and Section 401 Conditions of Certification, the following special commitments have been agreed to by NCDOT:

COMMITMENTS DEVELOPED THROUGH PROJECT DEVELOPMENT AND DESIGN

All commitments developed during the project development and design phase have been incorporated into the design and were standard commitments. Current status, changes, or additions to the project commitments as shown in the Draft Environmental Impact Statement for the project are printed in *italic* font.

PDEA/Roadway Design/Hydraulics

Impacts to watershed areas and the water quality of all receiving waters will be minimized by strict adherence to NCDOT's "Best Management Practices for Protection of Surface Waters," March 1997. Additionally, every effort will be made to minimize natural water body impacts during final design. The proposed Fayetteville Outer Loop would cross Little Cross Creek and Cross Creek above Bonnie Doone Lake and Rose Lake. Although these waters are part of the Fayetteville public drinking water supply, the proposed outer loop would not be located within the critical watershed area of either creek. The proposed outer loop would be located approximately 3.5 miles upstream of the critical watershed areas. During the design phase of the study, hazardous spill basins will be considered to prevent stream contamination from spill runoff.

This commitment was implemented during design.

PROJECT COMMITMENTS

PDEA/Roadway Design

Areas containing protected species will be avoided if possible during the design phase of the project. Section 7 consultation with the US Fish and Wildlife Service will be completed prior to signing the Final Environmental Impact Statement for circulation. Additionally, habitat fragmentation mitigation will be further evaluated during the design phase of the study. Field surveys for all federally listed endangered species known to inhabit Cumberland, Hoke, and Robeson counties were performed. Measures to minimize impacts to the protected species were incorporated into the preliminary designs and coordinated with the Merger Team.

A Biological Assessment (BA) was prepared to assess impacts to federally listed plant species and a butterfly. In addition, a separate BA was prepared for impacts to the red-cockaded woodpecker. The Section 7 consultation was completed April 28, 2005.

PDEA/Right of Way

NCDOT will work with the members of the North Carolina Sandhills Conservation Partnership (NCSCP), with a reasonable effort, to acquire one piece of property in accordance with NCDOT and FHWA policies and procedures for property acquisition, the area identified as the Northern Corridor (see Figure 3 on page 31 of the Biological Opinion [April 28, 2005]). The identified property will contain approximately 75 acres of habitat that does or can support a southern yellow pine-dominated overstory and can be reasonably managed to create/maintain foraging habitat for the red-cockaded woodpecker.

This commitment will be implemented prior to construction.

PDEA/Division 6

NCDOT will coordinate with Fort Bragg and the US Fish and Wildlife Service to establish and implement the best strategy for minimizing direct impacts of tree clearing and highway construction to red-cockaded woodpecker (RCW) Cluster FB 65, its resident RCW group and residual foraging and nesting habitat.

A strategy for minimizing direct impacts to RCW Cluster FB 65 will be developed at least one year prior to construction of segment U-2519 DA.

PDEA/Structure Design/Roadway Design/Division 6

Wetland avoidance is considered during all phases of the project. If wetlands cannot be avoided, every effort will be made to minimize the impacts through the location and design of the roadway

PROJECT COMMITMENTS

facility within the selected corridor. Mitigation of unavoidable wetland impacts will be coordinated through the appropriate state and federal agencies.

This commitment was implemented during design.

PDEA/Roadway Design

Sound barriers corresponding to the preferred alternative will be investigated in more detail in the design study phase of the project.

This commitment was implemented during design.

Hydraulics/Division 6

For floodway encroachments, the North Carolina Department of Transportation will coordinate with the community and with the Federal Emergency Management Agency during the design phase of the project. Adherence to the North Carolina Department of Transportation's "Stream Crossing Guidelines for Anadromous Fish Passage" would allow movement of anadromous fish.

North Carolina Department of Transportation will comply with a moratorium for anadromous fish of "no in-water work" from February 15 to June 30 on Rockfish Creek, applicable to segment U-2519 AB. This commitment will be implemented during construction.

Geotechnical Design

When the final proposed centerline is established and right of way determined, a hazardous materials site assessment will be performed to the degree necessary to determine levels of contamination at any potential hazardous materials sites along the preferred alternate. The assessment will be made prior to right of way acquisition. Resolution of problems associated with contamination will be coordinated with appropriate agencies.

This commitment will be implemented prior to right of way acquisition.

Roadside Environmental/Roadway Design

Measures to minimize visual impacts will be taken into consideration during design of the roadway. Overall, visual impacts may be mitigated through a variety of actions such as alignment modifications during design, landscaping, screening, embankments, and selective clearing of natural materials.

The commitment was implemented during design.

PROJECT COMMITMENTS

PDEA/Division 6

If a build alternate is selected as the Preferred Alternative, a detailed archaeological survey of the preferred corridor will be conducted. This survey will be coordinated with the State Historic Preservation Office.

In coordination with the State Historic Preservation Office (HPO), detailed archaeological studies of the preferred corridor were conducted from 2001 to 2004. The specific findings of the initial survey are documented in "Dimensions of Fall Line Site Function: Surveying and Testing the West Fayetteville North Carolina Outer Loop," Technical Report #992 by New South Associates (2002). In coordination with the HPO and the Fort Bragg Cultural Resources Program (FBCRP), three additional intensive archaeological surveys were prepared for expanded coverage of the Preferred Alternative. The specific findings of these surveys are documented in three separate addenda: 1) "Cultural Resources Survey of 284 Acres South of Cliffdale Road, West Fayetteville Outer Loop, Cumberland and Hoke Counties, North Carolina," 2) "Cultural Resources Survey of 534 Acres North of Cliffdale Road, West Fayetteville Outer Loop, Cumberland County, North Carolina," and 3) "Cultural Resources Survey of 31 Additional Land Parcels of the Proposed West Fayetteville Outer Loop, Cumberland and Robeson Counties, North Carolina," all of which will be integrated into one appendix to be attached to the original 2002 survey report by New South Associates. A summary of the findings and impacts can be found in Section 6 of this document.

*These reports conclude that the Preferred Alternative will impact ten archaeological sites within the area of potential effects, eight of which are considered eligible for the National Register of Historic Places (31CD64, 31CD65, 31CD871, 31CD874, 31CD882, 31CD962, 31CD965, and 31RB485). The remaining two sites are cemeteries (31CD967/967** and 31CD976**). Therefore, the NCDOT will prepare a Memorandum of Agreement for the recovery or relocation efforts on these ten sites and will implement a satisfactory data recovery program. A Memorandum of Agreement regarding the implementation of mitigation efforts for all ten archaeological sites was signed in March 2005. One cemetery (31CD976**) will need to be relocated per applicable State statutes (i.e. NC GS 65 or NC GS 70.3) after consultation with the Office of State Archaeology. The prehistoric archaeological component of 31CD967/967** will not be impacted by the proposed project, but its historic cemetery component requires a GPR survey in order*

PROJECT COMMITMENTS

*to determine the locations of unmarked burials that may or may not be impacted by the proposed project. If burials associated with 31CD967/967** are to be impacted by the proposed project, then such burials will be relocated per applicable State statutes (i.e. NC GS 65 or NC GS 70.3) after consultation with the Office of State Archaeology. Since Sites 31CD64, 31CD65, and 31CD871, all of which will be affected by the subject project, are located within the Fort Bragg Military Reservation, the NCDOT will develop mitigation plans in consultation with both the HPO and the Fort Bragg Cultural Resources Program.*

Roadside Environmental/Division 6

Borrow and solid waste operations would be managed through the North Carolina Department of Transportation's, "Best Management Practices for Protection of Surface Waters," March 1997. Additionally, any solid waste generated during construction would be temporary and would either be hauled away to landfills or disposed of on-site by controlled burning, in compliance with all local, state, and federal regulations.

This commitment will be implemented during construction of the project.

PDEA/Roadway Design/Roadside Environmental

A retaining wall and vegetative screening will be provided adjacent to the Keithville Rental Units to avoid right-of-way acquisition and minimize visual impacts. These will be located at the northwest corner of the property adjacent to the Bragg Boulevard/Fayetteville Outer Loop interchange (quadrant D).

This commitment was implemented during design.

PDEA/Roadway Design

To minimize harm to the Shaw-Gillis Historic District, Raeford Road will be closed and landscaping will be provided adjacent to the roadway. In addition, access to the property from US 401 will be maintained, NCDOT will paint the exterior of the Shaw-Gillis house after construction is complete, install landscaping along the District's boundary adjacent to the new Outer Loop to serve as a visual barrier between the house and the new facility, and upgrade the intersection of Raeford and Reilly Roads but will shift the new T-intersection from a direct alignment with the Shaw-Gillis House as much as possible.

PROJECT COMMITMENTS

This commitment was negotiated during design and will be implemented during construction.

PDEA/Roadway Design/Right of Way

NCDOT will provide funds or construct and replace Fort Bragg's perimeter fence impacted by the proposed project. NCDOT will coordinate with Fort Bragg to provide perimeter roads and tank trails along the proposed project. The criteria and construction of visual screening to eliminate the line of sight to facilities located along the project will be coordinated with Fort Bragg. NCDOT will provide resources and/or construct new Access Check Point facilities in coordination with Fort Bragg at Reilly Road, Canopy Road, and Bragg Boulevard. The design of the Yadkin Road overpass will be coordinated with Fort Bragg to incorporate the new roadway grade into the Access Check Point facilities. Smith Lake Access Road off Murchison Road will be closed and relocated off Honeycutt Road in coordination with Fort Bragg. The new access will incorporate the current facilities and minimize harm to existing pine trees.

These commitments were addressed during design and will be negotiated as part of the Right of Way settlement with Fort Bragg.

PDEA/Roadway Design/Hydraulics

NCDOT will provide a bridge or box culvert at the existing wetland at the rear of Pine Forest High School to allow for a pedestrian crossing in coordination with a proposed Cumberland County greenway.

The commitment was implemented during design.

PDEA

Several systematic surveys of all potentially-suitable habitats for American chaffseed, Michaux's sumac, pondberry, rough-leaved loosestrife, and the Saint Francis' Satyr butterfly were conducted by biologists from May 2001 through August 2004. No individuals of any of the species were observed during the surveys. A re-survey will be conducted one year prior to construction, during the appropriate survey window, within the project limits to determine if any members of these species are present.

This commitment will be implemented during construction of the project.

PROJECT COMMITMENTS

Roadway Design

A capacity analysis for an updated design year using 2030 traffic volumes will be prepared and utilized in the design of the Final Plans.

This commitment will be implemented prior to the completion of Final Plans.

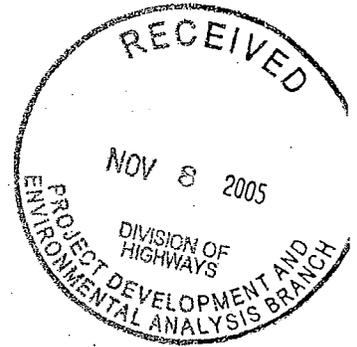
APPENDIX B

COMMENTS ON THE FEIS

- NOVEMBER 3, 2005 – US ENVIRONMENTAL PROTECTION AGENCY
- NOVEMBER 1, 2005 – NC DIVISION OF WATER QUALITY
- OCTOBER 19, 2005 – NC DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, NATURAL HERITAGE PROGRAM
- OCTOBER 28, 2005 – NC WILDLIFE RESOURCES COMMISSION



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960



November 3, 2005

4EAD/NPO

Dr. Gregory J. Thorpe
Director, Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Subject: Fayetteville Outer Loop Corridor Study, Cumberland, Hoke and Robeson
Counties, NC, TIP No. 2519 and X-2, Final Environmental Impact
Statement, CEQ NO. 20050380, FHW-E40779-NC

Dear Dr. Thorpe:

The Environmental Protection Agency, Region 4 (EPA) has reviewed the Final EIS in accordance with Section 102(2)(C) of the National Environmental Policy Act, and Section 309 of the Clean Air Act. EPA is a Merger Team member and has been engaged throughout the environmental review of the project. We have the following comments on the Final EIS for the proposed highway project.

PURPOSE AND NEED

The Outer Loop is proposed to be 27.8 miles in length and a four-lane divided freeway with full control of access. It is indicated that a capacity analysis for the new design year of 2030 will be done and utilized in the final design plans. Could higher predicted traffic volumes than originally estimated cause a design with more lanes, larger interchanges or service roads? If this is the case, EPA urges NCDOT to advise the agencies of the analysis results as soon as possible, and to call for additional Merger Team consideration. Additional capacity likely would increase the scope of the project's impacts.

EPA commented on the 1999 Draft EIS that since the proposed facility is being planned to support military deployments from Fort Bragg, it would be good to provide data on recent deployments and their utilization of roadways in comparison to rail and air conveyance. While this data could be easily obtained, no such data was provided in this document.

ALTERNATIVES

EPA notes the additional evaluations done by NCDOT at the request of the Merger Team on the "Improve Existing" alternative. The agencies ultimately agreed that there was no reasonable alternative to a new alignment project, and also reached consensus on Alternative D.

AFFECTED ENVIRONMENT

Natural areas are numerous within the project area, and terrestrial forests are an important component. EPA did not find data in the Final EIS on the amount of forested land that would be lost by the preferred alternative. This habitat has been estimated in Table IV-12 of the Draft EIS but the estimate needs to be verified and the direct loss documented at the present stage of the review as was done for the other impacts.

ENVIRONMENTAL CONSEQUENCES

Table III-8 of the Draft EIS identifies 32 Federal Species of Concern (FSC). While these species presently have no formal statutory protection, they are candidates for listing as threatened or endangered. Of these FSC, the Backmans sparrow is the only avian species that has potentially available habitat within the project area. According to Audubon WatchList, habitat loss is likely the largest threat to its survival. Backmans sparrow would be a likely candidate for protection under the Migratory Bird Treaty Act. Accordingly, EPA requests that NCDOT consult informally with USFWS on the potential avoidance and minimization measures during the nesting/breeding season which coincides closely with that of the Red-cockaded woodpecker (RCW), primarily April through July. Adjusting the construction schedule to avoid high use habitat during this crucial period is one method that seems reasonable and feasible for minimizing the indirect killing of eggs and nestlings.

EPA expressed concern during the Draft EIS review about the potential effects on the RCW habitat associated with the Green Belt zone within Fort Bragg. This is a major impact of the project because the freeway would occupy 357 acres of this Green Belt. This Final EIS improves the documentation of the consideration for and the consultation regarding the Red-cockaded woodpecker and we defer to the Biological Opinion rendered by the U.S. Fish and Wildlife Service, and for appropriate mitigation. We note that the right of way (ROW) width has been reduced by shrinking the median width by 24'. However, our concern remains because this road project narrows the available forest habitat of RCW within the Green Belt. Further, the Final EIS states that the U.S. Army

has plans for approximately 40 base operation projects within the Green Belt just through 2009 that are likely to further diminish RCW foraging ability in the future.

Noise Impacts

The noise impacts analysis reported in the Draft EIS indicates that Alternative D would result in noise impacts to 354 properties. The Draft EIS Reevaluation concludes that project study area noise impacts have not changed since that analysis for the 1999 Draft EIS. Because the data in the Final EIS indicate a total of 433 impacted properties, the statement in the Reevaluation appears to be incorrect. Further, the receptors that would be substantially affected also have increased during that time from 130 to 323. And finally, after the NCDOT cost-effectiveness criteria are applied there would be 189 receptors to receive mitigation by noise barrier installations, leaving 134 substantially affected receptors without mitigation. These results are indicative of additional development constructed in close proximity of the proposed project subsequent to the public and local officials having knowledge of the project and its potential adverse noise impacts.

Cultural Resources

EPA is aware of the concern and mitigation analysis for the Shaw-Gillis Historic District. The Merger Team concurred with use of a tight diamond configuration proposed by NCDOT for South Rayford Road to minimize those impacts. This design represents good mitigation for a significant historic resource.

Wetland Impacts

There are numerous wetland sites identified within the alternative corridors particularly south from Cliffdale Road. The Merger Team has conducted repeated site investigations of the important water crossings and associated wetlands, and has reached agreements for appropriate avoidance and minimization. At numerous sites, the alignment was shifted and/or the design modified to reduce the direct wetland losses. From the early stages of the project review to the present, Merger Team efforts have reduced wetland impacts within the ROW from 85.9 acres to 63.4 acres (Table 6-1) for selected Alternative D. Please check the apparent inconsistent statement on page 3-12 of the text where the impact is defined as 50 acres.

Stream Impacts

Several important creek systems would be impacted, most notably the Rockfish, Cross and Cold Camp Creek systems. The impacts were estimated to be 26,455 linear feet as stated in the Draft EIS. Impacts have been reduced to 12,833 linear feet primarily due to additional bridging and narrowed corridors at water crossings. While this direct loss of functional aquatic habitat has been reduced to less than half from the Draft EIS stage, future development associated with stream culverting for secondary roads and other encroachment is likely to cancel the Merger Team's mitigation efforts. Because of the number of stream crossings, it is essential for the project plans to include carefully designed stormwater treatment facilities in order to maintain water quality and indigenous aquatic life.

Baseline environmental impacts tabulation has been done for this project. As part of EPA's standard review procedure, the quantifiable impacts of this project have been compared to baseline data for projects on new alignment within eastern North Carolina.

| <u>Proposed Project</u> | <u>Baseline (Eastern NC New Location)</u> | |
|-------------------------|---|------------------------|
| Relocations | | |
| Residential | 9.06/mile | 3.1/mile |
| Business | 0.28/mile | 0.4/mile |
| Streams | 461.6 linear feet/mile | 473.0 linear feet/mile |
| Wetlands | 2.28 acres/mile | 2.58 acres/mile |
| Farmland | 7.9 acres/mile | 6.2 acres/mile |
| Noise Receptors | 15.6/mile | 8.9/mile |
| Noise Receptors* | 11.0/mile | 8.9/mile |
| Historic/Arch. | 0.39/mile | 0.19/mile |
| Churches/Schools | 0.10/mile | 0.17/mile |
| Forestland | ND | |

* Noise receptors substantially impacted with constructed noise barriers

ND - There is no data in the EIS to document terrestrial forests impact to compare to the Baseline.

The residential relocations and noise impacts are high relative to the Baseline, which includes a broad array of projects including projects in less developed areas. Much of the project area is suburban and some of the residences affected by the Fayetteville Outer Loop are old trailer parks where dwellings are fairly dense. Residential relocations have

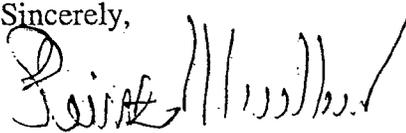
been reduced by three to 252 for the 27.8 mile project.

SUMMARY

EPA concurs with the selection of Alternative D as the preferred alternative. Significant avoidance and minimization of adverse impacts has been accomplished for this large project. Nevertheless, the outer loop would result in substantial impacts to both natural and man-made communities despite the efforts of NCDOT and other Merger Team agencies. EPA continues to have environmental concerns primarily because of the increased noise impacts to sensitive receptors, and the likely continued loss of RCW habitat associated with the project's incursion into the Green Belt and future Ft. Bragg operations within the Green Belt.

EPA is requesting the data for project impacts to terrestrial forest land cover for our environmental tracking database. EPA also wishes to receive a copy of the Record of Decision, and requests that it include a complete and accurate summary of the commitments made to avoid and minimize impacts. Thank you for providing the Final EIS for review. Mr. Ted Bisterfeld on my staff will continue as the primary EPA contact for this project, and he can be reached by Email at bisterfeld.ted@epa.gov and by telephone at 404/562-9621.

Sincerely,



Heinz J. Mueller
Chief, NEPA Program Office

cc: John Sullivan, FHWA, Raleigh
Pete Benjamin, USFWS, Raleigh
Melba McGee, NCDENR



November 1, 2005

MEMORANDUM

To: Melba McGee, Environmental Coordinator, Office of Legislative and Intergovernmental Affairs

From: Brian L. Wrenn, Transportation Permitting Unit *BW*

Subject: Final Environmental Impact Statement for Fayetteville Outer Loop Corridor Study in Cumberland, Hoke, and Robeson Counties, Federal Aid No. DPR-0100(001) and DPR-0100(002), TIP Project Nos. U-2519 and X-0002, State Clearinghouse No. 06-0088.

This office has reviewed the referenced document. The Division of Water Quality (DWQ) is responsible for the issuance of the Section 401 Water Quality Certification for activities that impact Waters of the U.S., including wetlands. It is our understanding that the preferred alternative, as presented in the Final Environmental Impact Statement (FEIS), would consist of a bypass around Fayetteville in Cumberland County. The Fayetteville Outer Loop (FOL) would begin in the south in Robeson County at an interchange with I-95, extend north through Cumberland County, turn east along the southern boundary of Fort Bragg, and end just west of Ramsey Street (US 401). The proposed facility would be a four-lane, divided freeway. The Division of Water Quality offers the following comments:

Document Specific Comments:

1. DOT should regularly update the public and the Merger Team on the status of the commitments listed in the Project Commitments Section of the FEIS. If DOT feels that any commitments cannot be fulfilled DOT should inform the public and the Merger Team immediately.
2. The City of Fayetteville has indicated that the Preferred Alternative would potentially impact a water supply pump station from the Fayetteville Public Works Commission to Fort Bragg. The Project Commitments Section should include a commitment to relocate and replace any water supply pump stations impacted by the FOL.
3. The City of Fayetteville has indicated that the FOL would impact sites designated as Red Cockaded Woodpecker (RCW) habitat enhancement areas. DOT should work with the City of Fayetteville to avoid these areas and to place them under a conservation easement. If these areas cannot be avoided, DOT should attempt to find additional RCW habitat enhancement areas to replace the City of Fayetteville's efforts.
4. In Section 6.11.1, the FEIS lists four projects that would be considered on-site mitigation projects for impacts to jurisdictional streams and wetlands. DWQ is very supportive of on-site mitigation projects. DOT should strive to conduct as much on-site mitigation as possible for the impacts associated with this project.



Transportation Permitting Unit
1650 Mall Service Center, Raleigh, North Carolina 27699-1650
2321 Crabtree Boulevard, Suite 280, Raleigh, North Carolina 27804
Phone: 919-733-1788 / FAX 919-733-8893 / Internet <http://h2o.enr.state.nc.us/nowelands>

One North Carolina
Naturally

5. The FOL would cross Little Cross Creek and Cross Creek upstream of the water supply Critical Areas associated with Bonnie Doone Lake and Rose Lake. Although the FOL would not impact the Critical Area, DOT should implement sedimentation and erosion control measures that meet the *Design Standards in Sensitive Watersheds* (15A NCAC 04B .0124) in the areas adjacent to Little Cross Creek and Cross Creek and their tributaries.

General Comments:

1. In accordance with the Environmental Management Commission's Rules [15A NCAC 2H.0506(b)(6)], mitigation will be required for impacts of greater than 150 linear feet to any single perennial stream. In the event that mitigation is required, the mitigation plan should be designed to replace appropriate lost functions and values. In accordance with the Environmental Management Commission's Rules [15A NCAC 2H.0506 (h)(3)], the NC Ecosystem Enhancement Program may be available for use as stream mitigation. A discussion of potential mitigations strategies should be included in the EA.
2. The 401 Water Quality Certification application will need to specifically address the proposed methods for storm water management. More specifically, it is suggested that storm water not be permitted to discharge directly into streams or surface waters.
3. If applicable, NCDOT should not install the bridge bents in the creek, to the maximum extent practicable.
4. For all bridges on the project, bridge deck drains should not discharge directly into the stream. Storm water should be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to NCDOT Best Management Practices for the Protection of Surface Waters.
5. If foundation test borings are necessary; it should be noted in the document. Geotechnical work is approved under General 401 Certification Number 3027/Nationwide Permit No. 6 for Survey Activities.
6. Sediment and erosion control measures should not be placed in wetlands.
7. Borrow/waste areas should avoid wetlands to the maximum extent practicable. Impacts to wetlands in borrow/waste areas could precipitate compensatory mitigation.

DWQ appreciates the opportunity to provide comments on your project. Should you have any questions or require any additional information, please contact Brian Wrenn at 919-733-5715.

cc: Richard Spencer, US Army Corps of Engineers, Wilmington Field Office
Travis Wilson, NC WRC
Gary Jordan, USFWS
Chris Militscher, USEPA
File Copy



North Carolina Department of Environment and Natural Resources

Michael F. Easley, Governor

William G. Ross Jr., Secretary

October 19, 2005



MEMORANDUM

TO: Melba McGee
FROM: Harry LeGrand, Natural Heritage Program ^{HL}
SUBJECT: FEIS – Fayetteville Outer Loop Corridor Study, from I-95 South of Fayetteville to US 401 (Ramsey Street); Cumberland, Hoke, and Robeson counties

REFERENCE: 06-0088

The Natural Heritage Program commented on the DEIS for the project, printed in Appendix I of the FEIS, in comments submitted by Stephen Hall on July 6, 1999. These comments were directed toward a potential impact to the Registered Natural Heritage Areas at the Bonnie Doone Lake Natural Heritage Area. The FEIS indicates that no impacts will be done to these Registered areas due to construction of the Outer Loop (page 3-29).

The western and southern portions of the proposed Outer Loop will come in contact with, or close contact with, two other identified Natural Heritage Areas. The proposed loop appears to run just west of the Fort Bragg Hutaff Lake natural area, of State significance. (An enclosed copy of the site report ranked the site at a lower Regional significance). This man-made lake supports the largest population in the state for the State Threatened and Federal Species of Concern loose watermilfoil (*Myriophyllum laxum*), an aquatic plant. It is therefore very important that the construction for the project not directly impact the lake, and even if there are no direct impacts, it is important that proper sedimentation controls be in place to prevent sediment from reaching the lake. The proposed Outer Loop is planned to be routed below the dam of Upchurches Pond. Though this route, as opposed to locating the crossing of Rockfish Creek above the pond, will impact less wetland acres (according to the FEIS), there are records of American alligators (*Alligator mississippiensis*), a State Threatened and Federal Threatened due to Similarity of Appearance species, from this creek in the project area. Also, the Rockfish Creek Corridor site, of State significance, might be slightly impacted. Thus, it is very important that road and bridge construction span as much of the wetlands and floodplain along Rockfish Creek as possible, and proper sedimentation controls need to be in place to avoid impacting this important creek.

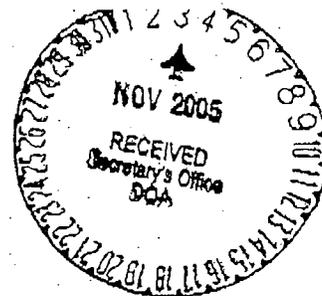
A number of the Federal and State Endangered red-cockaded woodpecker (*Picoides borealis*) clusters will be impacted by this project on Fort Bragg. However, the FEIS indicates that much mitigation by NC DOT has already been done for these impacts, such as the purchasing of Calloway tract in Hoke County, which contains at least five active clusters of the woodpeckers. In addition, DOT is proposing additional mitigative measures there and elsewhere to increase populations of the woodpeckers (pages 6-32 and 6-33). Thus, our Program is satisfied with the mitigation proposals and believe that DOT and the U.S. Fish and Wildlife Service need to finalize mitigation plans for the woodpecker.

The northeastern terminus of the proposed Outer Loop is planned to run south of Andrews Road. Thus, it should not have any impacts to the new Carvers Creek State Park, located roughly 1.5 miles to the north (mainly north of McCloskey Road).

Enclosures

Cumberland County Natural Area Inventory

FORT BRAGG HUTAFF LAKE
Significant Natural Heritage Area



Site significance: regional
Quadrangle: Clifdale

Size: 18 acres
Ownership: US Department of Defense; private

SIGNIFICANT FEATURES: Fort Bragg Hutaff Lake supports the largest pond cypress community on Fort Bragg and the largest population of loose watermilfoil (*Myriophyllum laxum*), a Federal Species of concern, in the state. Wood ducks (*Aix sponsa*) nest here.

LANDSCAPE RELATIONSHIPS: This site lies along the southeastern margin of Fort Bragg. To the east and south are dense housing developments, and west and north are military storage and training areas. The eastern side and the swamp at the north end is in private ownership. The site is located at the southeast corner of the Central Fort Bragg Macrosite, and near the east end of Fort Bragg Megasite. Fort Bragg Bones Creek Natural Area lies about 1 mile to the northwest.

SITE DESCRIPTION: Fort Bragg Hutaff Lake is an impoundment on a blackwater stream (Stewart's Creek). It is approximately one-half mile long by about 175 yards wide. Maximum depth is not known but large portions of the basin are shallow, as there are abundant living pond cypress trees (*Taxodium ascendens*) extending well out from the margins and which dominate the whole north end of the lake. Northward, the swamp is dominated by pond cypress, swamp tupelo (*Nyssa biflora*), and red maple (*Acer rubrum*). A few minor creeks feed into the lake from the east and west sides, with small sphagnous Cypress-Gum Swamp communities in their floodplains. Most of the eastern side, which is steeper, has been converted to suburban housing with yards extending down to the water's edge.

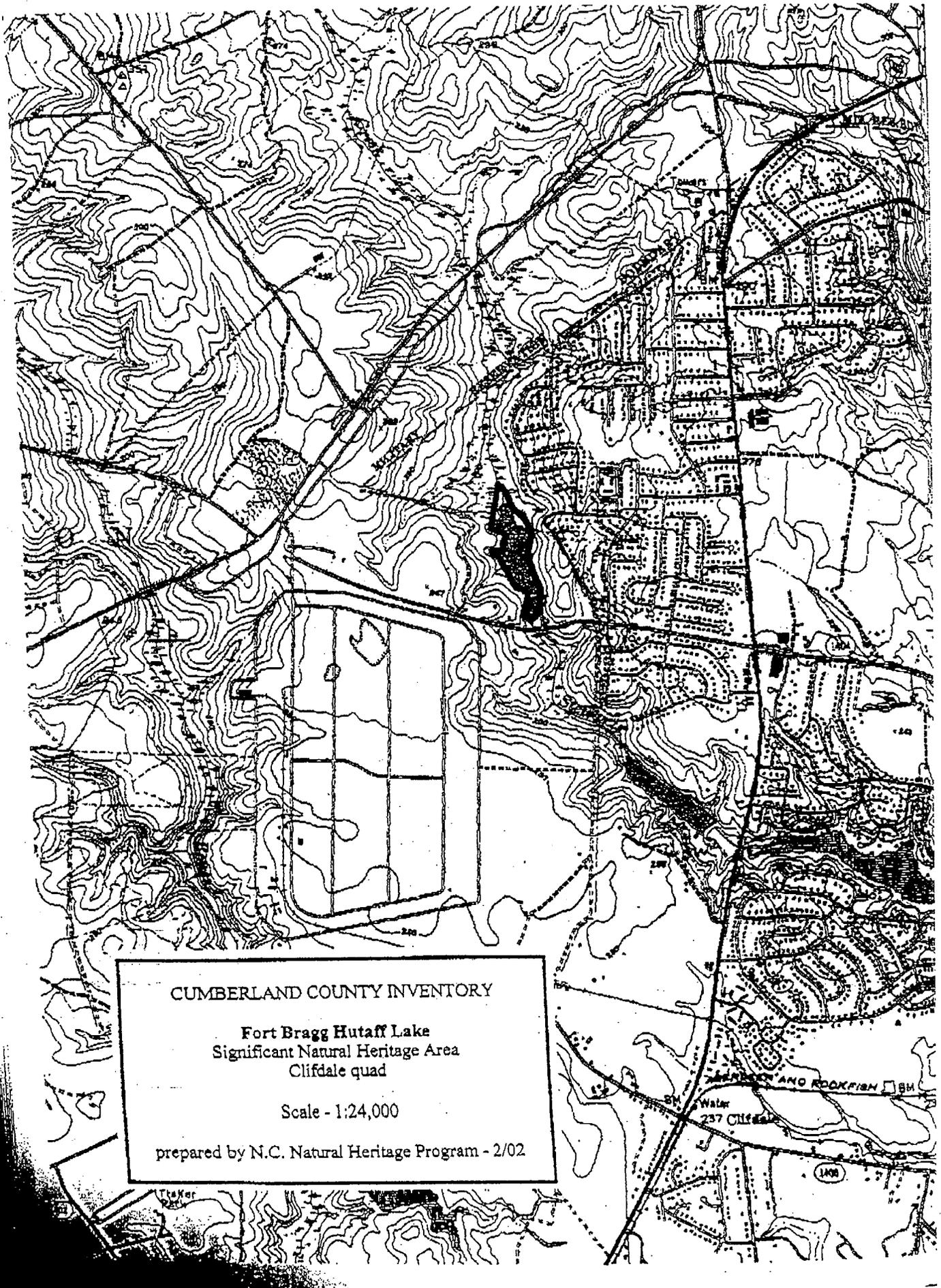
MANAGEMENT AND PROTECTION: Grazing by resident Canada geese is a problem which may impact the rare plants.

NATURAL COMMUNITIES: Coastal Plain Semipermanent Impoundment, Cypress-Gum Swamp (Blackwater Subtype).

RARE PLANTS: Loose watermilfoil (*Myriophyllum laxum*).

REFERENCES:

TNC and NC NHP. 1993. Rare and Endangered Plant Survey and Natural Area Inventory for Fort Bragg and Camp MacKall Military Reservations, North Carolina. North Carolina Chapter of The Nature Conservancy, Carrboro, N.C.; and N.C. Natural Heritage Program, Division of Parks and Recreation, DENR, Raleigh, N.C.



Cumberland County Natural Area Inventory

ROCKFISH CREEK CORRIDOR Significant Natural Heritage Area



Site significance: state

Quadrangles: Cedar Creek, Hope Mills, Parkton

Size: 1801 acres

Ownership: private

SIGNIFICANT FEATURES: Rockfish Creek is one of very few Sandhills streams that are deeply entrenched, creating a mini gorge with banks up to 50 feet high. (Other deeply entrenched streams are Little River in northern Cumberland Co. and Willis Creek in southern Cumberland Co.) The banks are clothed with a globally rare plant community, the Little River Bluff. A second globally rare community occurs on vertical banks wet with seepage water, the Little River Seepage Bank. These community types are restricted to Rockfish Creek, Little River, and Willis Creek, all tributaries of the Cape Fear River. Three rare animals also have been documented from this site, including a population of a newly discovered species, the Sandhills spiny crayfish (*Cambarus new species*), also known from Little Rockfish Creek. The creek also supports a population of a rare fish, the Santee chub (*Cyprinella zanema*), and the American alligator (*Alligator mississippiensis*) also has been seen in the creek, though rarely. Rockfish Creek supports the state's largest population of native climbing fern (*Lygodium palmatum*), easily numbering in the thousands. Climbing fern and another plant along the stream, streamhead beaksedge (*Rhynchospora leptocarpa*), are on the NC NHP Watch List. Sand myrtle (*Leiophyllum buxifolium*) is common on bank crests and on the adjacent terrace, and in the Sandhills Region this species only occurs along Rockfish Creek.

LANDSCAPE RELATIONSHIPS: Rockfish Creek Corridor extends from just below the Lake Upchurch dam to the Cape Fear River. It is crossed by three major roads: US 301, I-95 and NC 87. Land use along the creek varies from timber management to rural residential to small farms. Taking a larger view, Rockfish Creek lies at the boundary between the hilly inner Coastal Plain (e.g., Sandhills Region) and the middle Coastal Plain with its abundant Carolina bays and flat topography.

SITE DESCRIPTION: Rockfish Creek originates just southeast of Southern Pines in Moore County and empties into the Cape Fear River several miles southeast of Fayetteville. Along the way, especially below Lake Upchurch, it twists and turns as it bumps against hardened clays of the Cape Fear geological formation. In the last 1.5-2 miles, the river takes a much straighter course. The river has slowly cut down through the clays and sands and has become deeply entrenched, a most unusual feature for a blackwater stream in North Carolina. Banks range up to 50 feet high and are generally steep. They are forested with a wide assortment of hardwoods and conifers, under which are abundant shrubs of many species, all forming the Little River Bluff plant community. The trees include river birch (*Betula nigra*), white oak (*Quercus alba*), loblolly pine (*Pinus taeda*), and Atlantic white cedar (*Chamaecyparis thyoides*), while shrubs include fetterbush (*Lyonia lucida*), sparkleberry (*Vaccinium arboreum*), mountain laurel (*Kalmia latifolia*), and sand myrtle. Climbing fern scrambles over shrubs and coarse herbs. Perennial bentgrass (*Agrostis perennans*) is abundant on lower banks, and spring fleabane (*Erigeron vernus*) is common on dripping seepage walls.

Lower portions of hard clay walls support the Little River Seepage Bank community, with at least 26 occurrences having been identified along Rockfish Creek. These walls are largely bare, but are constantly wet from seepage and dripping water. They range up to 100 yards long and 12 feet high. Few plants grow on these vertical banks, mostly mosses, liverworts, spring fleabane, primrose-leaved violet (*Viola primulifolia*), and pink sundew (*Drosera capillaris*). At the crest and uppermost slopes the soils are drier and support a community of dense shrubs (especially mountain laurel) overtopped by oaks, hickories, red maple (*Acer rubrum*), and sourwood (*Oxydendrum arboreum*).

Alluvial features are rare except near the mouth and in the stretch between Golf View Drive and highway NC 59. Alluvial areas near the mouth flood for longer periods and support small examples of levee forest, with river birch, water oak (*Quercus nigra*), sycamore (*Platanus occidentalis*), and cane (*Arundinaria tecta*) prominent. The upstream alluvial sites flood irregularly and support small areas of swamp forest dominated by pond cypress (*Taxodium ascendens*) and swamp tupelo (*Nyssa biflora*). These "cypress pooches" are intriguing places, seemingly out of character within a rapidly flowing, entrenched stream system. Tributary creeks often tumble down short cascades or mini waterfalls as they reach Rockfish Creek. Downed trees frequently cause log jams.

The upland terraces flanking the river are generally overgrown due to fire suppression, or have been replaced by development or agriculture. Overgrown areas support a mixed hardwood-loblolly pine forest with scattered remnant longleaf pine-oak-wiregrass (*Pinus palustris-Quercus species-Aristida stricta*).

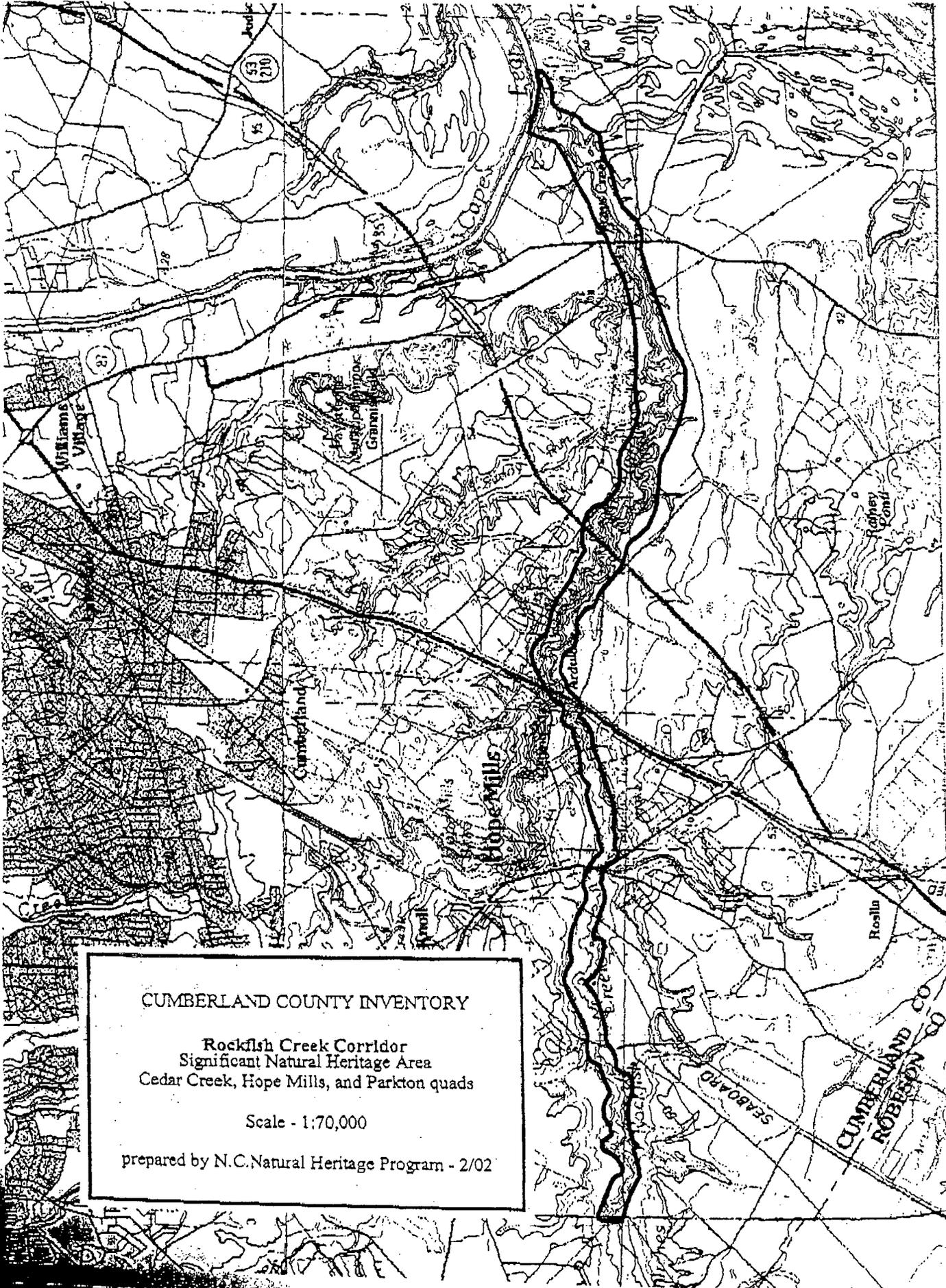
MANAGEMENT AND PROTECTION: Much of the uplands above the creek have been highly altered by development, farming, forest conversion, and fire suppression. Remaining natural parcels need to be identified and protected.

NATURAL COMMUNITIES: Little River Bluff, Little River Seepage Bank, Piedmont/Coastal Plain Heath Bluff.

RARE ANIMALS: Vertebrates - American alligator (*Alligator mississippiensis*), Coastal Plain population of Santee Chub (*Cyprinella zanema*). Invertebrates - Sandhills spiny crayfish (*Cambarus* new species).

REFERENCES:

Sornie, B.A. 2001. Site survey report: Rockfish Creek Corridor Natural Area. NC Natural Heritage Program, Division of Parks and Recreation, DENR, Raleigh, NC.



CUMBERLAND COUNTY INVENTORY

Rockfish Creek Corridor
Significant Natural Heritage Area
Cedar Creek, Hope Mills, and Parkton quads

Scale - 1:70,000

prepared by N.C. Natural Heritage Program - 2/02



North Carolina Wildlife Resources Commission

Richard B. Huntilton, Executive Director

MEMORANDUM

TO: Melba McGee
Office of Legislative and Intergovernmental Affairs, DENR

FROM: Travis Wilson, Highway Project Coordinator
Habitat Conservation Program 

DATE: October 28, 2005

SUBJECT: North Carolina Department of Transportation (NCDOT) Final Environmental Impact Statement (FEIS) for the proposed Fayetteville Outer Loop in Cumberland, Hoke, and Robeson Counties, North Carolina. TIP No. R-U-2519 and X-0002, SCH Project No. 06-0088.

Staff biologists with the N. C. Wildlife Resources Commission have reviewed the subject FEIS and are familiar with habitat values in the project area. The purpose of this review was to assess project impacts to fish and wildlife resources. Our comments are provided in accordance with certain provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

NCDOT proposes to construct the Fayetteville Outer Loop as a, median-divided multi-lane freeway on new location. The project will begin in Robeson County at an interchange with I-95, north through Cumberland County, turning eastward along the southern boundary of Fort Bragg military Reservation, and ending west of Ramsey Street. The preferred alternative for this project is 27.8 miles in length, impacting 12,833 linear feet of jurisdictional streams and 63.4 acres of jurisdictional wetlands.

The FEIS does an adequate job of addressing avoidance and minimization concerns pertaining to jurisdictional streams and wetlands since the submittal of the DEIS issued in March of 1999. Furthermore the FEIS adequately outlines avoidance and minimization efforts undertaken for impacts to the NCWRC Fish Hatchery Property current being developed into the John E. Pechmana Fishing Education Center. However, the document does not fully address mitigation measures and opportunities for the proposed project. Mitigation measures outlined in section 6.7.4 list Big Branch as the only potential onsite stream mitigation, with onsite wetland

mitigation opportunities to include: "the creation of new wetlands in the highway median, borrow pit areas, interchange areas, and along the roadside." Creation of wetlands in these locations is not considered functional replacements for the wetlands lost due to the construction of the proposed facility and should not be considered as mitigation. WRC does not object to BEP providing mitigation for the remaining impacts.

We have reviewed the data provided in the FEIS. Provided our concerns in section 6.7.4 Mitigation and FHWA Step Down Compliance are addressed we concur with the FEIS for this project. Thank you for the opportunity to comment. If we can be of any further assistance please call me at (919) 528-9886.

cc: Gary Jordan, U.S. Fish and Wildlife Service, Raleigh
Joan Hennessy, DWQ, Raleigh
Dave Timpy, USACE, Wilmington