NORTH CAROLINA
Turnpike Authority




Monroe Connector/Bypass

Administrative Action
Record of Decision

August 2010

Lead Agencies: US Department of Transportation
Federal Highway Administration
North Carolina Turnpike Authority

Cooperating Agency: US Army Corps of Engineers

Submitted Pursuant to the National Environmental Policy Act
23 CFR 771.119 and 42 USC 4332(2)(c)

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RECORD OF DECISION

This document records the decision of the Federal Highway Administration (FHWA) with regard to the Monroe Connector/Bypass project in Mecklenburg and Union Counties, North Carolina. In making this decision, the agency considered the information, analyses, and comments contained in the Draft Environmental Impact Statement (EIS), published in March 2009, and the Final EIS, approved in May 2010, for the proposed project.

1. DECISION

The FHWA and the North Carolina Turnpike Authority (NCTA) have identified the Selected Alternative for the Monroe Connector/Bypass in Mecklenburg and Union Counties, North Carolina. The Selected Alternative identified and discussed in this Record of Decision (ROD) is the Preferred Alternative identified in the Final EIS. The proposed action includes constructing a new location controlled-access toll road from US 74 near I-485 in Mecklenburg County to US 74 between the towns of Wingate and Marshville in Union County, a distance of approximately 20 miles. The proposed action is included in the North Carolina Department of Transportation (NCDOT) *2009–2015 State Transportation Improvement Program* as Project R-3329 (Monroe Connector) and Project R-2559 (Monroe Bypass) as a toll facility.

The proposed action will improve mobility and capacity within the project study area by providing a facility for the US 74 corridor that allows for high-speed regional travel consistent with the designations of the North Carolina Strategic Highway Corridor (SHC) program and the North Carolina Intrastate System, while maintaining access to properties along existing US 74.

Detailed Study Alternative D was identified by the lead agencies as the Recommended Alternative in the Draft EIS. Based on public comments received on the Draft EIS and in coordination with environmental resource and regulatory agencies, Alternative D was confirmed as the project's Preferred Alternative, as documented in the Final EIS. Alternative D was selected because it has lower overall impacts to the natural environment and residential areas than the other alternatives considered. The Final EIS includes details of the decision-making process and reasons for selecting Alternative D for the project. A complete description of the Preferred Alternative and its anticipated impacts is also included in the Final EIS.

In accordance with the National Environmental Policy Act (NEPA) and the requirements set forth by the Council on Environmental Quality (CEQ) (40 CFR 1502.2), this ROD:

1. Identifies the Selected Alternative for the Monroe Connector/Bypass R-3329/2559;
2. Summarizes all alternatives considered by the FHWA and the values which were important factors in the evaluation process;
3. Describes the measures adopted to avoid and/or minimize environmental harm; and,
4. Identifies monitoring and enforcement programs for the implementation of mitigation measures.

2. PROJECT HISTORY

2.1 PREVIOUS STUDIES

NCDOT previously studied two projects in this area—the Monroe Bypass (North Carolina State Transportation Improvement Program [STIP] Project R-2559) and the Monroe Connector (STIP Project R-3329). They are now being advanced by NCTA as a single project, which was the subject of the Draft EIS (March 2009), Final EIS (May 2010), and now this ROD. Previous studies are summarized below.

Monroe Bypass

The Monroe Bypass project was the first of the two projects studied by NCDOT. The western terminus of this project was US 74 near Rocky River Road (Secondary Road [SR] 1514). From there, the project extended east around the north side of Monroe, and connected to US 74 between the towns of Wingate and Marshville.

NCDOT completed the original planning and environmental process for the Monroe Bypass in 1997. The process included an Environmental Assessment (EA) issued on March 14, 1996, and a Finding of No Significant Impact (FONSI) issued on June 20, 1997. The process resulted in the selection of a Preferred Alternative. For right-of-way acquisition and construction purposes, the Monroe Bypass project was divided into three sections:

- Section A from US 74 near Rocky River Road (SR 1514) east to US 601
- Section B from US 601 to just east of Walkup Avenue (SR 1751)
- Section C from just east of Walkup Avenue and connecting with US 74 west of Marshville

In May 1997, a Public Hearing was held to present final designs for Sections B and C. It was determined that Section A would be replaced by NCDOT's Monroe Connector project; therefore, Section A was temporarily suspended at that time while feasibility studies for the Monroe Connector were initiated by NCDOT. In 2000 and 2001, right of way was purchased for Sections B and C. However, during the environmental permitting process (prior to construction), issues arose regarding the federally-endangered Carolina heelsplitter mussel, and construction was postponed.

Monroe Connector

NCDOT began the planning process for the Monroe Connector in 1999. As the name suggests, the Monroe Connector was intended to "connect" the Monroe Bypass (Sections B and C) from US 601 west to I-485. Figure P-2 of the Final EIS shows the Preliminary Study Corridors and DSAs for NCDOT's Monroe Connector project. A Draft EIS for the Monroe Connector was issued on October 17, 2003, and released for review and comment by the public and environmental resource and regulatory agencies in November 2003. However, a Public Hearing was not held following completion of the Draft EIS. The process was suspended in order to consider the project in relation to issues associated with the Monroe Bypass.

The 2003 Draft EIS for the Monroe Connector was rescinded on January 30, 2006, by notice in the Federal Register (Vol. 71, No. 19, page 4958). The notice stated: "*Based on the comments received from various Federal and state agencies and the public and a recent decision to change the eastern terminus of the project from US 601 to the proposed Monroe Bypass, the FHWA and NCDOT have agreed not to prepare a Final EIS for the proposed US 74 improvements from I-485 to US 601. FHWA, NCDOT, and the North Carolina Turnpike Authority (NCTA) plan to prepare a new Draft EIS for the proposed project. A notice of intent to prepare the EIS will be issued*

subsequent to this rescinding notice. The new Draft EIS will include a toll alternative among the full range of alternatives that will be analyzed as well as a change in the location of the eastern terminus."

2.2 CURRENT MONROE CONNECTOR/BYPASS STUDY

In February 2005, at the request of the Mecklenburg-Union Metropolitan Planning Organization (MUMPO), NCTA adopted the Monroe Connector as a candidate toll facility. At that time, the *2005–2011 STIP* included funding for construction of Sections B and C of the Monroe Bypass and NCDOT was moving forward with the Monroe Bypass as a separate project. However, due to the age of the original EA/FONSI for the Monroe Bypass (approximately 10 years), a reevaluation of the document was required by FHWA prior to the start of any construction. All sections of the Monroe Bypass (A, B, and C) needed to be considered in the reevaluation because they provide the logical endpoints for the project, enabling it to function as a stand-alone bypass.

During the course of the reevaluation, it was discovered that the MUMPO *2030 Long Range Transportation Plan* (LRTP) did not include Section A of the Monroe Bypass; it included the Monroe Connector instead. A project must be in the LRTP in order for it to receive FHWA approval and funding. As originally envisioned, the Monroe Connector was meant to function as a replacement for Section A of the Monroe Bypass. Without the Monroe Bypass Sections B and C, the Monroe Connector did not have a logical eastern terminus. Likewise, without Section A (or the Monroe Connector serving as a replacement for Section A), Sections B and C of the Monroe Bypass did not have a logical western terminus and could not serve as a stand-alone bypass.

On September 20, 2006, MUMPO adopted a resolution recommending that the Monroe Bypass and Monroe Connector be combined into a single environmental study under the administration of NCTA, and NCDOT's reevaluation process for the Monroe Bypass was then discontinued. On January 19, 2007, FHWA issued a Notice of Intent (NOI) in the Federal Register announcing its intention to prepare a Draft EIS for the combined Monroe Connector/Bypass project (Federal Register, Vol. 72, No. 12, page 2582 to 2583).

The *Monroe Connector/Bypass Administrative Action Draft Environmental Impact Statement* was signed on March 31, 2009 and made available for public and agency review. The lead agencies identified a Recommended Alternative in the Draft EIS (Detailed Study Alternative D). Two Combined Corridor Design Public Hearings were held in May 2009. Based on public comments received on the Draft EIS and in coordination with environmental regulatory and resource agencies, Alternative D was confirmed as the Preferred Alternative and documented in the Final EIS.

The *Monroe Connector/Bypass Administrative Action Final Environmental Impact Statement* was signed on May 25, 2010. The document evaluated refinements made to the functional design of the Preferred Alternative based on input received from state and federal agencies and the public. A series of additional studies were also completed to analyze the potential impacts of the Preferred Alternative. These included updated traffic forecasts, updated traffic noise studies, a Biological Assessment for federally protected species, and quantitative indirect and cumulative effects analysis and water quality analysis.

These studies were completed at the request of and in coordination with various environmental regulatory and resource agencies to address concerns with potential project impacts, particularly with respect to the federally-endangered Carolina heelsplitter mussel, water quality, and air quality. The lead agencies have also completed coordination with the US Fish and Wildlife

Service (USFWS), and on July 29, 2010, USFWS issued a letter of concurrence for the project's biological conclusion of May Affect Not Likely to Adversely Affect for the Carolina heelsplitter.

3. ALTERNATIVES CONSIDERED

This section describes the identification of the preliminary alternatives and methodologies used in the identification of the Selected Alternative. This section also describes the Selected Alternative and documents the anticipated impacts associated with it.

3.1 RANGE OF ALTERNATIVES

A range of alternative concepts was considered for this project, including:

- No-Build or No-Action Alternative;
- Transportation Demand Management Alternative (TDM);
- Transportation System Management Alternative (TSM);
- Mass Transit/Multi-Modal Alternative;
- Improving Existing US 74 Alternative;
- New Location Alternative; and,
- New Location / Improve Existing Roadways Hybrid Alternative.

These alternatives were evaluated as part of a multi-step screening process which is documented in the *Alternatives Development and Analysis Report* (PBS&J, April 2008).

The TDM Alternative, TSM Alternative, Mass Transit/Multi-Modal Alternative, and versions of the Improving Existing Roadways Alternative that did not include a freeway facility were eliminated from further consideration because they would not fully meet the purpose and need of the project. Additional screening also resulted in elimination of the Improving Existing Roadways Alternative and New Location/Improve Existing Roadways Alternative, as well as a reduction in the number of new location alternatives. Ultimately, sixteen new location alternatives were recommended and evaluated in detail in the Draft EIS.

3.2 BASIS FOR SELECTION OF THE SELECTED ALTERNATIVE

Alternative D was identified by the FHWA, NCTA, and the North Carolina Department of Transportation (NCDOT) as the Recommended Alternative in the Draft EIS (Section 2.8). The FHWA and NCTA (now a division of NCDOT) confirmed the Recommended Alternative, with some design refinements based on public comments and in coordination with environmental resource and regulatory agencies, as the Preferred Alternative in the Final EIS. The following bullets summarize the basis for selecting the Preferred Alternative as the Selected Alternative.

Cost and Design Considerations

- The Selected Alternative is one of the shortest alternatives at 19.7 miles (alternatives range from 19.6 to 20.6 miles).
- The Selected Alternative is one of the eight alternatives that would not require the relocation of Rocky River Road and the associated wetland impacts.
- The Selected Alternative was higher in the range of median total project costs with a median cost of $777.4 million (the median costs of all alternatives ranged from $752.5 million to $785.3 million). The higher cost of the Selected Alternative is offset by lower impacts in several other areas as described below. Updated cost estimates for the

Selected Alternative, which incorporate design refinements discussed in Section 2.3.1 of the Final EIS, are presented below in **Table 1.**

TABLE 1: Cost Estimates for Selected Alternative

	Approximate Length (miles)	Probable Range of Costs Through Year of Expenditure (millions $)*				Project Cost (millions $) (70% chance costs will be less)
		Construction Cost	Environmental Mitigation Cost	ROW & Utility Cost	Total Cost	
Selected Alternative	19.7	558.0 to 616.7	9.5 to 10.1	181.6 to 197.5	749.1 to 824.3	802.0

Source: HNTB, April 13, 2010.

Notes: * Assumptions and notes regarding costs:

1. Construction cost includes construction, utilities, engineering, and administrative costs.
2. Year of expenditure costs were modeled using a range of possible inflation rates.
3. Future construction costs were modeled to mid-point of construction using inflation rates ranging from 2.5% to 4%, with 3% being most likely.
4. Future right-of-way costs were modeled to anticipated year of acquisition using inflation rates ranging from 0% to 4%, with 2% being most likely.
5. Future administrative costs were modeled to anticipated year of expenditure using inflation rates ranging from 2.5% to 4.5%, with 4% being most likely.
6. Ranges of costs are based on cost projections in which the lowest 10% and highest 10% were discarded.
7. Year of expenditure costs assume and award date of December 2010 and an opening in December 2014.
8. Environmental mitigation costs are based on NCEEP fee schedule dated July 1, 2009 for estimated impacts to streams and wetlands and assume mitigation for impacts to all wetlands, all perennial streams, and intermittent streams with a NCDENR-DWQ stream rating greater than or equal to 26.
9. Right-of-way costs were provided by Carolina Land Acquisitions in January 2009. The cost estimate was updated in March 2010 to reflect new assumptions.

Human Environment Considerations

- The Selected Alternative has among the fewest residential relocations at 95 (the range was 94 to 149 residential relocations).
- The Selected Alternative is higher in the range of business relocations at 47 (the range was 14 to 49 business relocations). Most of the impacted businesses are located along existing US 74 at the western end of the project. The relocation of these businesses is in exchange for the other positive factors associated with the Selected Alternative, including having the roadway located farther away from densely developed residential subdivisions and farther from Stallings Elementary School.
- The Selected Alternative has no direct impacts to schools and impacts only three church properties.
- The Selected Alternative avoids impacts to the proposed Matthews Sportsplex property, a public park to be developed by the Mecklenburg County Park and Recreation Department.

Physical Environment Considerations

- The Selected Alternative is among those that impact the least acreage of active agricultural lands at 499 acres. Impacts for all alternatives ranged from 494 acres to 627 acres.
- The Selected Alternative impacts the least hazardous materials sites (5 sites). The anticipated impact severity is "low" for all potentially impacted sites.

Cultural Resources Considerations

- The Selected Alternative avoids impacts to the proposed Matthews Sportsplex property, a future public park and Section 4(f) resource.

Natural Resources Considerations

- The Selected Alternative is in the middle range of impacts to upland forest at 450 acres (impacts ranged from 365 to 514 acres).
- The Selected Alternative is lower in the range of impacts to ponds at 2.6 acres (impacts ranged from 2.5 to 3.8 acres).
- The Selected Alternative is in the middle range of impacts to wetlands at 8.1 acres (impacts ranged from 6.2 to 11.0 acres).
- The Selected Alternative would have the least impacts to perennial streams with 9,794 linear feet of impact (impacts ranged from 9,794 to 12,383 linear feet).
- The Selected Alternative is lower in the range of impacts to intermittent streams at 11,915 linear feet (impacts ranged from 10,767 to 13,020 linear feet).
- The Selected Alternative crosses only two 303(d)-listed streams, and both streams are proposed to be bridged.

3.3 DESCRIPTION OF THE SELECTED ALTERNATIVE

The Selected Alternative is a four to six-lane controlled-access toll facility. The Selected Alternative follows existing US 74 for approximately one mile from just east of I-485 to east of Stallings Road (SR 1365) and then proceeds on a new location alignment from east of Stallings Road (SR 1365) to the project terminus at existing US 74 between the towns of Wingate and Marshville. The total length of the Selected Alternative is approximately 19.7 miles.

From west to east, interchanges are located at US 74, Indian Trail-Fairview Road (SR 1520), Unionville-Indian Trail Road (SR 1367), Rocky River Road (SR 1514), US 601, NC 200, and Austin Chaney Road (SR 1758). Partial interchanges are located at Forest Hills School Road (SR 1754) and US 74 at the eastern end of the project.

The Selected Alternative includes upgrading an approximately one-mile segment of existing US 74 at the western end of the project to a controlled-access highway facility with frontage roads. For this segment, the toll road would be six lanes wide and elevated, with at-grade one-way frontage roads of two to three lanes on either side, for a total of ten to twelve lanes. The right of way required for this section would be approximately 260 feet.

For the remaining new location portion, the Selected Alternative has four 12-foot travel lanes and a 70-foot median. The facility includes 12-foot inside shoulders (4-foot paved) and 14-foot outside shoulders (12-foot paved). The right of way needed for this typical section is approximately 300 feet, with additional right of way required for interchanges, frontage roads, and improvements to intersecting roads.

The design speed for the tolled highway segments is 70 miles per hour (mph), which would accommodate a posted speed limit of 65 mph. The design speed for the frontage roads is 40 mph, which would allow for a posted speed limit of 35 mph. The general design criteria for the project are presented in Appendix B of the Draft EIS.

The project is being developed as a Design-Build project. Through this process, the design and design criteria will be re-evaluated to determine if any cost savings could be realized through activities such as reduction of the median width or the overall right of way. Any changes to

these criteria will be implemented only if they will result in a net reduction in costs or impacts without loss of service. For instance, it is likely that a reduction in median width and/or reduction in paved shoulder widths will be considered.

3.4 IMPACTS OF THE SELECTED ALTERNATIVE

Impacts for the Selected Alternative are discussed in detail in Section 2 of the Final EIS and summarized in the sections below:

HUMAN ENVIRONMENT

Impacts to the human environment are documented in the *Community Impact Assessment* (PBS&J, 2008), Section 3 of the Draft EIS, and Section 2.5.1 of the Final EIS.

- The Selected Alternative impacts seven neighborhoods:
    - Forest Park (relocation of homes on end of road or at edge of neighborhood and change in access)
    - Acorn Woods (relocation of homes in neighborhood and change in access)
    - Bonterra (change in access)
    - Poplin Farms (relocation of homes in neighborhood)
    - Avondale Park (right-of-way encroachment only)
    - Silverthorn (right-of-way encroachment only)
    - Glencroft (right-of-way encroachment only)
- The Selected Alternative does not directly impact any schools in the project study area. However, implementation of the Selected Alternative will alter access to Central Piedmont Community College (CPCC). CPCC Lane, which provides access to the campus from existing US 74, will be closed to allow for control of access in the vicinity of the I-485 interchange. New access would be provided from existing US 74 via the proposed McKee Road. The Selected Alternative also may alter traffic patterns on existing US 74 and Forest Hills School Road in the vicinity of Forest Hills High School.
- The Selected Alternative may impact three church properties (no church buildings would be taken with implementation of the Selected Alternative):
    - Benton Heights Presbyterian Church – right of way required along US 601 to accommodate improvements associated with proposed US 601 interchange; control of access requirements may necessitate altering existing entrances.
    - Trinity Baptist Church – right of way required along US 601 to accommodate improvements associated with proposed US 601 interchange.
    - Lee Park Baptist Church (former Morgan Mill Road Baptist Church) – right of way required along NC 200 to accommodate improvements associated with the proposed NC 200 interchange.
- The Selected Alternative requires relocation of approximately 95 residences, 47 businesses, and 3 farms. Business relocations are concentrated along existing US 74.
- The construction of the Selected Alternative does not have a disproportionately high and adverse impact on minority and low-income populations.

PHYSICAL ENVIRONMENT

Impacts to the physical environment are documented in a variety of technical memorandums as noted below, as well as in Section 4 of the Draft EIS, and Section 2.5.2 of the Final EIS.

- Noise impacts are documented in *Final Traffic Noise Technical Memorandum* (PBS&J, March 2009) and *Addendum Traffic Noise Technical Memorandum* (PBS&J, February 2010). The number of impacted receptors is estimated to be 124 Category B receptors (all residences) and 29 Category C receptors (businesses). Three preliminary feasible and reasonable noise barriers have been identified for the Selected Alternative:
    - N4-1 – Eastbound side of mainline east of Indian Trail-Fairview Road, west of Faith Church Road near Acorn Woods neighborhood.
    - N7-2 – Eastbound side of mainline east of Roanoke Church Road, west of Fowler Road near Avondale Park neighborhood.
    - N9-1 – Westbound side of mainline east of Ansonville Road near Glencroft neighborhood.

  Locations of the preliminary noise barriers are presented in Figure 2-7 of the Final EIS. A Design Noise Study will be prepared to update the noise analysis based upon the most recent traffic forecasts and the final design of the Selected Alternative.
- Air quality impacts are documented in *Final Air Quality Technical Memorandum* (PBS&J, February 2009). The project will not cause or contribute to any new localized carbon monoxide violations or increase the frequency or severity of any existing carbon monoxide violations, and a quantitative carbon monoxide hot-spot analysis was not required. The Monroe Connector/Bypass is currently included in the approved MUMPO 2035 LRTP, which conforms to the intent of the State Implementation Plan (SIP). The USDOT made a conformity determination on the 2035 LRTP on May 3, 2010. This conformity determination meets all of the applicable Clean Air Act (CAA) Section 176(c) requirements for federally funded or approved transportation projects. Specifically, the requirements for carbon monoxide hot-spot analysis are codified at 40 CFR 93.116 and 40 CFR 93.123. By meeting these regulatory requirements as well as other requirements in the conformity regulations, this conformity determination demonstrates compliance with the requirements of CAA Section 176(c)(1).
- The Selected Alternative impacts approximately 184 acres of prime farmland soils and 751 acres of statewide important farmland soils. There are no farmland soils classified as unique or locally important within the right of way for the Selected Alternative.
- Utility coordination will be conducted during final design. All utility providers will be contacted and coordinated with to ensure that the proposed design and construction of the project does not substantially disrupt service.
- On the eastern end of the project, the Selected Alternative crosses the CSX Railroad line that parallels existing US 74. NCTA will coordinate with the NCDOT Rail Division and CSX Railroad during final design for the project's eastern terminus at US 74, which would affect the east-west rail mainline through Union County.
- Five potentially contaminated parcels are within the project corridor. When the final design is complete and right-of-way limits are determined, a hazardous materials site assessment will be performed to determine levels of contamination at any potential hazardous materials sites. The assessment will be made prior to right-of-way acquisition.

- The Selected Alternative includes six bridge crossings and 35 major culverts or pipes. There would be five crossings of floodways and 11 crossings of floodplains. During final design, a detailed hydrologic and hydraulic analysis will be performed for each crossing location to determine the actual size and configuration of each structure. Also, for all new location crossings on FEMA-regulated streams (streams where a floodway and/or floodplain has been identified), a Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR) will be prepared and submitted to the NC Floodplain Mapping Program or Mecklenburg County, as applicable, for approval. In National Flood Insurance Program flood hazard areas, the final hydraulic designs for the Selected Alternative would be such that the floodway would carry the 100-year flood without a substantial increase in flood elevation.

CULTURAL RESOURCES

- The Selected Alternative would not result in an Adverse Effect to any historic property on or eligible for listing on the National Register of Historic Places (NRHP). No property would be acquired from any of the historic resources identified within the project corridor. The effects determinations are No Adverse Effect for Secrest Farm, Hiram Secrest House, and Perry-McIntyre House. The effects determination for William Bivens House is No Effect. These determinations were reconfirmed with the HPO on September 29, 2009.
- The proposed action would have no effects on any archaeological resource on or eligible for listing on the NRHP. However, further work is recommended at the Fowler/Hasty/Secrest Cemetery (Site 31UN351**) where human remains are suspected to be present. Details of the delineation will be discussed with and approved by the North Carolina Cemetery Program at the Office of State Archaeology before implementation.

NATURAL ENVIRONMENT

- Terrestrial communities will be impacted permanently by project construction from clearing and paving, as follows:
    - Agriculturally maintained – 489 acres
    - Basic mesic forest (Piedmont subtype) – 22 acres
    - Mesic mixed hardwood forest (Piedmont subtype) – 394 acres
    - Piedmont/Low mountain alluvial forest – 21 acres
    - Pine forest – 13 acres
    - Successional – 97 acres
    - Urban/disturbed – 212 acres
    - Open water – 6 acres
    - Impervious surface – 58 acres
- The Selected Alternative will impact 8.1 acres of wetlands and 23,082 linear feet of streams, including 10,353 linear feet of perennial stream and 12,729 linear feet of intermittent stream. Impacts were calculated using the refined functional design estimated construction limits, plus 40 feet, in accordance with NCDOT procedures for functional level designs. It is expected that the stream and wetland impact estimates likely will decrease as the level of design detail increases, since smaller buffers are used

in estimating impacts from preliminary design (construction limits plus 25 feet) and from final design (construction limits plus 5-10 feet).

- Protected species information was presented in Section 6.5 of the Draft EIS, and summarized in Section 1.3.4.5 of the Final EIS. Following the publication of the Draft EIS, a Biological Assessment was prepared to evaluate protected species that may be impacted by the Selected Alternative. The *Biological Assessment for the Monroe Connector-Bypass Project (R-3329/R-2559)* (The Catena Group, May 2010), examined impacts to Michaux's sumac (*Rhus michauxii*), Schweinitz's sunflower (*Helianthus schweinitzii*), Smooth coneflower (*Echinacea laevigata*), and Carolina heelsplitter (*Lasmigona decorata*).
- The Biological Assessment was submitted to the US Fish and Wildlife Service on April 19, 2010 for their review and concurrence. USFWS concurred with the following biological conclusions on July 29, 2010 (**Appendix A**):
    - Michaux's sumac – No Effect
    - Smooth coneflower – No Effect
    - Schweinitz's sunflower – May Affect/Not Likely to Adversely Affect
    - Carolina heelsplitter – May Affect/Not Likely to Adversely Affect
    - Carolina heelsplitter Designated Critical Habitat – May Affect/Not Likely to Adversely Affect

LAND USE AND TRANSPORTATION PLANNING

- The project is generally consistent with local land use plans and the Mecklenburg-Union Metropolitan Planning Organization (MUMPO) 2035 Long Range Transportation Plan (LRTP).

INDIRECT AND CUMULATIVE EFFECTS

Potential indirect and cumulative effects of the project are documented in *Indirect and Cumulative Effects Assessment* (HNTB, January 2009), *Monroe Connector/Bypass (R-3329/R-2559 Indirect and Cumulative Effects Quantitative Analysis* (Michael Baker Engineering, Inc., April 2010), and *Monroe Connector/Bypass (R-3329/R-2559) Indirect and Cumulative Effects Water Quality Analysis* (PBS&J, April 2010).

- The incremental effects of the 2030 Selected Alternative are generally one percent greater than the effects associated with the 2030 No Build. Greater differences can be found with examination of results for individual watersheds, but no measureable differences in development or impervious surface were found in the Goose Creek watershed.
- With the 2030 Selected Alternative scenario, there is more medium density residential, commercial, and industrial/office/institutional growth, such that the increase in low density residential development is six percent less than that with the 2030 No Build (79 percent of the total predicted cumulative development with the Selected Alternative versus 85 percent with the No Build).
- A water quality modeling analysis was conducted to determine if induced land use change resulting from the Selected Alternative would affect water quality within the project study area. Specifically, the modeling effort attempted to quantify the differences between the stream flow and pollutant loadings (total sediment, nitrogen, and phosphorous) of the Build and No Build future land use scenarios. The results of the

analysis generally suggest that the water quality effects of the project are relatively minor compared to those expected from natural growth.

4. SECTION 4(f) STATEMENT

The US Department of Transportation's Section 4(f) law (49 USC 303) states that federal funds may not be approved for projects that use land from a significant publicly-owned park, recreation area, wildlife or waterfowl refuge, or any significant historic site unless it is determined that there is no feasible and prudent alternative to the use of land from such properties, and the action includes all possible planning to minimize harm to the property resulting from such use.

Implementation of the Selected Alternative will not result in the direct or constructive use of land from any public park, recreation area, historic site, wildlife or waterfowl refuge as defined in Section 4(f) of the US Department of Transportation Act of 1966, as amended.

5. MEASURES TO MINIMIZE HARM

All practicable means to minimize environmental harm have been incorporated into the decision process and coordinated with environmental resource and regulatory agencies. 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 Sections 1.3 and 2.5 of the Final EIS. These measures to minimize impacts are summarized below.

RELOCATIONS

The Selected Alternative will result in the relocation of 95 residences, 47 businesses and 3 farms. These relocations reflect the design refinements made to the Preferred Alternative as an outcome of the public involvement activities and public review period associated with this project after the Draft EIS was published. These design refinements resulted in a reduction of 12 residential relocations and one business relocation.

The NCTA will follow the state and federal regulations and NCDOT policies for right-of-way acquisition and relocation. The policies ensure that comparable replacement housing is available for relocatees prior to construction of state and/or federally assisted projects. Furthermore, the NCTA will use three NCDOT programs to minimize the inconvenience of relocation: Relocation Assistance, Relocation Moving Payments, and Relocation Replacement Housing Payments or Rent Supplement. The relocation program for the Selected Alternative will be conducted 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 (NCGS 133-5 through 133-18).

COMMUNITY SERVICES AND FACILITIES

The Selected Alternative for the Monroe Connector/Bypass was chosen in part to minimize impacts to community facilities. The Selected Alternative does not directly impact any schools, but would alter access to CPCC. The Selected Alternative avoids direct impacts to CPCC as well as indirect impacts to Stalling Elementary School. The Selected Alternative may impact three church properties, as described in **Section 3.4**, but no church buildings would require relocation. Compared to other DSAs, the Selected Alternative avoids impacts to a proposed public park, two church properties, and two schools.

PUBLIC SAFETY

The Selected Alternative was chosen in part because it avoids impacts on the safety of pedestrians and drivers accessing Stallings Elementary School. Substantial public input was received stating concerns with increasing the volume of traffic in proximity to the school; the Selected Alternative avoids all impacts to Stallings Elementary School and is located more than one mile from the school.

COMMUNITY COHESION

The Preferred Alternative includes design refinements made to minimize disruptions to communities in the study area. These design refinements include:

- Addition of a second entrance to the Forest Park neighborhood;
- Modifications to allow the Monroe Connector/Bypass to remain at grade at the entrance to Bonterra Village, reducing the potential for visual and perceived noise impacts to this neighborhood;
- Modification of the Unionville-Indian Trail Road interchange to eliminate the need to relocate Secrest Shortcut Road, minimizing impacts to adjacent landowners and maintaining access to planned commercial development in the Town of Indian Trail; and
- Modification of the Austin Chaney Road interchange to allow McIntyre Road to maintain its existing connections to Austin Chaney Road, based on concerns expressed by MUMPO and the Town of Wingate.

UTILITIES AND INFRASTRUCTURE

The Selected Alternative will require some adjustment, relocation, or modification to existing public utilities in the project area. On the eastern end of the project, the Selected Alternative would cross the CSX Railroad line that parallels existing US 74. NCTA will coordinate with the NCDOT Rail Division and CSX Railroad during final design for the project's eastern terminus at US-74, which would affect the east-west rail mainline through Union County.

Utility coordination would be conducted during final design. All utility providers would be contacted and coordinated with to ensure that the proposed design and construction of the project would not substantially disrupt service.

SECTION 4(F) AND 6(F) RESOURCES

There are no properties within the project study area that are subject to Section 6(f) of the Land and Water Conservation Fund Act. The Selected Alternative avoids impacts to the only Section 4(f) resource in the project study area, the proposed Matthews Sportsplex.

NOISE

A total of 61 noise receptors will be benefitted by noise mitigation as part of the Selected Alternative. Three preliminary feasible and reasonable noise barriers are included in the Selected Alternative: one near the Acorn Woods neighborhood, one near the Avondale Park neighborhood, and one near the Glencroft neighborhood. A Design Noise Study will be prepared to update the noise analysis based upon the most recent traffic forecasts and the final design of the Selected Alternative.

FLOODWAYS AND FLOODPLAINS

The Selected Alternative will impact 100-year floodplains associated with major drainages within the study area, including North Fork Crooked Creek, South Fork Crooked Creek, East Fork Stewarts Creek, Stewarts Creek, Richardson Creek, Rays Fork Creek, Stumplick Branch, Meadow Branch, and Negro Head Creek. All of the stream crossings would be perpendicular or near to perpendicular, which would minimize impacts to the associated floodplains. All bridges or culverts designed for the project will be sized to ensure that no increases to the extent and level of flood hazard risk will result from such encroachments.

The Selected Alternative was chosen based on a consideration of impacts to natural resources, and the human and physical environments, and on the ability to minimize impacts. As such, there is no other practicable alternative to reduce impacts to floodplains.

NATURAL RESOURCES IMPACTS

During the development of the Project Study Area, consideration was given to known sensitive areas such as the Goose Creek watershed and Lake Twitty (a water supply). Previous studies included these areas, but because of concerns surrounding the presence of the federally protected Carolina Heelsplitter mussel in Goose Creek and because Lake Twitty is a critical watershed, these areas were eliminated from the current project's study area to avoid potential direct impacts. Additional minimization of natural resource impacts are described below.

All alternatives incorporated measures to avoid and minimize impacts to Waters of the US. The horizontal alignment of the functional design was adjusted where possible to minimize or avoid impacts to streams, wetlands, and ponds. The presence of wetlands and streams, and the minimization or avoidance of impacts to these resources, were factors in considering interchange configurations.

Impacts to wetlands and streams were further reduced through the design refinements made to the Preferred Alternative. Specific areas where design refinements for the Preferred Alternative resulted in net reductions to stream impacts included the area around Beverly Drive where a bridge was removed, the area around Bobwhite Circle where a service road was removed and a bridge was modified, the area surrounding the Austin Chaney Road interchange, and the area east of the Forest Hills School Road interchange where a previously shown NCDOT service road was shortened. These design refinements resulted in a decrease of 709 linear feet of jurisdictional stream impacts.

The service roads added an additional 1,489 linear feet of total stream impacts, of which 1,260 linear feet are anticipated to require mitigation.[1] With the inclusion of service roads, the total stream impacts for the Selected Alternative increased by 1,020 linear feet from the impacts for Preferred Alternative reported in the Final EIS. The length of stream impacts anticipated to require mitigation for the Selected Alternative, including the service roads, is 13,235 linear feet, which is 685 linear feet more than the impacts for Preferred Alternative in the Final EIS. Wetland impact acreage stayed approximately the same between the Preferred Alternative in the Final EIS and the Selected Alternative. Pond impacts increased by approximately one-half acre for the Selected Alternative compared to Alternative D in the Draft EIS.

As a result of coordination with environmental resource and regulatory agencies during Turnpike Environmental Agency Coordination (TEAC) meetings, as discussed in Section 2.3.3 of

[1] It should be noted that additional impacts for the service roads were calculated with a 40-foot buffer; excluding this buffer, the total stream impacts for the service roads would be reduced to 942 feet.

the Final EIS, 2.28 acres of wetland impacts were avoided. In addition, during the preliminary design of the proposed service roads, efforts to avoid impacting jurisdictional resources were made by adjusting the horizontal alignments and/or reducing "footprint" impacts to these environmental features to the extent possible by tightly controlling the profile and steepening side slopes as necessary through these areas.

Compensatory mitigation for the permitted impacts of this project will be provided by the Ecosystem Enhancement Program (EEP) in accordance with the 2003 Memorandum of Agreement among the US Army Corps of Engineers, NCDOT, NC Department of Environment and Natural Resources, with amendments dated June 2004 and March 2007. Letters documenting EEP's commitment to provide mitigation for this project are included in **Appendix A**. In addition, right-of-way properties will be evaluated for the potential to provide on-site mitigation. Identified sites that provide high quality compensatory mitigation and are approved by the regulatory agencies will be implemented.

CONSTRUCTION IMPACTS

NCTA will follow local ordinances for open burning and dust control; therefore, significant air quality impacts due to construction of the proposed project are not anticipated. The proposed project would be constructed in sections, limiting the overall construction activity occurring at any one location. There would also be emissions related to construction equipment and vehicles. However, these impacts related to construction would be temporary.

WATER QUALITY

For the benefit of the sensitive watersheds located near the project, the NCTA will ensure that all construction activities would be located outside of the Goose Creek watershed. If any construction staging, storage, refueling, borrow pit or spoil areas are chosen within the Goose Creek or Sixmile Creek watersheds, the NCDOT Division Environmental Officer will coordinate with the NCTA, USFWS and the contractor to develop Best Management Practices (BMPs) for each site to avoid/minimize the potential for adverse effects. In addition, NCTA will follow NCDOT's *Design Standards in Sensitive Watersheds* for implementing erosion and sediment control BMPs along the entire project.

Final designs will incorporate hazardous spill basins along the project corridor within the designated hazardous spill basin area associated with Lake Twitty. These basins will be designed in accordance with NCDOT's *Best Management Practices for Protection of Surface Waters*, *Guidelines for the Location and Design of Hazardous Spill Basins*, and *Guidelines for Drainage Studies and Hydraulic Design*. A turbidity water quality testing program for the main stem of Stewarts Creek will also be implemented to evaluate the performance of BMPs. Testing will be completed upstream and downstream of the construction area, as well as before, during, and after storm events.

The *Standard Specifications for Roads and Structures* requires proper handling and use of construction materials (NCDOT, January 2002) (NCDOT Web site: www.ncdot.org/doh/preconstruct/ps/specficiations/dual/). The contractor would be responsible for taking every reasonable precaution throughout the construction of the project to prevent the pollution of any body of water. Seeding will be required within 14 calendar days of completing construction activities in an area and the contractor shall be responsible for preventing soil erosion and stream siltation.

PROTECTED SPECIES

Initial coordination with USFWS has raised concerns regarding potential cumulative impacts to habitat of the federally endangered Carolina heelsplitter. To mitigate for these potential impacts, NCTA has committed to a monetary contribution to the Carolina Heelsplitter Conservation Bank in Lancaster, SC in the amount of $150,000 to support ongoing research and surveying efforts to provide long term protection and re-establishment of the endangered Carolina heelsplitter. NCTA has also committed to the renewal of the funding for the US Geological Survey (USGS) water quality monitoring gauge near US 601 in Union County for a period of 5 years (at a cost of approximately $10,000-12,000 per year).

Two populations of Schweinitz's sunflower were identified along Secrest Shortcut Road in the vicinity of the proposed Unionville-Indian Trail Road interchange; however, there are no known populations within the proposed project alignment, right of way, or clearing limits. These populations are partly within Union Power right of way. During the early stages of the roadway development, design changes were made in concert with resource agencies to minimize the footprint of the Unionville-Indian Trail Road Interchange to avoid encroachment on these two populations. NCTA has committed to preserving and managing these populations during construction. Following coordination with Union Power and NCTA, Union Power has agreed to manage the populations in their utility easement per their agreement with USFWS: Union Power's Schweinitz's Sunflower Restricted Sites Plan (Union Power 2010). As a result, no direct effects are anticipated.

6. MONITORING AND ENFORCEMENT PROGRAM

Coordination will be maintained with all regulatory and resource agencies during final design, permitting, right-of-way acquisition, and construction to ensure that avoidance, minimization, and compensatory mitigation measures are implemented. The NCTA and FHWA will enforce all pertinent specifications and contract provisions in accordance with the intent of the Final EIS and the welfare of the public. Many of the avoidance, minimization, and compensatory mitigation measures included in this document are likely to be conditions of federal or state permits that are enforceable by regulatory agencies.

7. PROJECT COMMITMENTS

Project commitments are listed in **Appendix B** (green sheets).

8. ERRATA and UPDATES to the FINAL EIS

There have been no updates to the Final EIS since its approval on May 25, 2010. However, there are two corrections/clarifications to be made to information presented in the Final EIS:

CHAPTER 2 – PREFERRED ALTERNATIVE

SECTION 2.1.2

In the second paragraph, the typical section of the new location roadway will include 12-foot wide inside shoulders, 4-feet of which will be paved. The outside shoulders will be 14-feet wide, 12-feet of which will be paved. The typical section is represented correctly in Figure 2-2 of the Final EIS.

SECTION 2.5.3.2

In the second paragraph, the date of the *Final Archaeological Inventory and Evaluation for the*

US 74 Monroe Connector (New South Associates) should be March 2010. It is referenced correctly in paragraph six.

9. COMMENTS ON THE FINAL EIS

The Final EIS for the project was approved on May 25, 2010 and circulated to environmental regulatory and resource agencies. Chapter 5 of the Final EIS includes a full list of agencies and organizations that received copies of the document. Comments on the Final EIS were received from the following federal and state resource agencies:

NC Department of Environment and Natural Resources (NCDENR) – July 15, 2010

NC Wildlife Resources Commission – July 13, 2010

NCDENR Division of Water Quality – June 28, 2010

NC Department of Cultural Resources, State Historic Preservation Office – July 12, 2010

US Environmental Protection Agency – Region – July 15, 2010

NC Department of Crime Control and Public Safety, Floodplain Management Program – July 9, 2010

US Fish and Wildlife Service – July 29, 2010

Comments were also received from one citizen group, and one citizen:

Southern Environmental Law Center – June 25, 2010

Ed Eason – June 29, 2010

Copies of these letters are included in **Appendix C**. Summaries of the substantive comments and responses to those comments are also included in **Appendix C** in **Tables C-1** through **C-9**.

10. CONCLUSION

The environmental record for the Monroe Connector/Bypass includes the previously referenced Draft EIS (March 2009) and the Final EIS (May 2010). These documents, incorporated here by reference, constitute the statements required by the National Environmental Policy Act (NEPA) and Title 23 of the United States Code (U.S.C.).

A Notice of Availability was published in the Federal Register (Vol. 75, No. 112, p.33290) on June 11, 2010. The Final EIS is in conformance with applicable provisions of 23 CFR 771 and satisfactorily covers the anticipated environmental impacts including human, physical, cultural, and natural effects. All correspondence received between the Final EIS and the date this ROD was signed have been reviewed (see **Appendix C** for a copy of the comments on the Final EIS), and based on that review; the Federal Highway Administration finds that there were no new substantive issues or impacts identified. Therefore, the Final EIS remains valid.

Based on the analysis and evaluation contained in this project's Final EIS and after careful consideration of all impacts and input from the public involvement process, it is my decision to adopt the Preferred Alternative, Detailed Study Alternative D, as the proposed action for this project.

John F. Sullivan III, P.E., Division Administrator
Federal Highway Administration

8/27/2010
Date

APPENDICES

A. Correspondence

B. Project Commitments

C. Comments on Final EIS

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APPENDIX A
CORRESPONDENCE

- USFWS Endangered Species Concurrence Letter 07/29/10
- Ecosystem Enhancement Program Acceptance - USACE 06/24/10
- Ecosystem Enhancement Program Acceptance - NCTA 06/24/10

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United States Department of the Interior

AUG 2 2010

FISH AND WILDLIFE SERVICE
Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

July 29, 2010

Mr. Steven D. DeWitt, P.E.
North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh, North Carolina 27699-1578

Dear Mr. DeWitt:

Subject: Endangered Species Concurrence and Comments on the Final Environmental Impact Statement for the Proposed Monroe Connector/Bypass Project, Mecklenburg and Union Counties, North Carolina, TIP Nos. R-3329 and R-2559

We have reviewed the Biological Assessment (BA) and your concurrence request regarding potential impacts to federally listed species for the subject project and the final Environmental Impact Statement (EIS). We provide the following comments in accordance with the provisions of section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act).

The North Carolina Turnpike Authority proposes to construct a new-location, controlled-access toll facility from I-485 in Mecklenburg County to US 74 between the towns of Wingate and Marshville in Union County, about 20 miles in length. The project is known as the Monroe Connector/ Bypass, and the recommended preferred alternative (RPA) roughly parallels existing US 74 to the north, connecting to existing US 74 on both the eastern and western termini.

We have been involved in the development of this project and have provided extensive comments in writing and through participation in agency coordination meetings. Our concerns for the implementation of the project have included impacts to streams and wetlands and wildlife habitat and, in particular, the potential for indirect impacts to the Goose and Sixmile Creek watersheds, both of which are occupied by the federally endangered Carolina heelsplitter (*Lasmigona decorata*) and are designated critical habitat for the heelsplitter in Goose and Duck Creeks. The RPA has no direct impacts to the Goose or Sixmile Creek watersheds or federally listed species. The following provides our concurrence with your conclusions for federally listed species for the RPA.

Carolina heelsplitter (*Lasmigona decorata*)

We have reviewed the BA and your conclusions regarding the impacts of this project on the federally endangered Carolina heelsplitter and its designated critical habitat in the Goose Creek watershed. In addition, we have carefully reviewed the source documents for the BA, including the draft and final EISs, the Qualitative and Quantitative Indirect and Cumulative Effects Assessments, and the Indirect and Cumulative Effects Water Quality Analysis. According to the information provided, levels of impervious surface and water quality parameters were the primary indirect effects analyzed. Current levels of imperviousness in the Goose and Sixmile Creek watersheds are at 13 percent and 25 percent, respectively, and are expected to increase to 17 percent and 30 percent in the 2030 no-build scenario. These changes are independent of the project, which shows little change in the levels of imperviousness between the build and no-build scenarios. Given that aquatic habitat degradation begins at levels of 6 percent imperviousness, these watersheds are already experiencing negative changes affecting the long-term viability of the heelsplitter in both Goose and Sixmile Creeks. Water quality parameters modeled for these watersheds show similar trends for the build and no-build scenarios.

Although the analysis concluded that the effects to the Carolina heelsplitter from the proposed project are very similar to the no-build scenario, it acknowledged that there is a level of uncertainty associated with the conclusions because of the assumptions used in the analysis of effects. In order to address this uncertainty, you have agreed to fund conservation in the Flat Creek watershed in South Carolina to help offset any potential but unpredictable impacts to the species. In addition, you have agreed to fund the continued operation of the U.S. Geological Survey's stream gauge on Goose Creek for 5 years. Based on the analysis, the information provided, and the proposed conservation, we concur that the proposed project is "not likely to adversely affect" the Carolina heelsplitter in the project area. However, the Carolina heelsplitter is one of the most critically endangered species in the Southeastern United States and is rapidly declining throughout its range, primarily from the effects of increased impervious surface area as a result of urbanization. Without significant conservation efforts this species is likely to become extinct in the near future. Given the degree of imperilment of the Carolina heelsplitter and in accordance with section 7(a)(1) of the Act, we encourage you to consider implementing additional measures to help further the purposes of the Act, such as conservation and restoration within the Goose and Duck Creek watershed and/or the purchase of additional land or credits in the Flat Creek watershed.

Schweinitz's sunflower (*Helianthus schweinitzii*)

We have reviewed the BA and your conclusions regarding the impacts of this project on the federally endangered Schweinitz's sunflower (*Helianthus schweinitzii*). Multiple surveys of the proposed project corridors located no sunflowers in the corridors, but there are two occurrences of the Schweinitz's sunflower in the vicinity of the RPA. The plants occur near Interchange 3 (Indian Trail/Fairview Road), and portions of both occurrences are in a Union Power Utility right-of-way. One group of plants is a known Element Occurrence (EO) 77; the other group, newly found during surveys, currently is named ESI 1. There will be no direct impacts to these plants from project construction. However, given the proximity of the sunflowers to the project, there were concerns about indirect impacts. In order to avoid and minimize impacts to the plants

at this location, the area will be fenced during construction. In addition, to prevent negative impacts after construction, you have agreed to manage EO 77 and ESI 1 by posting "No Mow" signs at each occurrence, managing the plants using the "NCDOT Roadside Vegetation Management Guidelines in Marked Areas," and working with Union Power to include these sites in their Schweinitz's Sunflower Restricted Sites Plan. Based on the negative survey data in the project right-of-way, the fencing to protect the plants close to the project during construction, and the proposed post-construction measures, we concur that the proposed project is "not likely to adversely affect" the Schweinitz's sunflower in the project area.

Based on the information provided and the conservation measures proposed for the Carolina heelsplitter and the Schweinitz's sunflower, we believe the requirements under section 7(c) of the Act are fulfilled. However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

Comments on the Final EIS

Our letter of June 12, 2009, identifies a number of concerns regarding the draft EIS. We continue to be concerned about the level of impacts to streams and wetlands and the impacts to terrestrial wildlife habitat. As indicated in the table on page 2-33 of the final EIS, the impacts to streams (perennial and intermittent combined) are still over 23,000 linear feet, and there are over 8 acres of impacts to wetlands. Even with further minimization, the impacts to streams are likely to remain at about 4 miles of streams directly impacted by the project. Every opportunity to further minimize these impacts should be made; and, where possible and feasible, mitigation for the unavoidable impacts should be on or near the site. Impacts to terrestrial wildlife habitat, particularly fragmentation as a direct impact of the project, have not been addressed. There still is no analysis of patch size and the degree to which the RPA fragments those patches. If wildlife passage is needed on parts of the project, such an analysis is a tool to appropriately identify and design the type of structures needed to conserve wildlife and protect the traveling public.

We appreciate the opportunity to provide these comments and will continue to participate in the planning process for this project. If you have any questions, please contact Ms. Marella Buncick of our staff at 828/258-3939, Ext. 237. In any future correspondence concerning this project, please reference our Log Number 4-2-07-132.

Sincerely,

Brian P. Cole

Brian P. Cole
Field Supervisor

cc:

Mr. John F. Sullivan, III, Division Administrator, Federal Highway Administration, 310 New Bern Avenue, Suite 410, Raleigh, NC 27601
Mr. Chris Militscher, U.S. Environmental Protection Agency, 1313 Alderman Circle, Raleigh, NC 27603
Mr. Brian Wrenn, North Carolina Division of Water Quality, Central Office, 2321 Crabtree Boulevard, Suite 250, Raleigh, NC 27604
Ms. Marla J. Chambers, Western NCDOT Permit Coordinator, North Carolina Wildlife Resources Commission, 12275 Swift Road, Oakboro, NC 28129
Ms. Liz Hair, Asheville Regulatory Field Office, U.S. Army Corps of Engineers, 151 Patton Avenue, Room 208, Asheville, NC 28801-5006

Ecosystem Enhancement PROGRAM

June 24, 2010

Ms. Liz Hair
U. S. Army Corps of Engineers
Asheville Regulatory Field Office
151 Patton Avenue, Suite 208
Asheville, North Carolina 28801-5006

Dear Ms. Hair:

Subject: EEP Mitigation Acceptance Letter:

R-2559/R-3329, Monroe Bypass and Connector, Union and Mecklenburg Counties

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream and riparian wetland mitigation for the unavoidable impact associated with the above referenced projects. Based on the information supplied by the NCDOT on June 23, 2010, the impacts are located in CU 03040105 of the Yadkin River Basin in the Southern Piedmont (SP) Eco-Region, and the anticipated mitigation credits needed to offset the impacts are as follows:

Yadkin 03040105 SP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	23,083	8.10	0	0	0	0
Mitigation Units (Credits-up to 2:1)	0	0	46,166	16.20	0	0	0	0

Mitigation associated with this project will be provided in accordance with Section X of Amendment No. 2 to the Memorandum of Agreement between the N. C. Department of Environment and Natural Resources, the N. C. Department of Transportation, and the U. S. Army Corps of Engineers fully executed on March 8, 2007 (Tri-Party MOA). EEP commits to implement sufficient compensatory stream and riparian wetland mitigation in the appropriate cataloging unit in the amount listed in the above table to offset the impacts associated with this project by the end of the MOA year in which this project is permitted. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-715-1929.

Sincerely,

James B. Stanfill for

William D. Gilmore, P.E.
EEP Director

cc: Mr. Gregory J. Thorpe, Ph.D., NCDOT-PDEA
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: R-2559 / R-3329

Ecosystem Enhancement PROGRAM

June 24, 2010

Mr. Steve DeWitt, P.E.
Chief Engineer
North Carolina Turnpike Authority
5400 Glenwood Avenue, Suite 200
Raleigh, North Carolina 27612

Dear Mr. DeWitt:

Subject: EEP Mitigation Acceptance Letter:

R-2559/R-3329, Monroe Bypass and Connector, Union and Mecklenburg Counties

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream and riparian wetland mitigation for the subject project. Based on the information supplied by you on June 23, 2010, the impacts are located in CU 03040105 of the Yadkin River Basin in the Southern Piedmont (SP) Eco-Region, and are as follows:

Yadkin 03040105 SP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	23,083	8.10	0	0	0	0
Mitigation Units (Credits-up to 2:1)	0	0	46,166	16.20	0	0	0	0

EEP commits to implementing sufficient compensatory stream and riparian wetland mitigation credits to offset the impacts associated with this project by the end of the MOA Year in which this project is permitted, in accordance with Section X of the Amendment No. 2 to the Memorandum of Agreement between the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U. S. Army Corps of Engineers, fully executed on March 8, 2007. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-715-1929.

Sincerely,

James B. Stanfill for

William D. Gilmore, P.E.
EEP Director

cc: Ms. Liz Hair, USACE – Asheville Regulatory Field Office
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
Ms. Linda Fitzpatrick, NCDOT – PDEA
File: R-2559 / R-3329

APPENDIX B
PROJECT COMMITMENTS

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PROJECT COMMITMENTS

This "GREEN SHEET" identifies the special project commitments made to avoid, minimize, or mitigate project impacts beyond those required to comply with applicable federal and state requirements and regulations.

During the National Environmental Policy Act (NEPA) process, commitments are made to avoid, minimize, or mitigate project impacts. Commitments result from consideration of public comment or through the requirements of, or agreements with, environmental resource and regulatory agencies.

In addition to compliance with applicable federal and state requirements and regulations, such as Section 404 Individual Permit Conditions and State Consistency Conditions; North Carolina Department of Transportation (NCDOT) *Guidelines for Best Management Practices for the Protection of Surface Waters*; General Certification Conditions and Section 401 Conditions of Certification, and the Endangered Species Act, **Table PC-1** lists special project commitments that have been agreed to by the North Carolina Turnpike Authority (NCTA).

TABLE PC-1: Special Project Commitments

Item	Resource	Final EIS Section	Project Commitment	Project Stage
1	Community Resources	2.5.1.2	NCTA will coordinate with Mecklenburg County and Union County schools to share information to minimize impacts to school bus routes.	Final Design through Construction Management
2	Noise	2.5.2.1	A Design Noise Study will be prepared to update the noise analysis based upon the most recent traffic forecasts and the final design.	Final Design
3	Utilities and Infrastructure	2.5.2.4	NCTA will coordinate with the NCDOT Rail Division and CSX during final design for the project's eastern terminus at US 74, which would affect the east-west rail mainline through Union County.	Final Design
4	Visual Resources	2.5.2.5	NCTA is committed to coordinating with the community during the final aesthetic design process.	Final Design
5	Hazardous Materials	2.5.2.6	Prior to acquisition, a hazardous materials site assessment will be performed to determine levels of contamination at any potential hazardous materials sites that are within the proposed right of way. Appropriate actions will be taken at these sites in accordance with state and federal laws.	Final Design and ROW Acquisition
6	Archaeological Resources	2.5.3.2	The cemetery delineation plan for the Fowler/Hasty/Secrest cemetery (Site 31UN351) as well as any plan detailing removal of the burials will be submitted and approved by the State Historic Preservation Office prior to any ground-disturbing activities in areas suspected to contain marked or unmarked graves.	Final Design

TABLE PC-1: Special Project Commitments

Item	Resource	Final EIS Section	Project Commitment	Project Stage
7	Water Resources	2.5.4.2	If any construction staging, storage, refueling, borrow pit or spoil areas are chosen within the Goose Creek or Sixmile Creek watersheds, the NCTA will require that the Design-Build Team coordinate with the NCDOT Division Environmental Officer and USFWS to develop BMPs for each site to avoid/minimize the potential for adverse effects.	Construction Management
8	Water Resources	2.5.4.2	NCTA will follow NCDOT's *Design Standards in Sensitive Watersheds* along with the most recent versions of NCDOT's *Best Management Practices for Protection of Surface Waters and Stormwater Best Management Practices Toolbox*	Construction Management
9	Water Resources	2.5.4.2	Final designs will incorporate hazardous spill basins along the project corridor within the designated hazardous spill basin area associated with Lake Twitty. These basins will be designed in accordance with NCDOT's *Best Management Practices for Protection of Surface Waters*, *Guidelines for the Location and Design of Hazardous Spill Basins*, and *Guidelines for Drainage Studies and Hydraulic Design*.	Final Design
10	Water Resources	2.5.4.2	A turbidity water quality testing program for the main stem of Stewarts Creek will be implemented to evaluate the performance of BMPs. Testing will be completed upstream and downstream of the construction area, as well as before, during, and after significant storm events.	Construction Management
11	Protected Species	2.5.4.5	In order to avoid or minimize impacts to the two known populations of Schweinitz's sunflower (EO#77 and ESI#1), both areas will be fenced during construction. In addition, to prevent negative impacts after construction, "No Mow" signs will be posted at each site and the plants will be managed using the "*NCDOT Roadside Vegetation Management Guidelines in Marked Areas*". NCTA will also work with Union Power to include these sites in their Schweinitz's Sunflower Restricted Sites Plan.	Construction Management
12	Protected Species	2.5.4.5	NCTA will fund conservation in the Flat Creek watershed in South Carolina to offset any potential but unpredictable impacts to the Carolina heelsplitter. NCTA will also fund the continued operation of the U.S. Geological Survey's stream gauge on Goose Creek for a period of five years.	Construction Management
13	Air Quality	3.3.3	Dust suppression measures will be implemented to reduce dust generated by construction when the control of dust is necessary for the protection of motorists and residents.	Construction Management

APPENDIX C
COMMENTS ON THE FINAL EIS

Document Number	Agency/Organization	Date	Page Number
i001	Southern Environmental Law Center	06/25/10	C-1
i002	Ed Eason	06/29/10	C-19
a001	NC Department of Environment and Natural Resources (NCDENR)	07/15/10	C-28
a002	NC Wildlife Resources Commission	07/13/10	C-30
a003	NCDENR Division of Water Quality	06/28/10	C-34
a004	NC Department of Cultural Resources State Historic Preservation Office	07/12/10	C-38
a005	US Environmental Protection Agency – Region 4	07/15/10	C-40
a006	NC Department of Crime Control and Public Safety Floodplain Management Program	07/09/10	C-61
a007	US Fish and Wildlife Service	07/29/10	C-63

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i001

SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 919-967-1450 200 WEST FRANKLIN STREET, SUITE 330 CHAPEL HILL, NC 27516-2559 Facsimile 919-929-9421

June 25, 2010

Ms. Jennifer Harris
NC Turnpike Authority PBS&J
1578 Mail Service Center 5200
77 Center Drive, Suite 500
Raleigh, NC 27699-1578
(jennifer.harris@ncturnpike.org)
VIA US MAIL AND E-MAIL

Re: Monroe Connector/Bypass – Environmental Impact Statement Comments

Dear Ms. Harris:

On behalf of the Sierra Club Central Piedmont Group, Clean Air Carolina, the Yadkin Riverkeeper, and the North Carolina Wildlife Federation, the Southern Environmental Law Center ("SELC") offers the attached comments on the above-referenced Environmental Impact Statement prepared for the Monroe Connector/Bypass project ("the Toll Road") by the Federal Highway Administration and the North Carolina Turnpike Authority, a division of the North Carolina Department of Transportation (the "Transportation Agencies").

As you know, SELC submitted extensive comments on the draft EIS ("DEIS") in June of 2009. The Final EIS ("FEIS") cures almost none of the substantial omissions and misstatements of the earlier document. The FEIS includes new technical reports on air quality and water quality in the project area, but these reports incorporate the same false assumptions regarding land use and travel demand that appear in the DEIS, resulting in a similarly flawed analysis of how the Toll Road would impact public health, natural resources, and overall quality of life in the project area. These comments accordingly reiterate many of the concerns we expressed in our previous comments of June 2009.

1 Given the fundamental deficiencies of the FEIS, we respectfully request and recommend that your agencies not issue a record of decision based on this document but instead initiate a new environmental review process, with an adequate Draft EIS, which answers the many questions that remain about this project – its benefits, costs and environmental impacts – and whether other alternatives, including common-sense upgrades to US 74, would be preferable.

2 The FEIS does not meet the minimum criteria of NEPA or fulfill the dual purposes of an EIS: (1) to provide decisionmakers with enough information to aid in the substantive decision whether to proceed with a project in light of its environmental consequences; and (2) to provide the public with information and an opportunity to participate in gathering information. *Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1056 (9th Cir. 1982) (the "form, content and preparation [of the EIS] foster both informed decision-making and informed public participation"); 40 C.F.R. § 1502.1 (purpose of EIS is to "provide full and fair discussion of significant environmental

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impacts and . . . [to] inform the decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts . . ."). Below, we address the main areas where the FEIS has failed to present an accurate portrayal of key issues in considering the proposed project.

Purpose and Need

3 As we indicated in our comments on the DEIS, the stated project purpose reduces to "build a freeway," which restates the specific project design rather than identifying an actual underlying purpose. Other comments lodged similar objections, pointing out that the use of "high speed" as part of the statement of purpose and need unduly narrows the available range of projects to a controlled access freeway rather than upgrades to existing US 74. In response, the FEIS states that "[t]he term 'high speed' on its own . . . does not unduly narrow alternatives nor preordain any one particular alternative," because "several different types of facilities . . . , for example; controlled-access freeways, Superstreets, or even public transportation on dedicated right of way," could facilitate "high-speed" travel at speeds of over 50 miles per hour (mph). (FEIS 3-7)

This response is unconvincing. The requirement of a "high-speed" facility serves little purpose other than to assure consistency with the North Carolina Turnpike Authority's narrow mandate under N.C. Gen. Stat. § 136-176(b)(2): "construction of the Monroe Connector/Bypass." The other conditions imposed on the project purpose, particularly consistency with the various corridor planning documents, preclude any serious consideration of public transportation or other alternatives to building a freeway. Indeed, the FEIS argues that "numerous local and state plans" support using the term "high speed" in the statement of purpose and need precisely because these plans refer to a "freeway," "which by definition is high speed." (FEIS 3-7) The Transportation Agencies have yet to justify in specific terms how a freeway advances the objectives of these various plans in a way that other alternatives cannot, particularly

4 targeted improvements to improve flow along the US 74 corridor. Nor does the FEIS include any data to support the various issues it identifies along US 74—congestion, lengthy commute times, high percentage of truck traffic—or how the Toll Road would address those needs.

The FEIS claims that the DEIS contains "supporting data on the needs to be addressed by the project." (App. B3-27). But the "data" supporting this project's purpose and need largely consist of inaccurate traffic forecasts. These forecasts of traffic volume in the corridor have played a prominent role both in defining the Toll Road's purpose and in evaluating how it compares with various alternatives. In our comments on the DEIS, we noted that the "No Build"

5 traffic forecasts describe an implausibly dire situation, in which the future traffic volumes of both US 74 and the planned Toll Road must squeeze onto US 74 alone. This error resulted primarily from the use of the same socioeconomic forecasts for the project area under both the Build and No-Build scenarios. This error remains uncorrected and continues to distort the formulation of the statement of purpose and need for the Toll Road.

6 The FEIS concedes a significant error in the traffic forecasting presented in the DEIS, but it leaves many other erroneous forecasts in place and fails to revisit the analysis that these forecasts inform. In our comments on the DEIS, we pointed out that the 2030 No-Build traffic

projections cited in the statement of purpose and need predict traffic increases of "about 30 to 35 percent along the corridor from 2007 to 2030," even though these same traffic studies indicate that the existing conditions along the US 74 corridor "operate at an undesirable LOS E or F." (DEIS 1-20) We similarly questioned the plausibility of projections for the 2035 No-Build scenario, which estimate that traffic volumes will reach more than double the roadway capacity of various segments along US 74.

The FEIS now concedes in an appendix that the "2035 No-Build Alternative forecast was inadvertently overestimated," and it presents corrected estimates in a table. (FEIS A-3). In many cases, the prior forecasts are nearly double the revised traffic volumes. This substantial discrepancy indicates that the DEIS presented a skewed analysis of the need for additional highway capacity in the project area. Yet the Transportation Agencies have not revised their analysis of purpose and need, or any other part of the DEIS, maintaining that "other than corrections noted below for Table 2-7, all other conclusions and discussions remain valid." *Id.* This logic is flawed. Considering that the prior forecasts vastly overstate the traffic congestion likely to affect the US 74 corridor, and the corrected forecasts indicate that the Toll Road will cause a significant increase in vehicle miles traveled (VMT) in the region, both the need for this project, and the optimal means of meeting that need, must be revisited.

Analysis of Alternatives

The FEIS continues to promote a flawed analysis of alternatives that unjustifiably omits serious consideration of a combination of feasible upgrades to US 74, access management, improved secondary road connectivity, and increased transit and freight rail in the project area. Such an alternative appears more effective than the Toll Road using virtually any measurable, objective criteria based on the needs of existing communities in the project area. Despite recognizing the various comments calling for consideration of such a combined strategy, however, the Transportation Agencies do little more than repeat the conclusory assertions of the DEIS.

In our previous comments, we pointed out that the Transportation Agencies ignored a study recently commissioned by NCDOT, the "Stantec Study," which showed that targeted upgrades along US 74 could greatly reduce congestion at a fraction of the Toll Road's cost to the public. To address this omission, the FEIS now includes a brief discussion of the Stantec study. But the FEIS dismisses the proposed upgrades because "these improvements would not result in high-speed travel through the corridor in 2015." (FEIS 3-14). In other words, upgrading US 74 would not meet the project purpose of building a freeway. The FEIS fails to explain, however, how upgrading US 74 would not address the underlying needs—i.e. congestion relief, reduced commute times, increased freight capacity, etc.—that building a freeway might remedy.

The FEIS also explains that "a comparison of the year 2015 traffic volumes used in the US 74 Corridor Study to the year 2035 No-Build volumes used in the Monroe Connector/Bypass Draft EIS, shows that the volumes in 2035 along US 74 would generally be more than double the 2015 traffic volumes." *Id.* This is a major flaw in the analysis. It appears to reference the grossly inflated traffic projects that are revised at Appendix A-3 ("DEIS Errata"). The revised

estimates of 2035 No-Build traffic volumes are less than double existing (2006) traffic volumes, and therefore far less than double the 2015 traffic volumes cited in the Stantec study.

In rejecting an alternative of combined upgrade and transit strategies, the FEIS fails to disclose information that is available, such as the $14 million price tag for the improvements detailed in the Stantec study. Instead, the FEIS includes an almost verbatim reproduction of the DEIS' discussion of "TSM measures, TDM alternatives, and Mass Transit/Multi-Modal alternatives," concluding "[c]ombining a Mass Transit Alternative concept with other modes also would not be practicable" because it "would add substantial costs to any alternative that includes road improvements, but would do very little to improve traffic flow on US 74." (3-15) Like the DEIS, the FEIS presents scant support for this conclusion. Moreover, considering that the Toll Road would siphon off $24 million from the Highway Trust Fund every year for the next 30 years, require the state to guarantee hundreds of millions of dollars of additional, highly speculative "toll revenue" debt, and force area drivers to pay hefty tolls for both the highway's construction and ongoing maintenance, the Transportation Agencies should clarify what is meant by "substantial costs."

Substantial Increases in Vehicle Miles Traveled (VMT)

Even though the FEIS includes new "No-Build" traffic forecasts that nearly halve previous estimates of traffic volume along US 74, it nevertheless maintains that estimates of VMT based on the previous, erroneous figures are still valid. According to the FEIS, "VMT experienced a slight decrease in the 'Build' Scenario" because the Toll Road is slightly straighter than US 74, and the "vehicles that were previously accessing US 74 from the north now have a shorter route to the Monroe Connector/Bypass." (3-18) This explanation sheds light on how a computer model could have erroneously predicted that building a 20-mile-long toll road to access a sparsely developed area on the metro fringe will reduce traffic volume. It does not, however, show that the modeling is even remotely accurate. In fact, it reveals the failure to consider the role of new highway capacity in generating additional travel. *See Mullin v. Skinner,* 756 F. Supp. 904, 921 (E.D.N.C. 1990) ("It is an irrefutable reality that the easier it is to get somewhere, the more people will be inspired to do so."); *Swain v. Brinegar*, 517 F.2d 766, 777 (7th Cir. 1974) ("[A]lmost any sponsor of a major four lane highway project can say with some assurance that if the highway is built it will be used," because such highways "create demands for travel and expansion by their very existence.").

The claim that the Toll Road will reduce VMT is inconsistent with the revised traffic volume estimates presented in the FEIS. Those projections indicate that traffic volumes would increase substantially under the Build scenario. For example, the revised DEIS Table 2-7 (Appendix A-3) estimates traffic on US 74 near Stallings Road for the 2035 No Build scenario at 86,300 vehicles per day (vpd). It estimates the combined traffic on US 74 and the Toll Road under the Build scenario at 135,600 (67,400 plus 48,200, respectively). Thus, according to the revised forecast, building the Toll Road would result in an increase of over 57% in traffic volume along the US 74 corridor, which could be expected to cause an overall VMT increase of similar magnitude. The claim that the Monroe Connector/Bypass will reduce VMT is based on the 2035 No-Build Alternative traffic forecasts, documented in *Traffic Forecast for TIP Projects*

13 *R-3329 and R-2559, Monroe Connector/Bypass* (Wilbur Smith Associates, September 2008), which the FEIS acknowledges to be erroneous.

The substantial increases in VMT that would result from this project have far-reaching implications for air quality, energy consumption, and overall quality of life in the Charlotte region. These impacts must be considered in a new Draft EIS. In order to be meaningful, the analysis of this project must rely on different land use forecasts to compare the build and no-build alternatives. In response to SELC's comments, the Transportation Agencies point to a new
14 consultant's study which renders a "quantitative analysis" of this project's secondary impacts. But the study's first "analytical assumption" states "[r]egional TAZ forecasts for 2030 households (i.e., number of dwelling units) and employment (i.e., number of jobs) served as the primary sources of data for developing the 2030 No Build land use estimate."[1] These TAZ forecasts are based on an assumption that the Toll Road will be built. The study thus uses forecasts of sprawl growth patterns, which would be facilitated by the Toll Road, to predict the impacts associated with not building the toll road. This does not satisfy NEPA. *See, e.g. Sierra Club v. United States DOT,* 962 F. Supp. 1037, 1043 (D. Ill. 1997) (rejecting an EIS that included "a socioeconomic forecast that assumes the construction of a highway such as the tollroad and then applies that forecast to both the build and no-build alternatives," resulting in "a self-fulfilling prophecy that makes a reasoned analysis of how different alternatives satisfy future needs impossible.").

Air Quality

In our comments on the DEIS, we noted various deficiencies in the analysis of carbon monoxide, ozone, and mobile source air toxics (MSATs) related to this project. The FEIS fails to address these deficiencies. As explained above, the FEIS continues to falsely claim that the
15 Toll Road would reduce VMT in the project area, severely distorting the air quality analysis. Instead, the Transportation Agencies must fully consider and disclose the risks of localized pollution associated with the substantial traffic growth caused by this project. They must also disclose how the increased VMT and sprawl growth patterns facilitated by this project would exacerbate the area's smog problem.

The FEIS also claims that "[it] is technically infeasible to accurately model the negligible increases or decreases of carbon dioxide emissions at a project level," and that "the results of such an analysis would not be likely to inform decision-making at the project level, while adding considerable administrative burdens to the NEPA process." (FEIS 3-20). In fact, calculating the
16 tons of greenhouse gas (GHG) emissions that this project would create would require little more than an accurate traffic volume forecast and an estimate of average fuel efficiency standards for the overall vehicle fleet. Moreover, as recent federal regulations have requested that estimates of greenhouse gas emissions factor into cost-benefit analyses for transportation infrastructure projects,[2] the FEIS is inconsistent with current federal transportation project review practices.

[1] *Indirect and Cumulative Effects Quantitative Analysis* (Michael Baker Engineering, April 2010) at iii.
[2] *See, e.g.*, Notice of Funding Availability for Supplemental Discretionary Grants for Capital Investments in Surface Transportation Infrastructure Under the American Recovery and Reinvestment Act, 74 Fed. Reg. 28758 (June 17, 2009); U.S. Dept. of Transportation "Transportation's Role in Reducing U.S. Greenhouse Gas Emissions: Volume

Indirect and Cumulative Impacts

Our comments on the DEIS pointed out the contradiction between the agencies' claim that the Toll Road would reduce VMT, yet spur development primarily in the eastern-most section of the project study area. In general, we objected to the conclusory nature of the DEIS analysis, including its characterization of areas surrounding endangered species habitat as
17 "almost completely developed." (DEIS 7-9) The FEIS now includes a new, quantitative report on indirect and cumulative effects, which similarly concludes that construction of the toll road and its many planned intersections would result in "no measurable difference in percent impervious cover" in the study area, and "no direct or indirect effects within the Goose Creek or Sixmile Creek watersheds."[3] The analysis in these reports, like that of the DEIS, is flawed.

As indicated above, the FEIS quantitative analysis report inflates estimates of cumulative and indirect effects under the No-Build scenario because it adopts the same baseline socioeconomic forecasts that were developed to predict traffic under the Build scenario. Internal inconsistencies in the FEIS attest to the faulty logic of this analysis. For example, the FEIS
18 "Qualitative Indirect and Cumulative Effects Assessment" reports that population in the easternmost areas of the project area "could actually decline" if the Toll Road is not built. The FEIS quantitative analysis report, however, assumes that development and development-related impacts will continue to proceed in these areas even without the Toll Road.[4] Again, this is because, as the report explains, "[f]uture development was largely calculated based on growth in households and employment as predicted in the MUMPO TAZ forecasts . . ."[5] And these forecasts assume that growth will be facilitated by various road improvements, including the Monroe Connector/Bypass. Not surprisingly, the analysis based on these assumptions yields a finding that "the vast majority of indirect development occurring in the Study Area by 2030 will occur with or without the Monroe Connector/Bypass project."[6]

The failure of the FEIS to address mitigation measures adequately further warrants a new Draft EIS. The FEIS includes a lengthy citation to the Council on Environmental Quality (CEQ) "NEPA 40 Frequently Asked Questions," which clarifies that the agencies must identify "all relevant, reasonable mitigation measures . . . even if they are outside the jurisdiction of the lead
19 agency," and discuss "the probability of the mitigation measures being implemented."[7] (FEIS 3-21) Following this citation, one would expect a discussion of measures that other state agencies and local municipalities have taken and may take in the future to mitigate development-related impacts, such as stormwater runoff. The discussion might identify, for example, the likelihood that existing measures in the Goose Creek site-specific management plan will remain in place,

1, Synthesis Report" (April 2010) *available at* http://ntl.bts.gov/lib/32000/32700/32779/DOT_Climate_Change_Report_-_April_2010_-_Volume_1_and_2.pdf.
[3] *Indirect and Cumulative Effects Quantitative Analysis* (Michael Baker Engineering, April 2010) at 49.
[4] *See, e.g., id.* at 27, Table 13 (depicting significant increase in impervious surface cover within various watersheds in easternmost section of study area under No-Build scenario, e.g. 4% increase predicted within Salem Creek and Richardson Creek watersheds).
[5] *Id.* at 12.
[6] *Id.* at v.
[7] NEPA 40 Frequently Asked Questions, Question 19b.

and the likelihood of new measures taking place, such as stormwater retrofit programs to mitigate impacts associated with existing development.

20 The FEIS, however, fails to identify a single mitigation measure in the current affected area. And it fails to discuss the probability of state or local agencies implementing or continuing to implement current or potential measures, instead asserting that it is not necessary to discuss mitigation because there is "little difference" between the Build and No-Build scenarios. This conclusion, in turn, is based on the quantitative analysis of indirect and cumulative impacts, which explains that "it is assumed that mitigation requirements would offset any impacts" resulting from exemptions to stream buffer rules.[8] In other words, because the FEIS assumes that effective mitigation measures will be implemented, there is little difference between the Build and No-Build scenarios, and thus no need to discuss whether effective mitigation measures will in fact be implemented.

21 Various other assumptions in the FEIS analysis of indirect and cumulative impacts deserve reconsideration. With scant support, the FEIS assumes that development would concentrate around the intersections of the Toll Road to such an extent that higher density development patterns would result in a reduction of forest fragmentation compared to the No Build scenario.[9] This claim strains credulity. One need look no further than the project area itself, and the pervasive low-density development spurred by I-485, to discredit this farfetched theory. Similarly, the FEIS's assumptions that the various local zoning and land use restrictions will remain static[10] despite development pressures is "so utterly devoid of common sense and inconsistent with NEPA that it cannot be taken seriously." Mullin v. Skinner, 756 F. Supp. 904, 921 (E.D.N.C. 1990).

Water Quality and Endangered Species

22 The FEIS fails to address the concerns we raised in our comments on the DEIS regarding the induced growth impacts of this project on water quality and endangered species habitat. Although the FEIS includes quantitative analyses of these impacts, the flawed nature of these analyses confounds any precise assessment of the Toll Road's real impacts for reasons discussed above. The Indirect and Cumulative Effects Quantitative Analysis and Water Quality Analysis conclude that the impervious surface increases, streamflow, runoff, and pollutant loadings of 2030 No-Build and 2030 RPA scenarios are equal. Again, such a result is not surprising given that both scenarios assume that major new highway capacity, including this project, will be built in the area and will result in sprawl growth patterns throughout the area. The FEIS interprets the similarity between the Build and No-Build scenario to signify that the Toll Road will not result in any adverse effects on water quality generally or to the Carolina heelsplitter's habitat specifically. But if anything, the pollution increases depicted in the modeling confirm that this

[8] *Quantitative Analysis, supra,* note 3, at 12.
[9] *See id.* at 50 ("the No-Build scenario findings show a 36 percent increase, while the Build Alternative findings show a 35 percent increase [in forest fragmentation] . . . This is a result of greater contiguous buildout (resulting in less fragmentation) in interchange areas.").
[10] *See id.* at 16 ("Distribution of induced development was determined based on capacity of available land, local plans, zoning and additional analysis.").

22 project would cause significant degradation, as it is a central feature of the growth characterized in both the Build and No-Build scenarios.

23 Indeed, keeping in mind that a true No-Build scenario is not presented in the FEIS, the analysis makes clear that the Toll Road would result in indirect and cumulative impacts to water quality and endangered species. For example, the baseline levels of impervious surfaces in two watersheds where the Carolina heelsplitter is found, Goose Creek and Sixmile Creek, are 13% and 25% respectively. The ICE Quantitative Analysis predicts impervious surfaces to increase in the Goose Creek watershed by 4% and in the Sixmile Creek watershed by 5% under both the 2030 No-Build and Build scenarios. Once again, since both scenarios are premised on the construction of major highway improvements, including the Toll Road, the modeling supports a conclusion that this project will contribute to impervious surface increases of 4% and 5% in the Goose Creek and Sixmile Creek watersheds respectively.

24 Using the findings from the ICE analyses, a biological assessment was prepared to determine the effects of the project on endangered species. However, in light of the flaws in those reports, the Biological Assessment ("BA") for this Project lacks sufficient information to justify the "May Affect, Not Likely to Adversely Affect" determination for the Carolina heelsplitter. The BA states that "the amount of imperviousness is expected to continue increasing" but that "these changes are independent of the project as there are no measurable changes in the level of imperviousness between build and no-build scenarios."[11] Again, this conclusion is unsupported because the 2030 No-Build and Build scenarios adopt the same baseline socioeconomic forecasts to predict impacts. And given that the modeling depicts increases in impervious surfaces in the Goose Creek and Sixmile Creek watersheds, an accurate assessment of the No-Build scenario could very well support a "May Affect, Likely to Adversely Affect" determination. Such a determination requires formal consultation with the United States Fish and Wildlife Service, and consideration of additional conservation measures, which may be required in designated watersheds.

25 The conservation measures proposed for the Goose Creek watershed and Carolina heelsplitter include funding of the USGS monitoring station at the US 601 crossing of Goose Creek and funding to the Carolina Heelsplitter Conservation Bank in Lancaster County, South Carolina.[12] We strongly support such measures, but more mitigation is warranted in the affected watersheds themselves. The BA notes that the baseline data indicate that the Goose Creek watershed is already above the unperviousness threshold at which habitat degradation begins to occur and seems to suggest that the watershed is a lost cause not worthy of additional conservation measures.[13] Because the Goose Creek watershed is designated critical habitat for the Carolina heelsplitter and identified as essential to recovery, measures must be implemented to begin restoring stream functions.

[11] Catena Group, *Biological Assessment of Carolina heelsplitter (Lasmigona decorata) and Designated Critical Habitat, Schweinitz's Sunflower (Helianthus schweinitzii), Michaux's Sumac (Rhus michauxii), and Smooth Coneflower (Echinacea laevigata)*, Monroe Bypass pg. 59 (May 25, 2010).
[12] *Id.* at 64.
[13] *See id.* at 63.

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Although there is a site-specific management plan that mandates buffer widths and other measures to protect the Goose Creek watershed from new development pressures, additional improvements could be made by retrofitting existing development to upgrade stormwater control measures. Much of the imperviousness already existing in the Goose Creek watershed resulted from development induced by other highway projects such as I-485. Given that the transportation agencies are responsible for the extent of existing development in the watershed, these agencies should fund mitigation measures to improve conditions. If the Turnpike Authority funded a stormwater retrofit program that would both preserve and enhance the environmental baseline to a level equating to a protective imperviousness threshold below 6%,[14] the stream function could be significantly improved in Goose Creek.

26

In closing, the FEIS does not provide the basis needed for a rational appraisal of this project's costs, benefits, or alternatives. We urge you to issue a new Draft EIS that addresses the issues raised by these comments and the comments of others.

Thank you for your consideration.

Sincerely,

David F. Farren
Senior Attorney

Kay Bond
Staff Attorney

Thomas Gremillion
Associate Attorney

[14] The BA notes that studies support a threshold of 10% but that the resource agencies recommend 6%. A new study by the USGS that included a study location in North Carolina indicates that even 5% imperviousness corresponds to a change of 13-23% from background conditions. Cuffney, Thomas, et al., *Responses of benthic macroinvertebrates to environmental changes associated with urbanization in nine metropolitan areas*, accepted for publication in Ecological Society of America Journal, available at http://pubs.usgs.gov/sir/2009/5049/pdf/Cuffney.pdf.

Table C-1: Southern Environmental Law Center

Document: i001 letter dated June 25, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
1	General	Given the fundamental deficiencies of the FEIS, we respectfully request and recommend that your agencies not issue a record of decision based on this document but instead initiate a new environmental review process, with an adequate Draft EIS, which answers the many questions that remain about this project - its benefits, costs and environmental impacts - and whether other alternatives, including common-sense upgrades to US 74, would be preferable.	The Draft and Final EIS conform to the requirements of NEPA and the regulations and guidelines of CEQ and FHWA. A new environmental review process is not required. The Final EIS provides updates to existing conditions, explains the reasons for selected the Preferred Alternative, updates impact analyses for the Preferred Alternative, summarizes additional studies performed for the Preferred Alternative including upgrades to US 74.
2	General	The FEIS does not meet the minimum criteria of NEPA or fulfill the dual purposes of an EIS: (1) to provide decision makers with enough information to aid in the substantive decision whether to proceed with a project in light of its environmental consequences; and (2) to provide the public with information and an opportunity to participate in gathering information.	The Final EIS conforms to the requirements of NEPA and the regulations and guidelines of CEQ and FHWA. Numerous public involvement opportunities were provided throughout the extent of this project. These opportunities are documented in Sections 1.4, 3.1 and 3.2 of the Final EIS.
3	Purpose and Need	As we indicated in our comments on the DEIS, the stated project purpose reduces to "build a freeway," which restates the specific project design rather than identifying an actual underlying purpose. Other comments lodged similar objections, pointing out the use of "high speed" as part of the statement of purpose and need unduly narrows the available range of projects to a controlled access freeway rather than upgrades to existing US 74. In response, the FEIS states that "[t]he term 'high speed' on its own… does not unduly narrow alternatives nor preordain any one particular alternative," because "several different types of facilities…, for example; controlled-access freeways, Superstreets, or even public transportation on a dedicated right of way," could facilitate "high-speed" travel at speeds of over 50 miles per hour (mph). (FEIS 3-7) This response is unconvincing.	The previous response to this comment which is included in Section 3.3.1 of the Final EIS is still valid. The term "high speed" in relation to this project is supported by numerous local and state plans, including the MUMPO *2035 LRTP*, the NC Intrastate System (NC General Statutes 136-178), and the NCDOT SHC initiative; as described in detail in Section 1 of the Draft EIS and *Final Statement of Purpose and Need for the Monroe Connector/Bypass*, (PBS&J February 2008) which is incorporated into the Final EIS by referenced.
4	Purpose and Need	The Transportation Agencies have yet to justify in specific terms how a freeway advances the objectives of these various plans in a way that other alternatives cannot, particularly targeted improvements to improve flow along the US 74 corridor. Nor does the FEIS include any data to support the various issues it identifies along US 74 - congestion, lengthy commute times, high percentage of truck traffic - or how the Toll Road would address those needs.	Existing and projected traffic and land use conditions along much of US 74 within the study area diminish its ability to function as part of the North Carolina Intrastate System or as a Strategic Highway Corridor, two of the purposes of this action. Identification and evaluation of all alternatives developed and considered is included in the *Alternatives Development and Analysis Report*, (PBS&J April 2008) and the *Upgrade Existing US 74 Technical Memorandum*, (HNTB, March 2009) which are both incorporated into the Final EIS by reference.

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5	Purpose and Need	The FEIS claims that the DEIS contains "supporting data on the needs to be addressed by the project." (App. B3-27) But the "data" supporting this project's purpose and need largely consist of inaccurate traffic forecasts. Those forecasts of traffic volume in the corridor have played a prominent role both in defining the Toll Road's purpose and in evaluating how it compares with various alternatives. In our comments on the DEIS, we noted that the "No Build" traffic forecasts describe an implausibly dire situation, in which the future traffic volumes of both US 74 and the planned Toll Road must squeeze onto US 74 alone. This error resulted primarily from the use of the same socio-economic forecasts for the project area under both the Build and No-Build scenarios. This error remains uncorrected and continues to distort the formulation of the Statement of purpose and need for the Toll Road.	This issue is addressed in Appendix A, Page A-2 and A-3 of the Final EIS. Traffic forecasts utilized in the No-Build analysis was reviewed and determined to be accurate. Traffic operational analyses of this project has determined that traffic along existing US 74 at the eastern and western termini will not experience unacceptable levels of service. The approved Metrolina Regional Travel Demand Model was used to develop both the Build and No-Build traffic forecasts. The Model contains all future highway improvements listed in the Mecklenburg – Union Metropolitan Planning Organizations (MUMPO) fiscally constrained 2030 transportation improvement program which was in effect at the time of the preliminary study. For the No-Build condition, links for the Monroe Connector/Bypass were deleted from the network to create the future No-Build Network. The use of the same socio-economic forecasts in the development of Build and No-Build traffic forecasts is a standard industry practice. It should be noted that the use of the same socio-economic data only applies to the traffic forecasts. A different methodology was utilized as part of the Indirect and Cumulative Effects analysis. Those methodologies can be found in the *Indirect and Cumulative Effects Quantitative Analysis* (Michael Baker Engineering, Inc, April 2010) which is included as Appendix G of the Final EIS.

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6	Purpose and Need	The FEIS concedes a significant error in the traffic forecasting presented in the DEIS, but it leaves many other erroneous forecasts in place and fails to revisit the analysis that these forecasts inform. In our comments on the DEIS, we pointed out that the 2030 No-Build traffic projections cited in the statement of purpose and need predict traffic increases of "about 30 to 35 percent along the corridor from 2007 to 2030," even though these same traffic studies indicate that the existing conditions along the US 74 corridor "operate at an undesirable LOS E or F." (DEIS 1-20). We similarly questioned the plausibility of projections for the 2035 No-Build scenario, which estimates the traffic volumes will reach more than double the roadway capacity of various segments along US 74.	This issue is addressed in Appendix A, Page A-2 and A-3 of the Final EIS. Following review of the data, it was determined that the 2030 No-Build Alternative forecast and analyses were correct. These were used to document the purpose and need for the project; therefore, documentation related to the traffic need for the project included in Section 1 of the Draft EIS remained valid. The 2035 Build Alternative traffic forecast and analyses were also determined to be correct. This forecast was used for development and analysis of the Detailed Study Alternatives. The review at that time did determine that the 2035 No-Build Alternative forecast was inadvertently overestimated. A revised No-Build Alternative forecast for years 2008 and 2035 was prepared to correct this error and was documented in *Revised Monroe Connector/Bypass No-Build Traffic Forecast Memo* (HNTB, 2010). Section 2.6 of the Draft EIS was reviewed, and other than corrections to Table 2-7 noted in Appendix A –Errata of the Final EIS, all other conclusions and discussions remain valid. No additional corrections are necessary.
7	Purpose and Need	The FEIS now concedes in an appendix that the "2035 No-Build Alternative forecast was inadvertently overestimated and it presents corrected estimates in a table. (FEIS A-3). In many cases, the prior forecasts are nearly double the revised traffic volumes. This substantial discrepancy indicates that the DEIS presented a skewed analysis of the need for additional highway capacity in the project area. Yet the Transportation Agencies have not revised their analysis of purpose and need, or any other part of the DEIS, maintaining that "other than corrections noted below for Table 2-7, all other conclusions and discussions remain valid." *Id.* The logic is flawed.	See response to Comment 6 in the Southern Environmental Law Center letter (i001).
8	Analysis of Alternatives	The FEIS continues to promote a flawed analysis of alternatives that unjustifiably omits serious consideration of a combination of feasible upgrades to US 74, access management, improved secondary road connectivity, and increased transit and freight rail in the project area. Such an alternative appears more effective than the Toll Road using virtually any measurable, objective criteria based on the needs of existing communities in the project area.	See response to Comment 4 in the Southern Environmental Law Center letter (i001).

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Document: i001 letter dated June 25, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
9	Analysis of Alternatives	In our previous comments, we pointed out that the Transportation Agencies ignored a study recently commissioned by NCDOT, the "Stantec Study," which showed that targeted upgrades along US 74 could greatly reduce congestion at a fraction of the Toll Road's cost to the public. To address this omission, the FEIS now includes a brief discussion of the Stantec study. But the FEIS dismisses the proposed upgrades because "these improvements would not result in high-speed travel through the corridor in 2015." (FEIS 3-14). In other words, upgrading US 74 would not meet the project purpose of building a freeway. The FEIS fails to explain, however, how upgrading US 74 would not address the underlying needs – i.e. congestion relief, reduced commute times, increased freight capacity, etc. - that building a freeway might remedy.	This issue was addressed in response to Comment 8 of your June 15, 2009 letter in regard to the Draft EIS. The *US 74 Corridor Study* (Stantec, 2007) is discussed in detail in Final EIS **Section 3.3.2** under "Comment 2" as TSM Alternative Concept 2. The referenced study only recommends short-term improvements to US 74 that would achieve LOS D at intersections along the roadway based on year 2015 traffic forecasts. The Monroe Connector/Bypass addresses identified transportation needs through 2035. Proposed improvements required in the 2035 Design Year to existing US 74 are discussed in *Upgrade Existing US 74 Technical Memorandum*, (HNTB, March 2009) which is incorporated into the Final EIS by reference.
10	Analysis of Alternatives	The FEIS also explains that "a comparison of the year 2015 traffic volumes used in the US 74 Corridor Study to the year 2035 No-Build volumes used in the Monroe Connector/Bypass Draft EIS, shows that the volumes in 2035 along US 74 would generally be more than double the 2015 traffic volumes." *Id.* This is a major flaw in the analysis.	See response to Comment 6 in the Southern Environmental Law Center letter (i001).

Table C-1: Southern Environmental Law Center

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COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
11	Analysis of Alternatives	In rejecting an alternative of combined upgrade and transit strategies, the FEIS fails to disclose information that is available, such as the $14 million price tag for the improvements detailed in the Stantec study. Instead, the FEIS includes an almost verbatim reproduction of the DEIS' discussion of "TSM measures, TDM alternatives, and Mass Transit/Multi-Modal alternatives," concluding "[c]ombining a Mass Transit Alternative concept with other modes also would not be practicable" because it "would add substantial costs to any alternative that includes road improvements, but would do very little to improve traffic flow on US 74." (3-15) Like the DEIS, the FEIS presents scant support for this conclusion. Moreover, considering that the Toll Road would siphon off $24 million from the Highway Trust Fund every year for the next 30 years, require the state to guarantee hundreds of millions of dollars of additional, highly speculative "toll revenue" debt, and force area drivers to pay hefty tolls for both the highway's construction and ongoing maintenance, the Transportation Agencies should clarify what is meant by "substantial costs."	Proposed improvements to existing US 74 are discussed in *Upgrade Existing US 74 Technical Memorandum*, (HNTB, March 2009) which is incorporated into the Final EIS by reference. As stated on page iv under *Need for Study* of the US 74 Corridor Study (Stantec, 2007), this study was a result of continued delays to the Monroe Bypass project. "These delays have resulted in an immediate need to address traffic operational issues It was prepared to address traffic operational issues along the highly congested US 74 corridor with the goal to improve safety and efficiency of the existing roadway infrastructure until construction of the Monroe Bypass can begin. Without any improvements, US 74 will be operating at an unacceptable Level-of-Service (LOS) at most signalized intersections by year 2015. This vital transportation corridor will be in critical need of additional through lanes on US 74 or alternate routes will need to be identified to meet the demands of the public." The goal of the study was to identify and develop improvements that, where possible, would provide a LOS of D or better for projected 2015 traffic. The intent of that study was not to serve as a replacement for the Monroe Connector/Bypass.
12	Substantial Increases in Vehicle Miles Traveled (VMT)	Even though the FEIS includes new "No-Build" traffic forecasts that nearly halve previous estimates of traffic volume along US 74, it nevertheless maintains that estimates of VMT based on the previous, erroneous figures are still valid. According to the FEIS, "VMT experienced a slight decrease in the 'Build' Scenario" because the Toll Road is slightly straighter than US 74, and the 'vehicles that were previously accessing US 74 from the north now have a shorter route to the Monroe Connector/Bypass." (3-18) This explanation sheds light on how a computer model could have erroneously predicted that building a 20-mile long toll road to access a sparsely developed area on the metro fringe will reduce traffic volume. It does not, however, show that the modeling is even remotely accurate. In fact, it reveals the failure to consider the role of new highway capacity in generating additional travel.	VMTs are outputs provided by the Metrolina Regional Traffic Model which represents those projects identified as part of the 2035 Long Range Transportation Plan. There is no relationship between the No-Build traffic forecasts and VMTs.

Table C-1: Southern Environmental Law Center

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COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
13	Substantial Increases in Vehicle Miles Traveled (VMT)	The claim that the Toll Road will reduce VMT is inconsistent with the revised traffic volume estimates presented in the FEIS. Those projections indicate that traffic volumes would increase substantially under the Build scenario. For example, the revised DEIS Table 2-7 (Appendix A-3) estimates traffic on US 74 near Stallings Road for the 2035 No Build scenario at 86,300 vehicles per day (vpd). It estimates the combined traffic on US 74 and the Toll Road under the Build scenario at 135,600 (67,400 plus 48,200, respectively), thus, according to the revised forecast, building the Toll Road would result in an increase of over 57% in traffic volume along the US 74 corridor, which could be expected to cause an overall VMT increase of similar magnitude. The claim that the Monroe Connector/Bypass will reduce VMT is based on the 2035 No-Build Alternative traffic forecasts, documented in *Traffic Forecast for TIP Projects R-329 and R-2559, Monroe Connector/Bypass* (Wilbur Smith Associates, September2008), which the FEIS acknowledges to be erroneous.	See response to Comment 12 in the Southern Environmental Law Center letter (i001).
14	Substantial Increases in Vehicle Miles Traveled (VMT)	The substantial increases in VMT that would result from this project have far-reaching implications for air quality, energy consumption, and overall quality of life in the Charlotte region. These impacts must be considered in a new Draft EIS. In order to be meaningful, the analysis of this project must rely on different land use forecasts to compare the build and no-build alternatives. In response to SELC's comments, the Transportation Agencies point to a new consultant's study which renders a "quantitative analysis" of this project's secondary impacts. But the study's first "analytical assumption" states "[r]egional TAZ forecasts for 2030 households (i.e., number of dwelling units) and employment (i.e., number of jobs) served as the primary sources of data for developing the 2030 No Build land use estimate." These TAZ forecasts are based on an assumption that the Toll Road will be built. The study uses forecasts of sprawl growth patterns, which would be facilitated by the Toll Road, to predict the impacts associated with not building the toll road. This does not satisfy NEPA.	TAZ socioeconomic forecasts for the No Build Scenario did not include the Monroe Connector. MUMPO confirmed our assumption regarding the reasonableness of the 2030 TAZ forecasts for use as a No Build basis. VMTs in Union County are predicted to increase 22,000 or 0.2% as a result of this project. This is not considered a significant increase. In addition, Vehicle Hours Travelled (VHTs) are predicted to decrease by 2800 or 1.1%.

Table C-1: Southern Environmental Law Center

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COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
15	Air Quality	In our comments on the DEIS, we noted various deficiencies in the analysis of carbon monoxide, ozone, and mobile source air toxics (MSATs) related to this project. The FEIS fails to address these deficiencies. As explained above, the FEIS continues to falsely claim that the Toll Road would reduce VMT in the projected area, severely distorting the air quality analysis. Instead, the Transportation Agencies must fully consider and disclose the risks of localized pollution associated with the substantial traffic growth caused by this project. They must also disclose how the increased VMT and sprawl growth patterns facilitated by this project would exacerbate the area's smog problem.	The air quality impacts at the project level on carbon monoxide and ozone were determined using an analysis appropriate according to FHWA guidance, and found no impacts requiring mitigation. In addition, MUMPO'S *2035 LRTP* includes the proposed project as a toll facility consistent in design concept and scope with the Preferred Alternative. A conformity determination for carbon monoxide and ozone was issued by USDOT on May 3, 2010. The mobile source air toxics (MSAT) qualitative analysis included in Appendix E of the Final EIS was conducted in accordance with the February 3, 2006 Federal Highway Administration Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents which was updated on September 30, 2009. As a result of the qualitative MSAT analysis, it is expected there would be either minor changes or a slight reduction in MSAT emissions in the immediate area of the project, relative to the No-Build Alternative. In comparing the alternatives, MSAT levels could be higher in some locations than others, but current tools and science are not adequate to quantify them. On a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today. Based on these findings, no MSAT mitigation is warranted.

Table C-1: Southern Environmental Law Center

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COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
16	Air Quality	The FEIS also claims that "[it] is technically infeasible to accurately model the negligible increases or decreases of carbon dioxide emissions at a project level," and that "the results of such an analysis would not be likely to inform decision-making at the project level, while adding considerable administrative burdens to the NEPA process." (FEIS 3-20). In fact, calculating the tons of greenhouse gas (GHG) emissions that this project would create would require little more than an accurate traffic volume forecast and an estimate of average fuel efficiency standards for the overall vehicle fleet. Moreover, as recent federal regulations have requested that estimates of greenhouse gas emissions factor into cost-benefit analyses for transportation infrastructure projects, the FEIS is inconsistent with current federal transportation project review practices.	This issue was addressed in response to Comment 39 and 40 of your June 15, 2009 letter in regard to the Draft EIS. From a NEPA perspective, it is analytically problematic to conduct a project-level cumulative effects analysis of greenhouse gas emissions on a problem that is global in nature. It is technically infeasible to accurately model the negligible increases or decreases of carbon dioxide emissions at a project level and to determine how these changes would contribute to the global issue. Typically, the amount of carbon dioxide emitted by vehicles on a project corridor amount to less than one-tenth of one percent of the total global carbon dioxide emissions. Given the level of uncertainty involved, the results of such an analysis would not be likely to inform decision-making at the project level, while adding considerable administrative burdens to the NEPA process. The scope of any such analysis, with any results being purely speculative, goes far beyond the disclosure of impacts needed to make sound transportation decisions. FHWA believes this approach meets the stated purpose of NEPA. In accordance with CEQ regulations, agencies should concentrate on the analyses of issues that can be truly meaningful to the project decision, rather than simply amassing data (40 CFR 1502.2 and 1502.15).

Table C-1: Southern Environmental Law Center

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COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
17	Indirect and Cumulative Impacts	Our comments on the DEIS pointed out the contradiction between the agencies' claim that the Toll Road would reduce VMT, yet spur development primarily in the eastern-most section of the project study area. In general, we objected to the conclusory nature of the DEIS analysis, including its characterization of areas surrounding endangered species habitat as "almost completely developed." (DEIS 7-9) The FEIS now includes a new, quantitative report on indirect and cumulative effects, which similarly concludes that construction of the Toll Road and its many planned intersections would result in "no measurable difference in percent impervious cover" in the study area, and "no direct or indirect effects within the Goose Creek or Sixmile Creek watersheds." The analysis in these reports, like that of the DEIS, is flawed.	See response to Comments 6 and 14 in the Southern Environmental Law Center letter (i001). There is no substantial difference between the Build and the No-Build Scenario, in large part because of the magnitude of the expected growth in the Future Land Use Study Area (FLUSA) under the No-Build Scenario. According to the U.S. Census Bureau Population Division, between April 1, 2000 and July 1, 2009, Union County was the fourteenth fastest growing county in the United States with a 60.5 percent increase in population, and this growth is not predicted to subside. The North Carolina State Office of Budget and Management predicts the population of Union County will increase an additional 48 percent by 2030. Close proximity to Charlotte, the regional employment center, has spurred much of the population growth in Union County. The Monroe Connector/Bypass project has been planned and studied for many years, without being implemented, yet growth in the area has continued to accelerate. As evidenced by the analysis in the *Indirect and Cumulative Effects Quantitative Analysis* (Michael Baker Engineering, Inc, April 2010), it has been concluded that this growth is likely to continue with or without the Monroe Connector/Bypass. The expected growth in developed land from the Baseline to the No-Build is 34%. The relatively small incremental increase (1%) expected between the No-Build and Build is, therefore, not substantial.
18	Indirect and Cumulative Impacts	As indicated above, the FEIS quantitative analysis report inflates estimates of cumulative and indirect effects under the No-Build scenario because it adopts the same baseline socioeconomic forecasts that were developed to predict traffic under the Build scenario. Internal inconsistencies in the FEIS attest to the faulty logic of this analysis. For example, the FEIS "Qualitative Indirect and Cumulative Effects Assessment" reports that population in the easternmost areas of the project area "could actually decline" if the Toll Road is not built. The FEIS quantitative analysis report, however, assumes that development and development-related impacts will continue to proceed in these areas even without the Toll Road. Again, this is because, as the report explains, "[f]uture development was largely calculated based on growth in households and unemployment as predicted in the MUMPO TAZ forecasts…" And these forecasts assume that growth will be facilitated by various road improvements, including the Monroe Connector/Bypass. Not surprisingly, the analysis based on these assumptions yields a finding that "the vast majority of indirect development occurring in the Study Area by 2030 will occur with or without the Monroe Connector/Bypass project."	See response to Comments 6, 14 and 17 in the Southern Environmental Law Center letter (i001).

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COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
19	Indirect and Cumulative Impacts	The failure of the FEIS to address mitigation measures adequately further warrants a new Draft EIS. The FEIS includes a lengthy citation to the Council on Environmental Quality (CEQ) "NEPA 40 Frequently Asked Questions," which clarifies that the agencies must identify "all relevant, reasonable mitigation measures… even if they are outside the jurisdiction of the lead agency," and discuss "the probability of the mitigation measures being implemented." (FEIS 3-21) Following this citation, one would expect a discussion of measures that other state agencies and local municipalities have taken and may take in the future to mitigate development-related impacts, such as stormwater runoff. The discussion might identify, for example, the likelihood that existing measures in the Goose Creek site-specific management plan will remain in place, and the likelihood of new measures taking place, such as stormwater retrofit programs to mitigate impacts associated with existing development.	Mitigation is discussed in Section 2.5.4.4 of the Final EIS and the *Review for Potential On-Site Mitigation,* (ESI, January 2010) which is incorporated into the Final EIS by reference. Additional mitigation measures considered are also discussed in **Section 4** of the ROD.
20	Indirect and Cumulative Impacts	The FEIS, however, fails to identify a single mitigation measure in the current affected area. And it fails to discuss the probability of state or local agencies implementing or continuing to implements current or potential measures, instead asserting that it is not necessary to discuss mitigation because there is "little difference" between the Build and No-Build scenarios. This conclusion, in turn, is based on the quantitative analysis of indirect and cumulative impacts, which explains that "it is assumed that mitigation requirements would offset any impacts" resulting from exemptions to stream buffer rules. In other words, because the FEIS assumes that effective mitigation measures will be implemented, there is little difference between the Build and No-Build scenarios, and thus no need to discuss whether effective mitigation measures will in fact be implemented.	See response to Comment 19 in the Southern Environmental Law Center letter (i001).

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COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
21	Indirect and Cumulative Impacts	Various other assumptions in the FEIS analysis of indirect and cumulative impacts deserve reconsideration. With scant support, the FEIS assumes that development would concentrate around the intersections of the Toll Road to such an extent that higher density development patterns would result in a reduction of forest fragmentation compared to the No Build scenario. This claim strains credulity. One need look no further than the project area itself, and the pervasive of low-density development spurred by 1-485, to discredit this farfetched theory. Similarly, the FEIS's assumptions that the various local zoning and land use restrictions will remain static despite development pressures is "so utterly devoid of common sense and inconsistent with NEPA that it cannot be taken seriously." Mullin v. Skinner, 756 F. Supp. 904, 921 (E.D.N.C. 1990).	Forest fragmentation difference is extremely small between the two scenarios relative to the overall forest edge and so the critical conclusion is that the difference is not substantial. Forested habitat fragmentation was addressed through a patch analysis which measured the amount of edge between forested patches and developed patches in the Baseline and future conditions. These comparisons are presented in Table 25 of the *Indirect and Cumulative Effects Quantitative Analysis* (Michael Baker Engineering, Inc, April 2010). The North Carolina Gap Analysis Project (NCGAP) categories used to define the forested lands were the same as those identified in Section 6.3 of the *Indirect and Cumulative Effects Quantitative Analysis*. The methodology used to distribute land use effects in the ICE analysis by definition creates a greater fragmentation of developed parcels than would be expected to occur with a typical process of land development in the future; therefore, the fragmentation effects should be considered high and conservative to a large extent. As to the various local zoning and land use restrictions, it was assumed that zoning and land use plans would be updated to reflect higher densities and higher intensity land uses around interchange areas under a Build Scenario. Had the assumption been that existing zoning and land use plans remained static under a Build Scenario, substantially less development would have been projected in the interchange areas as existing zoning and future land use plans for most jurisdictions in the FLUSA reflect lower development expectations than those reflected in the Build Land Use Scenario. Detailed methodology regarding Future Land Use can be found in Section 3.4 of the *Indirect and Cumulative Effects Quantitative Analysis.*

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COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
22	Water Quality and Endangered Species	The FEIS fails to address the concerns we raised in our comments on the DEIS regarding the induced growth impacts of this project on water quality and endangered species habitat. Although the FEIS include quantitative analyses of these impacts, the flawed nature of these analyses confounds any precise assessment of the Toll Road's real impacts for reasons discussed above. The Indirect and Cumulative Effects Quantitative Analysis and Water Quality Analysis conclude that the impervious surface increases, streamflow, runoff, and pollutant loadings of 2030 No-Build and 2030 RPA scenarios are equal. Again, such a result is not surprising given that both scenarios assume that major new highway capacity, including this project, will be built in the area and will result in sprawl growth patterns throughout the area. The FEIS interprets the similarity between the Build and No-Build scenario to signify that the Toll Road will not result in any adverse effects on water quality generally or to the Carolina heelsplitter's habit specifically. But if anything, the pollution increases depicted in the modeling confirm that this project would cause significant degradation, as it is a central feature of the growth characterized in both the Build and No-Build scenarios.	See response to Comments 6, 14 and 17 in the Southern Environmental Law Center letter (i001).
23	Water Quality and Endangered Species	Indeed, keeping in mind that a true No-Build scenario is not presented in the FEIS, the analysis makes clear that the Toll Road would result in indirect and cumulative impacts to water quality and endangered species.	See response to Comments 6, 14 and 17 in the Southern Environmental Law Center letter (i001).
24	Water Quality and Endangered Species	Using the findings from the ICE analyses, a biological assessment was prepared to determine the effects of the project on endangered species. However, in light of the flaws in those reports, the Biological Assessment ("BA"') for this Project lacks sufficient information to justify the "May Affect, Not Likely to Adversely Affect" determination for the Carolina heelsplitter. The BA states that "the amount of imperviousness is expected to continue increasing" but that "these changes are independent of the project as there are no measurable changes in the level of imperviousness between build and no-build scenarios." Again, this conclusion is unsupported because the 2030 No-Build and Build scenarios adopt the same baseline socioeconomic forecasts to predict impacts. And given that the modeling depicts increases in impervious surfaces in the Goose Creek and Sixmile Creek watersheds, an accurate assessment of the No-Build scenario could very well support a "May Affect, Likely to Adversely Affect" determination. Such a determination requires formal consultation with the United States Fish and Wildlife Service, and consideration of additional conservation measures, which may be required in designated watersheds.	See response to Comments 6, 14 and 17 in the Southern Environmental Law Center letter (i001). Informal consultation with United States Fish and Wildlife Service occurred resulting in a Biological Conclusion of "May Affect, Not Likely to Adversely Affect" on July 29, 2010.

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COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
25	Water Quality and Endangered Species	The conservation measures proposed for the Goose Creek watershed and Carolina heelsplitter include funding of the USGS monitoring station at the US 601 crossing of Goose Creek and funding of the Carolina Heelsplitter Conservation Bank in Lancaster County, South Carolina. We strongly support such measures, but more mitigation is warranted in the affected watersheds themselves. The BA notes that the baseline data indicate that the Goose Creek watershed is already above the imperviousness threshold at which habitat degradation begins to occur and seems to suggest that the watershed is a lost cause not worthy of additional conservation measures. Because the Goose Creek watershed is designated critical habitat for the Carolina heelsplitter and identified as essential to recovery, measures must be implemented to begin restoring stream functions.	The purpose of including the statements regarding the exceeding of the imperviousness threshold is simply to convey the existing conditions (Environmental Baseline) of the watershed, and in **no way** should be taken to imply that the watershed is a "lost cause". As the Endangered Species Act Section 7 Consultation guidance indicates the Environmental Baseline is an essential component of a BA, and the "Best Available Scientific and Commercial Data" is to be used when preparing a BA. The threshold level that was highlighted is what is currently accepted by the scientific community as being needed to sustain populations of sensitive aquatic species. Failing to point out that both Goose Creek and Six Mile Creek currently exceed the imperviousness threshold would be a misrepresentation of the Environmental Baseline. It is true that Goose Creek is essential to the recovery of the species, and significant measures must be taken by multiple parties to restore stream habitat and function, and eventually the Carolina heelsplitter population. NCTA and FHWA feel that the amount of conservation measures proposed as part of this action are sufficient given the minimal amount of adverse impacts that are projected to be attributable to the project.
26	Water Quality and Endangered Species	Although there is a site-specific management plan that mandates buffer widths and other measures to protect the Goose Creek watershed from new development pressures, additional improvements could be made by retrofitting existing development to upgrade storm water control measures. Much of the imperviousness already existing in the Goose Creek watershed resulted from development induced by other highway projects such as I-485. Given that the transportation agencies are responsible for the extent of existing development in the watershed, these agencies should fund mitigation measures to improve conditions. If the Turnpike Authority funded a stormwater retrofit program that would both preserve and enhance the environmental baseline to a level equating to a protective imperviousness threshold below 6%, the stream function could be significantly improved in Goose Creek.	NCTA and FHWA will coordinate with USACE and NCDENR-DWQ to determine appropriate mitigation requirements through the permitting process. Compensatory mitigation is planned to be provided through the NC EEP in-lieu fee program. In addition, the NCTA and FHWA will implement BMPs in accordance with the NCDOT's *Design Standards in Sensitive Watersheds* to minimize water quality impacts.

Ms. Jennifer Harris, PE
North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh, North Carolina 27699-1578

Re: Questions & comments regarding the FEIS for the Monroe Connector/Bypass STIP R-3329 & R-2559

1 The EPA is set to finalize the 2008 reconsidered 8 hour Ozone NAAQS on August 31, 2011, which is anticipated to range from 0.060 – 0.070 parts per million (ppm). How can the Charlotte Metro area possibly meet this standard in the future with the construction of this facility, and others, proposed in the area? This additional road construction will certainly increase the vehicle miles traveled, and additional ozone pre-cursors (NOx and VOC) to an area that has shown difficulty maintaining the 1997 8- hour Ozone standard at 0.085ppm. The 2009 monitoring data for Mecklenburg and Union County showed improvements, largely due to favorable weather conditions, and the economic down-turn.

2 Who is to say the economic conditions will not turn the new toll facility into the road less taken, despite any major improvements taken place (most likely never will) to Highway 74. The Connector 2000 Association Inc. filed for Chapter 9 bankruptcy. The nonprofit operates the Southern Connector (Toll Road) in Greenville SC. Even after toll rates were increased in 2005 and 2009, they could not generate enough revenue. Everyone in North Carolina is aware of the gas tax, the highest in the southeast. Everyone is also aware that revenues for the Department of Transportation are declining and there is little political will to raise taxes. The State's overall financial situation is no better. My concern is that by borrowing (TIFIA loans) and selling bonds and paying them back with toll revenue, will have the same result, as what happened to Greece(defaulted on loans creating junk bonds). Who is to say that investment banks could not open debt-masking derivatives for NC road debt, to make a huge profit, at the taxpayer's expense? Would the credit rating for NC and its entire Counties decline? The Short term gain in jobs for these road projects will pail when businesses decide the extra taxes will hurt the bottom line, so

2 they will leave and take the jobs with them. The economic reality is that this is a project that North Carolina cannot afford.

Currently Mecklenburg County is 14.9µg/m3 for the annual standard for PM 2.5. On February 24, 2009, the U.S. Court of Appeals for the D.C. Circuit remanded the National Ambient Air Quality Standards (NAAQS) for fine particulate matter (PM2.5) to EPA for reconsideration of the annual level of the standard (which EPA left at 15 micrograms per cubic meter (µg/m3)) and reconsideration of the secondary PM2.5 NAAQS. With respect to the annual PM2.5 NAAQS, the court held that the agency "failed to explain adequately why an annual level of 15 µg/m3 is 'requisite to protect the public health,' including the health of vulnerable subpopulations, while providing 'an adequate margin of safety.' 42 U.S.C. § 7409(b)(1)." The Clean Air Scientific Advisory Committee Recommendations Concerning the Final Rule for the National Ambient Air Quality Standards for particulate matter was between 12 and 14 µg/m3 and had this to say: " The CASAC recommended changes in the annual fine-particle standard because *there is clear and convincing scientific evidence that significant adverse human-health effects occur in response to short-term and chronic particulate matter exposures at and below 15 µg/m*^{3}*, the level of the current annual PM*$_{2.5}$ *standard.* The current administration stated that they would use sound science and the rule of law, and follow the advice of scientific advisors in

making their decisions. Based on previous monitoring data, an annual standard of 12 and 14 µg/m3 would place the Charlotte Metro area in non-attainment for particulate matter. Recently, North Carolina was successful in an injunction against the Tennessee Valley Authority and successful in litigation against EPA regarding the Clean Air Interstate Rule. The TVA was required to install millions of dollars in pollution control equipment for a few facilities to prevent particulate matter from affecting the health of NC citizens. I find it more than disingenuous that the State of North Carolina does not do more regarding mobile source emissions and to maintain an increased separation from these harmful emissions (PM & MSATS) that occur in the breathing zone

Could the FHWA give a detailed explanation of their rational for dismissing hundreds of independent peer reviewed studies of near roadway exposures of vehicular pollutants, as well as, all the studies below, as irrelevant to the proposed federal actions?

According to the final technical air quality memorandum, the FHWA had this to say about unavailable or incomplete information: "Some recent studies have reported that proximity to roadways is related to adverse health outcomes, particularly respiratory problems[3,4]. Much of this research is not specific to MSATs, instead surveying the full spectrum of both criteria and other pollutants. The FHWA cannot evaluate the validity of these studies, but more importantly, they **do not provide information that would be useful to alleviate the uncertainties listed above and enable us to perform a more comprehensive evaluation of the health impacts specific to this project.**"

3 South Coast Air Quality Management District, Multiple Air Toxic Exposure Study II (2000); Highway Health Hazards, The Sierra Club (2004) summarizing 24 Studies on the relationship between health and air quality); NEPA's Uncertainty in the Federal Legal Scheme Controlling Air Pollution from Motor Vehicles, Environmental Law Institute, 35 ELR 10273 (2005) with health studies cited therein.
4 Department of Preventive Medicine, University of Southern California Los Angeles, Gauderman et. al. *Effect of exposure to traffic on lung development from 10 to 18 years of age: a cohort study.* The Lancet, (2007).

Miller KA, Siscovick DS, Sheppard L, Shepherd K, Sullivan JH, Anderson GL, Kaufman JD. Long-term exposure to air pollution and incidence of cardiovascular events in women. *N Engl J Med* 2007; 356:447-458 Dockery DW and Stone PH. Cardiovascular Risks from Fine Particulate Air Pollution *N Engl J Med* 2007; 356:511-513.)

Pope, C. Arden III. Mortality effects of longer term exposures to fine particulate air pollution: review of recent epidemiological evidence. Inhalation Toxicology 2007; 19 (Suppl. 1): 33-38.

Schwartz J, Coull B, Laden F, Ryan L. The Effect of Dose and Timing of Dose on the Association between Airborne Particles and Survival. *Environ Health Perspect* 2008; 116:64-69

Samet, Jonathan M. (2007) 'Traffic, Air Pollution, and Health', Inhalation Toxicology, 19:12, 1021 – 1027)

Adar, S. D. and Kaufman, J. D. 2007 'Cardiovascular Disease and Air Pollutants: Evaluating and Improving Epidemiological Data Implicating Traffic Exposure', Inhalation Toxicology, 19:1, 135–149

PM2.5 exposure has significant negative impacts on human health, even when the exposure occurs at levels at or below the NAAQS (Transcript at 1076-77; NC Exh. 467 at 1, 3) NC Exh. 242 is a 2006 expert report commissioned by the EPA for reasons entirely unrelated to this lawsuit. In light of the resulting objectivity, the Court finds the report to be uniquely compelling in the area of premature mortality resulting from PM2.5 exposure

Premature Mortality Exposure to – and inhalation of – air containing PM2.5 is 90-100% certain to cause premature mortality in humans (Transcript at 1037-38, 1130-31; NC Exh. 242 at viii, 3-23, 3-24.5)
(include all transcripts submitted in the DEIS relating to this TVA vs NC nuisance in FHWA response)

Künzli N, Jerrett M, Garcia-Esteban R, Basagaña X, Beckermann B, et al. (2010) Ambient Air Pollution and the Progression of Atherosclerosis in Adults. PLoS ONE 5(2): e9096. doi:10.1371/journal.pone.**0009096** **The paper is the first to link automobile and truck exhaust to the progression of atherosclerosis -- the thickening of artery walls -- in humans. The study was conducted by researchers from USC and UC Berkeley, along with colleagues in Spain and Switzerland.**

Jerrett et al "Long-Term Ozone Exposure and Mortality," New England Journal of Medicine, Volume 360:1085-1095. March 12, 2009, number 11).
http://content.nejm.org/cgi/content/abstract/360/11/1085

Ryan, Patrick H. and LeMasters, Grace K. (2007) 'A Review of Land-use Regression Models for Characterizing Intra urban Air Pollution Exposure', Inhalation Toxicology, 19:1, 127 - 133

Traffic related pollutants in Europe and their effect on allergic disease
Joachim Heinrich and Heinz-Erich Wichmann
Curr Opin Allergy Clin Immunol 4:000–000. # 2004 Lippincott Williams & Wilkins

The concentration of benzene in air samples from metropolitan areas was 0.58 ppb, but this does not address near roadways concentrations. A Minimum Risk Level of 0.003 ppm has been derived for chronic- duration inhalation exposure (≥1 year). It is not known if children are more susceptible to benzene poisoning than adults"
(http://www.atsdr.cdc.gov/toxguides/toxguide-3.pdf)

Qing L., L. Zhang, M. Shen, W.J. Jo, R. Vermeulen, G. Li, C. Vulpe, S. Lim, X. Ren, S.M. Rappaport, S.I. Berndt, M. Yeager, J. Yuenger, R.B. Hayes, M. Linet, S. Yin, S. Chanock, M.T. Smith, and N. Rothman. 2009. Large-scale evaluation of candidate genes identifies associations between DNA repair and genomic maintenance and development of benzene hematotoxicity. *Carcinogenesis* ; 30(1) :50-58. Available online: DOI: 10.1093/carcin/bgn249

Rappaport, S.M., S. Kim, Q. Lan, R. Vermeulen, S. Waidyanatha, L. Zhang, G. Li, S. Yin, R.B. Hayes, N. Rothman, and M.T. Smith. In Press (Online 18 February 18, 2009). Evidence that Humans Metabolize Benzene via Two Pathways. *Environmental Health Perspectives* DOI:10.1289/ehp.0800510
Available online: http://www.ehponline.org/docs/2009/0800510/abstract.html

Ren X, Lim S, Smith MT, Zhang L. 2009. Werner syndrome protein, WRN, protects cells from DNA damage induced by the benzene metabolite hydroquinone. *Toxicol Sci* ; 107(2) :367-75. Available online: http://www.ncbi.nlm.nih.gov/pubmed/19064679

The EPA states: "Several studies have measured elevated concentrations of pollutants emitted directly by motor vehicles near roadways as compared to overall urban background levels.

Elevated concentrations of particulate matter, criteria pollutants, and mobile source air toxics, through monitoring, have been found to be significantly higher within 1000 to 1500 feet (particulate matter) from a major roadway. Meteorology, traffic type and volume, and topography are factors that can alter this distance. Pollutants measured with elevated concentrations include benzene, polycyclic aromatic hydrocarbons, carbon monoxide, nitrogen dioxide, black carbon, and coarse, fine, and ultra fine particulate matter. Meteorology, traffic type and volume, and topography are factors that can alter this distance**. Motor vehicle emissions generally occur within the breathing zone, and near- road populations can be exposed to "fresh" primary emissions as well as combustion pollutants "aged" in the atmosphere.** The EPA found that elevated exposures can occur due to potentially increased concentrations indoors and increased exposures during outdoor activities from many sources, including vehicle exhaust. A review of the literature determined that approximately 100% of gaseous compounds, such as benzene can penetrate indoors, and approximately 80% of diesel particulate matter can penetrate indoors. Studies suggest that ambient temperature variation can also affect particle number gradients near roads substantially. Wind direction also affects traffic-related air pollution mass concentrations inside and outside schools and homes near motorways. Diurnal variations in mixing layer height will also influence both near- road and regional air pollutant concentrations. Decreases in the height of the mixing layer (due to morning inversions, stable atmosphere, etc.) will lead to increased pollutant concentrations at both local and regional scales. Children may represent a subpopulation at increased risk from benzene exposure, (as well as particulate matter, Gauderman et al.) due to factors that could increase their susceptibility. Children have a higher unit body weight exposure because of their heightened activity patterns which can increase their exposures, as well as different ventilation tidal volumes, and frequencies, factors that influence uptake. This could entail a greater risk of leukemia and other toxic effects to children if they are exposed to benzene at similar levels as adults" (Control of Hazardous Air Pollutants from Mobile Sources Chapter EPA February 2007).

3 The FHWA needs to explain, in detail, there rational for dismissing this information as irrelevant to the proposed federal action. The FHWA response below also needs further explanation:

The 2006 guidance was updated on September 30, 2009. The updated guidance is discussed in **Section 2.5.2.2** of the Final EIS. The FHWA will continue to revise and update this guidance as the science on air toxic analysis continues to evolve. The range of 140,000-150,000 AADT was selected as a criterion for considering a quantitative MSAT analysis because through use of USEPA's MOBILE 6.2 emissions model, FHWA staff determined that this range of AADT would be roughly equivalent to the Clean Air Act definition of a major hazardous air pollutant (HAP) source, i.e. 25 tons/year for all HAPS or 10 tons/year for any single HAP.

This decision by FHWA is clearly arbitrary and capricious and sums up their whole interim guidance on MSAT's, and simply changing the date to this guidance is inadequate. According to FHWA ("The update "does not change any project analysis thresholds, recommendations, or guidelines.")

The Clean Air Act definition of a major hazardous air pollutant (HAP) source quoted by the FHWA is used primarily by point sources (Industrial Sources). Congress directed EPA to develop a program to develop further the regulation of HAPs in Section 112 of the 1990 Clean Air Act Amendments (CAAA). While the standards for major sources of HAPs developed per

this section are also designated as NESHAPs, they are established according to Maximum Achievable Control Technology (MACT) requirements. MACT is a technology-based standard, as opposed to the original conception of NESHAPs as a risk-based standard. These technology-based NESHAPs are located at 40 CFR 63 and incorporated by reference in 45CSR34.

EPA has set MACT standards for over 100 source categories as specified under Section 112(d) . While these MACT standards typically apply to major sources (those at facilities with greater than 10 ton/yr of a single HAP, or greater than 25 ton/yr of aggregate HAPs), many MACTs also apply to area sources (sources with less than 10/25 ton/yr HAP thresholds); a few MACTs apply only to area sources. EPA has also begun to slowly identify additional area sources of air toxics for regulation per its Integrated Urban Air Toxics Strategy as mandated by Section 112(k) of the CAAA. Many urban communities continue to be exposed to a high amount of hazardous air pollutants (air toxins). **The definition of major source depends upon a facility's potential to emit not its actual emissions.** Also, when a new facility is proposed, a quantitative analysis (using detailed computer models) is conducted from the source to see if any residential, schools etc., are impacted, before a permit is issued. In other words, this analysis gives decision makers valuable information to make informed decisions as to what pollution controls should be used, the stack height and location, to prevent harmful emissions to adjacent properties and residents.

In contrast, the FHWA builds a road facility, in many cases, within close proximity to residential sub-divisions, schools, and communities and only relies on inadequate interim MSAT guidance, knowing that motor vehicle emissions generally occur in the breathing zone.

According to the FHWA, through use of US EPA's MOBILE 6.2 emissions model, (FHWA is aware that the official MOVES model has replaced the MOBILE 6.2 model at the end of 2009) FHWA staff determined that this range of AADT would be roughly equivalent to the Clean Air Act definition of a major hazardous air pollutant (HAP) source, ie.25 tons/year for all HAPS or 10 tons/year for any single HAP, that is, 140000 to 150000 AADT.

The **projected** AADTs for the various DSAs vary by segment and range from 41,400 to 95,600 AADT on the western end of the project and 15,400 to 24,800 AADT on the eastern end of the project, according to the DEIS. In the western end of the project the total single HAP would range from approximately 3.0 and 6.6 tons/year, while all (187) HAPS & diesel PM would range from approximately 7.13 to 16.5 tons/year for this facility alone.

4 How can the FHWA be certain of the computer models that derive their projected AADT's?

As stated in the updated guidance (page 5), "air toxics analysis is an emerging field and current scientific techniques, tools, and data are not sufficient to accurately estimate human health impacts that would result from a transportation project in a way that would be useful to decision-makers."

Regarding the statement above, Independent research scientists, with work that is peer reviewed, all seem to find that near roadway exposures from Mobile sources is increasingly a problem. While the science may be new, and hard to grasp for the FHWA staff, it is not with other scientists. They are consistently finding tools, compiling data to quantify the human health impacts. This statement above is used by FHWA to circumvent the current NEPA CEQ regulations only.

5 Is the FHWA using science as an excuse not to conduct a quantitative MSAT analysis because it will leave decision makers with fewer options where they can build their road or perhaps just harder to rubber stamp EIS that have pre-determined sites(alternatives) where roads are placed?

6 How can the FHWA, using only a qualitative MSAT analysis know where to use effective MSAT mitigation measures to prevent hazardous emissions where people live and work, or where not to place a road because the emissions will be too high, for the roughly 10 miles of roadway in the western end of this project?

7 Will the FHWA conduct a quantitative MSAT analysis that incorporates the emissions from a new proposed facility in addition to the cumulative emissions from existing roadways?

8 Does the FHWA plan to use any MSAT mitigation for this project? Not sure where to use it? I wonder why?

Does the FWHA monitor the effectiveness of any MSAT mitigation sites, providing there are any, to determine if they are actually working?

Is the FHWA staff aware that the CAA definition of a major (point source) depends on a facility's potential to emit not its actual emissions?

Perhaps in metropolitan statistical areas, vehicle registration data, and transit tractor trailers, should be used to determine the potential to emit for mobile sources, and be required to conduct a quantitative analysis for (hotspot) NAAQS, as well as, MSATs for all road projects.

9 Will the FHWA conduct a quantitative MSAT analysis for this project using Human Exposure Model-3 (HEM-3), AERMOD Version, Assessment System for Population Exposure Nationwide model (ASPEN), Community Multi-scale Air Quality model (CMAQ), EPA Motor Vehicle Emission Simulator (MOVES) model, HAPEM-MS Hazardous Air Pollutant Exposure Model for Mobile Sources; and land use regression models?

These models, as well as others, can effectively conduct a quantitative MSAT analysis at the project level. Of course, proper effective monitoring of pollutants near roadways, for Individuals, and at sensitive receptors, can be used to refine models used to calculate exposures. Actual monitoring can be useful for specific exposure routes, duration and dose as well.

According to the EPA's National-scale Air toxics assessment for three census tracts in the western end of the proposed project are as follows:

	Cancer risk	Avg tot resp HI	Pollutant Contribution
FIPS 37179-020302	48/million	1.7	10% Benzene/ 72% Acrolein
37179-020303	51/million	1.9	11% Benzene/ 75% Acrolein
37179-020401	49/million	1.7	11% Benzene/ 73% Acrolein

10 Can the FHWA quantify the **increased** cancer risks, and average total respiratory HI, for all the census tracts that the proposed new facility will impact?

11 What percentage increase in cancer risk would this facility bring to all the census tracts along the route, especially, the homes in close proximity?

Again, EPA's vehicle and fuel regulations, coupled with fleet turnover is applauded and needed; however, over time, the substantial reductions that will cause region-wide air pollution levels to be significantly lower than today remains to be seen. No Federal or State laws mandate vehicle turnover. The fuel regulations could be eliminated or reduced in the future.

Sincerely,

Ed Eason

Table C-2: Ed Eason

Document: i002 letter dated June 29, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
Note: Many comments in Mr. Eason's June 29, 2010 letter dealt with Air Quality Policy and were not specific to the Monroe Connector/Bypass Final EIS. Only those comments specific to the Final EIS are listed below.			
1	Air Quality	The EPA is set to finalize the 2008 reconsidered 8 hour Ozone NAAQS on August 31, 2011, which is anticipated to range from 0.060 – 0.070 parts per million (ppm). How can the Charlotte Metro area possibly meet this standard in the future with the construction of this facility, and others, proposed in the area?	The Final EIS is required to adhere to current laws and rules. The Air Quality analysis was conducted consistent with the US Environmental Protection Agency's (EPA's) August 15, 1997 and July 1, 2005 published revisions related to the "Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Funded or Approved Under Title 23 U.S.C. or the Federal Transit Act," or Transportation Conformity Rule (40 Code of Federal Regulations Part 93). These revisions outline the criteria that must be met for the 8-hour ozone standard. The EPA has reviewed the conformity determinations related to the 8-hour ozone standard and carbon monoxide (as appropriate) for the 2009-20 15 TIPs for the Metrolina region, and has concluded that all of the criteria, including those outlined in the July 1, 2004, conformity rule revision entitled, "Transportation Conformity Rule Amendments: Conformity Amendments for New 8-hour Ozone and PM2.5 National Ambient Air Quality Standards, Response to March 1999, Court Decision and Additional Rule Changes," (69 FR 40004) have been met.
2	Purpose and Need	Who is to say the economic conditions will not turn the new toll facility into the road less taken, despite any major improvements taken place (most likely never will) to Highway 74. The economic reality is that this is a project that North Carolina cannot afford.	The overall economic climate will vary from year to year and cannot be accurately predicted. The NCTA prepares studies and makes decisions based on the best information and forecasts available to date. Based on available information, including the *Proposed Monroe Connector Preliminary Traffic and Revenue Study* (available on the NCTA Web site), and the project's financial plan, NCTA has determined that the project will be financially feasible. An Investment Grade Traffic and Revenue Study, which includes more in-depth analysis, including a market analysis of potential toll rates, will be conducted prior to selling the bonds that will comprise a portion of the project funding. If this report determines that the project is not financially feasible, bonds will not be sold for the project and alternative forms of financing will be explored.

Table C-2: Ed Eason

Document: i002 letter dated June 29, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
3	Air Quality	The FHWA needs to explain, in detail, there rational for dismissing this information as irrelevant to the proposed federal action.	The FHWA position does not consider the information from the EPA as irrelevant; however, as stated in Appendix E of the FEIS, FHWA believes "Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable. Because of the limitations in the methodologies for forecasting health impacts…, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis."
4	Air Quality	How can the FHWA be certain of the computer models that derive their projected AADT's?	The traffic modeling for this project uses a nationally recognized process, supported by FHWA for estimating future traffic volumes for projects. FHWA reviews the modeling process as part of the MPO certification process and indicate their acceptance of the MPO's modeling procedures. The tools utilized today provide the project with the best estimate as to traffic volumes twenty years or more into the future.
5	Air Quality	Is the FHWA using science as an excuse not to conduct a quantitative MSAT analysis because it will leave decision makers with fewer options where they can build their road or perhaps just harder to rubber stamp EIS that have pre-determined sites(alternatives) where roads are placed?	While there have been several studies regarding the health impacts of MSATs, none have addressed the MSAT health impacts in proximity of roadways. The Health Effects Institute, a non-profit organization funded by EPA, FHWA, and industry, has undertaken a major series of studies to research near-roadway MSAT hot-spots, the health implications of the entire mix of mobile source pollutants, and other topics. The final summary of the series is not expected for several years. Some recent studies have reported that proximity to roadways is related to adverse health outcomes, particularly respiratory problems[1]. Much of this research is not specific to MSATs, instead surveying the full spectrum of both criteria and other pollutants. The FHWA cannot evaluate the validity of these studies, but more importantly, they do not provide information that would be useful to alleviate the uncertainties and enable us to perform a more comprehensive evaluation of the health impacts specific to this project.

[1] South Coast Air Quality Management District, Multiple Air Toxic Exposure Study-II (2000); Highway Health Hazards, The Sierra Club (2004) summarizing 24 Studies on the relationship between health and air quality); NEPA's Uncertainty in the Federal Legal Scheme Controlling Air Pollution from Motor Vehicles, Environmental Law Institute, 35 ELR 10273 (2005) with health studies cited therein.

Table C-2: Ed Eason

Document: i002 letter dated June 29, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
6	Air Quality	How can the FHWA, using only a qualitative MSAT analysis know where to use effective MSAT mitigation measures to prevent hazardous emissions where people live and work, or where not to place a road because the emissions will be too high, for the roughly 10 miles of roadway in the western end of this project?	As a result of the qualitative MSAT analysis, it is expected there would be either minor changes or a slight reduction in MSAT emissions in the immediate area of the project, relative to the No-Build Alternative. On a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today. In comparing the alternatives, MSAT levels could be higher in some locations than others, but current tools and science are not adequate to quantify them. Based on these findings, no MSAT mitigation is warranted.
7	Air Quality	Will the FHWA conduct a quantitative MSAT analysis that incorporates the emissions from a new proposed facility in addition to the cumulative emissions from existing roadways?	Consistent with FHWA Guidance (*Memorandum – Interim Guidance on Air Toxic Analysis in NEPA Documents*, FHWA, September 30, 2009), a quantitative analysis is not required and will not be performed for this project.
8	Air Quality	Does the FHWA plan to use any MSAT mitigation for this project? Not sure where to use it? I wonder why?	See response to Comment 6 in Ed Eason's letter (i002).
9	Air Quality	Will the FHWA conduct a quantitative MSAT analysis for this project using Human Exposure Model-3 (HEM-3), AERMOD Version, Assessment System for Population Exposure Nationwide model (ASPEN), Community Multi-scale Air Quality model (CMAQ), EPA Motor Vehicle Emission Simulator (MOVES) model, HAPEM-MS Hazardous Air Pollutant Exposure Model for Mobile Sources; and land use regression models?	See response to Comment 7 in Ed Eason's letter (i002).

Table C-2: Ed Eason

Document: i002 letter dated June 29, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
10	Air Quality	Can the FHWA quantify the **increased** cancer risks, and average total respiratory HI, for all the census tracts that the proposed new facility will impact?	See response to Comment 5 in Ed Eason's letter (i002). For reasons stated in Appendix E of the FEIS and the information below, FHWA cannot quantify the cancer risks in the project study area. According to the EPA's NATA website: (http://www.epa.gov/ttn/atw/natamain/) National-Scale Air Toxics Assessment (NATA) assessments do not incorporate refined information about emission sources, but rather, use general information about sources to develop estimates of risks which are more likely to overestimate impacts than underestimates them. NATA provides estimates of the risk of cancer and other serious health effects from breathing (inhaling) air toxics in order to inform both national and more localized efforts to identify and prioritize air toxics, emission source types and locations which are of greatest potential concern in terms of contributing to population risk. NATA results provide answers to questions about emissions, ambient air concentrations, exposures and risks across broad geographic areas (such as counties, states and the Nation) at a moment in time. As such, they help the EPA identify specific air toxics compounds, and specific source sectors such as stationary sources or mobile sources, which generally produce the highest exposures and risks in the country. These assessments are based on assumptions and methods that limit the range of questions that can be answered reliably. The results cannot be used to identify exposures and risks for specific individuals, or even to identify exposures and risks in small geographic regions such as a specific census block, i.e., hotspots. The NATA assessments should not be used for any of the following: • As a sole means for identifying localized hotspots • As a definitive means to pinpoint specific risk values within a census tract • To characterize or compare risks at local levels such as between neighborhoods • As the sole basis for developing risk reduction plans or regulations • To control specific sources or pollutants • To quantify benefits of reduced air toxic emissions

Table C-2: Ed Eason

Document: i002 letter dated June 29, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
11	Air Quality	What percentage increase in cancer risk would this facility bring to all the census tracts along the route, especially, the homes in close proximity?	See response to Comment 10 in Ed Eason's letter (i002).

North Carolina
Department of Administration

Beverly Eaves Perdue, Governor

Moses Carey, Jr., Secretary

July 16, 2010

Ms. Jennifer Harris
State of N.C. Turnpike Authority
1578 Mail Service Center
Raleigh, NC 27699-1578

Re: SCH File # 10-E-4220-0435; FEIS; Improvements in the Monroe Connector/Bypass from I-485 to US 74 in the vicinity of the Town of Marshville in Union Co. TIP Nos. R-3329 & R-2559

Dear Ms. Harris:

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are the comments made by agencies in the course of this review.

If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please do not hesitate to call.

Sincerely,

Chrys Baggett (SJG)

Ms. Chrys Baggett
State Environmental Review Clearinghouse

Attachments

cc: Region F

Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

Telephone: (919)807-2425
Fax (919)733-9571
State Courier #51-01-00
e-mail state.clearinghouse@doa.nc.gov

Location Address:
116 West Jones Street
Raleigh, North Carolina

NCDENR

North Carolina Department of Environment and Natural Resources

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

MEMORANDUM

TO: Valerie McMillan
State Clearinghouse

FROM: Melba McGee
Project Review Coordinator

RE: 10-0435 FEIS for proposed improvements to the US 74 corridor in Mecklenburg County to US 74 in Union County

DATE: July 16, 2010

The Department of Environment and Natural Resources has reviewed the proposed project.

1 It is requested that the Department of Transportation continue to work with our agencies in order to adequately address any outstanding concerns. Addressing agency comments during the NEPA Merger Process or prior to finalizing the Record of Decision will avoid delays during the permit phase.

Thank you for the opportunity to comment on this project.

Attachments

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-733-4984 \ FAX: 919-715-3060 Internet: www.enr.state.nc.us

One North Carolina Naturally

Table C-3: NC Department of Environment and Natural Resources

Document: a001 letter dated June 16, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
1	General	The Department of Environment and Natural Resources has reviewed the proposed project. It is requested that the Department of Transportation continue to work with our agencies in order to adequately address any outstanding concerns. Addressing agency comments during the NEPA Merger Process or prior to finalizing the Record of Decision will avoid delays during the permit phase.	NCTA will continue to work closely with the agencies during the Design-Build phase.

a002

North Carolina Wildlife Resources Commission

TO: Melba McGee, Environmental Coordinator
Department of Environment and Natural Resources

FROM: Marla Chambers, Western NCDOT Permit Coordinator Marla Chambers
Habitat Conservation Program, NCWRC

DATE: July 13, 2010

SUBJECT: Review of the Final Environmental Impact Statement for proposed improvements to the US 74 corridor from I-485 in Mecklenburg County to US 74 between the towns of Wingate and Marshville in Union County (Monroe Connector/Bypass). TIP Nos. R-2559 and R-3329. DENR Project No.: 10-0435, originally due 07/06/2010, extended to 07/13/2010.

The North Carolina Turnpike Authority (NCTA) has submitted a Final Environmental Impact Statement (FEIS) for the proposed Monroe Connector/Bypass project, which had previously been analyzed by the North Carolina Department of Transportation (NCDOT) as two separate projects (Monroe Bypass and Monroe Connector). Staff biologists with the North Carolina Wildlife Resources Commission (NCWRC) have reviewed the information provided and have attended the Turnpike Environmental Agency Coordination (TEAC) meetings for the project. These comments are provided in accordance with the 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).

1 NCTA proposes to construct a new location toll facility from I-485 in Mecklenburg County to US 74 between the towns of Wingate and Marshville in Union County, approximately 20 miles in length. NCWRC has provided several comment letters and other input during the development of this project under both NCDOT and NCTA planning processes. Our comments on the Draft Environmental Impact Statement, dated May 26, 2009, were included in the FEIS. Our most recent project comments, which reviewed the Draft Indirect and Cumulative Effects Water Quality Analysis for the Monroe Connector/Bypass technical report, were submitted May 28, 2010. These comment letters continue to be appropriate and we remain concerned about the

Mailing Address: Division of Inland Fisheries • 1721 Mail Service Center • Raleigh, NC 27699-1721
Telephone: (919) 707-0220 • **Fax:** (919) 707-0028

a002

1 potential negative effects of this project and others on the sensitive aquatic resources in this rapidly developing region.

Water quality in the project study area will have significant effects on the future of both human and wildlife populations. According to the above mentioned technical report, the project study area contains 54 named streams, 22 of which have Water Supply classifications and six are also assigned a Critical Area designation. Eleven of the named streams are on the latest 303(d) lists of impaired waters (draft and final lists): McAlpine Creek, Sixmile Creek, Beaverdam Creek, Crooked Creek, North and South Forks Crooked Creek, Duck Creek, Goose Creek, Little Richardson Creek, Richardson Creek, and Stewarts Creek. This is of particular concern because a number of federal and state listed aquatic species depend on several of these impaired streams for survival or, potentially, their continued existence.

The Carolina heelsplitter (*Lasmigona decorata*), a federal and state Endangered (E) mussel, occurs in Goose, Duck, and Sixmile Creeks within the project area. Only six populations occur in the world, each considered critical to the survival of the species. Other listed species observed in Goose Creek and its tributary, Duck Creek, include Atlantic pigtoe (*Fusconaia masoni*), Federal Species of Concern (FSC) and state E; Carolina creekshell (*Villosa vaughaniana*), FSC and state E; creeper (*Strophitus undulatus*), state Threatened; notched rainbow (*V. constricta*), state Special Concern (SC); and eastern creekshell (*V. delumbis*), state Significantly Rare. Sixmile Creek is also occupied by the Carolina creekshell and eastern creekshell. The Carolina darter (*Etheostoma collis*), a FSC and state SC fish, and the following listed mussel species have been recorded in the South Fork and North Fork of Crooked Creek: Savannah lilliput (*Toxolasma pullus*), FSC and state E; Carolina creekshell; and eastern creekshell. Richardson Creek also has records for the Savannah lilliput, Carolina creekshell, and the eastern creekshell. In addition, the Twelvemile Creek watershed has occurrences of the Carolina creekshell, notched rainbow and eastern creekshell.

2 We commend NCTA for commitments to minimize direct impacts by adhering to the Design Standards in Sensitive Watersheds for sediment and erosion control along the entire project and the use of bridge crossings at several locations. The bridges not only reduce impacts to sensitive waters, but also improve safety for the public and wildlife by providing areas for wildlife, including large mammals, to cross safely under the road, and by maintaining floodplain functions that help reduce flooding and flood damage. We also appreciate NCTA's response to one of our comments on the DEIS, that indicated they will work with us to protect state-listed species where feasible and practicable.

3 Indirect and cumulative impacts remain our greatest concern for this project and have the potential to be much more significant than the direct impacts. The FEIS summarized the qualitative and quantitative analysis of the Indirect and Cumulative Effects (ICEs) on land use and water quality and provided copies of those reports in the appendices. In general, the effects attributed to the project were characterized as small relative to the overall effects from projected development in the study area. Differences in impervious cover and water quality parameters due to the project were indicated in six of the eighteen watersheds studied, with most of the induced development occurring within a mile of the proposed interchanges.

a002

The watersheds determined to be affected by the project were Crooked Creek, Richardson Creek (Middle and Lower watersheds), Rays Fork, Stewarts Creek, and Salem Creek. The differences in impervious cover between the 2030 Preferred Alternative and the 2030 No-Build scenarios were indicated to be one or two percent of the individual watersheds. Some of these affected watersheds contain listed species, others contain impaired streams, and some have both. As indicated in the FEIS, NCWRC recommends the threshold of concern for impervious surfaces is six percent for watersheds containing Threatened or Endangered mussel species and ten percent for other watersheds. The range of percentages of impervious cover predicted for the Preferred Alternative in the year 2030 was from seven to 37 percent, most (15 of 18) were greater than ten percent. Of those with the Endangered Carolina heelsplitter, the Goose Creek watershed was predicted to have 17 percent imperviousness and the Sixmile Creek watershed was forecast to be 30 percent. This and other project ICE analysis revealed the significance of the cumulative effects on the project area and its aquatic resources.

The quantitative ICE water quality technical report, in particular, revealed cumulative impact data that is of serious concern for the listed species in the study area. For example, the Lower Richardson Creek watershed, which is indicated to be affected by the project, was predicted to have 20.5 percent more annual total fecal coliform and 4.5 percent additional annual total phosphorus. Most alarming was the forecast for Sixmile Creek; although not indicated to be affected by the project, a 70 percent increase in runoff, more than a 40 percent increase in total suspended solids, and an 80 percent increase in annual total fecal coliform were projected for the year 2030.

4 The project ICE analysis appears to show that the project is a contributing factor in the cumulative effects that are likely to have significant negative effects on the health of area waterways and wildlife habitat and the sensitive species that inhabit them. It appears that substantial efforts will be required, beyond those accounted for in the ICE analysis, to provide appropriate protection for listed species, including the federally protected Carolina heelsplitter, with or without this project. Those measures will be critical if the project is built and additional measures may be needed due to project-induced impacts.

5 The FEIS included a section from the Federal Highway Administration (FHWA) Position Paper: Secondary and Cumulative Impact Assessment In the Highway Project Development Process which states "measures that would be appropriate to offset most future developmental impacts in the area of a project often will be beyond the control and funding authority of the highway program. In these situations, the best approach would be to work with local agencies that can influence future growth and promote the benefits of controls that incorporate environmental protection into all planned development." In addition, since past, present and reasonably foreseeable NCDOT projects in the project area certainly contribute to the cumulative impacts, and NCTA is now a division of NCDOT, it is reasonable to recommend these agencies work with the local authorities to implement measures that will greatly reduce or mitigate the negative effects of development on water quality throughout the study area, including the negative effects induced by the project. Strong regulations regarding development and stormwater management, and the enforcement of those regulations will be crucial to the success of mitigation measures and the ultimate protection of listed species.

a002

Thank you for the opportunity to review and comment on this project. If you have any questions regarding these comments, please contact me at (704) 485-8291. We look forward to continuing our participation in the planning process for this project.

cc: Marella Buncick, USFWS
Polly Lespinasse, NCDWQ
Christopher Militscher, USEPA
Angie Rodgers, NCNHP

Table C-4: NC Wildlife Resources Commission

Document: a002 letter dated July 13, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
1	General	NCWRC has provided several comment letters and other input during the development of this project under both NCDOT and NCTA planning processes. Our comments on the Draft Environmental Impact Statement, dated May 26, 2009, were included in the FEIS. Our most recent project comments, which reviewed the Draft Indirect and Cumulative Effects Water Quality Analysis for the Monroe Connector/Bypass technical report, were submitted May 28, 2010. These comment letters continue to be appropriate and we remain concerned about the potential negative effects of this project and others on the sensitive aquatic resources in this rapidly developing region.	Comment noted.
2		We commend NCTA for commitments to minimize direct impacts by adhering to the Design Standards in Sensitive Watersheds for sediment and erosion control along the entire project and the use of bridge crossings at several locations. The bridges not only reduce impacts to sensitive waters, but also improve safety for the public and wildlife by providing areas for wildlife, including large mammals, to cross safely under the road, and by maintaining floodplain functions that help reduce flooding and flood damage. We also appreciate NCTA's response to one of our comments on the DEIS, that indicated they will work with us to protect state-listed species where feasible and practicable.	Thank you for your comment. NCTA will continue to work closely with the agencies during the Design-Build phase.
3		Indirect and cumulative impacts remain our greatest concern for this project and have the potential to be much more significant than the direct impacts.	The *Indirect and Cumulative Effects Quantitative Analysis* (Michael Baker Engineering, Inc, April 2010) predicts additional development of the following amounts and types: 700 acres medium density residential, less than 100 acres high density residential, 200 acres commercial and 100 acres industrial/office or institutional. This is in addition to the direct addition of roadway acreage from the new highway. Approximately 1,200 fewer acres of low density residential development is expected under the Build Scenario as it will be replaced by roadway, medium or high density residential, commercial or industrial/office or institutional uses. Overall, the net impact is the addition of about 1,000 developed acres, or just less than 1% more than under the No Build Scenario.
4		The project ICE analysis appears to show that the project is a contributing factor in the cumulative effects that are likely to have significant negative effects on the health of area waterways and wildlife habitat and the sensitive species that inhabit them. It appears that substantial efforts will be required, beyond those accounted for in the ICE analysis, to provide appropriate protection for listed species, including the federally protected Carolina heelsplitter, with or without this project. Those measures will be critical if the project is built and additional measures may be needed due to project-induced impacts.	See response to comment 3 in the NC Wildlife Resources Commission Letter (a002).

Table C-4: NC Wildlife Resources Commission

Document: a002 letter dated July 13, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
5		The FEIS included a section from the Federal Highway Administration (FHWA) Position Paper: Secondary and Cumulative Impact Assessment In the Highway Project Development Process which states "measures that would be appropriate to offset most future developmental impacts in the area of a project often will be beyond the control and funding authority of the highway program. In these situations, the best approach would be to work with local agencies that can influence future growth and promote the benefits of controls that incorporate environmental protection into all planned development." In addition, since past, present and reasonably foreseeable NCDOT projects in the projects area certainly contribute to the cumulative impacts, and NCTA is now a division of NCDOT, it is reasonable to recommend these agencies work with the local authorities to implement measures that will greatly reduce or mitigate the negative effects of development on water quality throughout the study area, including the negative effects induced by the project. Strong regulations regarding development and stormwater management, and the enforcement of those regulations will be crucial to the success of mitigation measures and the ultimate protection of listed species.	NCTA can encourage local governments to adopt regulations and land use plans that would help protect significant natural resources, but NCTA lacks and enforcement authority to ensure their adoption or adherence.

NCDENR

North Carolina Department of Environment and Natural Resources
Division of Water Quality

Beverly Eaves Perdue, Governor
Coleen H. Sullins, Director
Dee Freeman, Secretary

June 28, 2010

MEMORANDUM

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

From: Polly Lespinasse, Division of Water Quality, Mooresville Regional Office

Subject: Comments on the Final Environmental Impact Statement Related to the Proposed Monroe Connector/Bypass from near I-485 at US 74 to US 74 Between the Towns of Wingate and Marshville, Mecklenburg and Union Counties, Federal Aid Project No. STP-NHF-74(90), WBS Element 34533.1.TA1, STIP Project Number R-3329/R-2559, DENR Project No. 10-0435, Due Date 07/06/2010

This office has reviewed the referenced document dated May 2010. The NC Division of Water Quality (NCDWQ) 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 project as presented will result in impacts to jurisdictional wetlands, streams, and other surface waters. NCDWQ offers the following comments based on review of the aforementioned document:

Project Specific Comments:

1. The document makes several references to the stream mitigation requirements for the project. The document indicates that all perennial streams will require mitigation. In addition, the document states that if an intermittent stream has a stream rating equal to or greater than 26, as per the completed NCDWQ Stream Identification Form, then mitigation will be provided. Effective October 16, 2009, NCDWQ will require mitigation for all jurisdictional streams, either intermittent or perennial. The applicable portion of the *Intermittent Stream Mitigation Policy*, as identified in the Public Notice, published August 14, 2009, is included below:

   NCDOT projects reviewed through the Clean Water Act Section 404/ National Environmental Policy Act Merger 01 Process (Merger 01) or Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU, published by the US Army Corps of Engineers and the Federal Highway Administration, 2003) or its immediate successor, and that have reached agreement with Department of Environment and Natural Resources on avoidance and minimization (Concurrence Point 4A) prior to the effective date of this policy are not subject to the new intermittent stream mitigation policy. Furthermore, if a project is not reviewed by the Merger 01 process or SAFETEA-LU or its immediate successor but has an issued Finding of No Significant Impact and has the written approval of the NC Division of Water Quality prior to the effective date of this policy, then it is not subject to the new Intermittent Stream Mitigation Policy.

   Therefore, please be advised, DWQ will require mitigation for all jurisdictional streams (stream rating equal to or greater than 19 as per the completed NCDWQ Stream Identification Form) impacted by this project.

2. North Fork Crooked Creek, South Fork Crooked Creek, and Richardson Creek are Class C, 303(d) Waters of the State. Stewarts Creek is a Class WS-III, 303(d) Waters of the State.

Mooresville Regional Office
Location: 610 East Center Ave., Suite 301 Mooresville, NC 28115
Phone: (704) 663-1699 \ Fax: (704) 663-6040 \ Customer Service: 1-877-623-6748
Internet: http://portal.ncdenr.org/web/wq

2. North Fork Crooked Creek, South Fork Crooked Creek, Richardson Creek and Stewarts Creek are on the 303(d) list for impaired use for aquatic life due to impaired biological integrity. North Fork Crooked Creek is on the 303(d) list for impaired use for aquatic life due to turbidity. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. As per the commitment in the Final Environmental Impact Statement, the North Carolina Turnpike Authority (NCTA) shall provide the most protective sediment and erosion control BMPs in accordance with *Design Standards in Sensitive Watersheds* to reduce the risk of nutrient runoff to North Fork Crooked Creek, South Fork Crooked Creek, Richardson Creek and Stewarts Creek. NCDWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NCDWQ *Stormwater Best Management Practices*.

3. Due to the proximity of the project to Lake Twitty, which is classified as a Water Supply III (WS-III) Area in the project area, the NCTA shall design, construct, and maintain hazardous spill catch basins as per the commitment in the Final Environmental Impact Statement.

General Comments:

4. The environmental document should provide a detailed and itemized presentation of the proposed impacts to wetlands and streams with corresponding mapping. If mitigation is necessary as required by 15A NCAC 2H.0506(h), it is preferable to present a conceptual (if not finalized) mitigation plan with the environmental documentation. Appropriate mitigation plans will be required prior to issuance of a 401 Water Quality Certification.

5. Environmental impact statement alternatives shall consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. These alternatives shall include road designs that allow for treatment of the storm water runoff through best management practices as detailed in the most recent version of NCDWQ's *Stormwater Best Management Practices Manual*, July 2007, such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.

6. After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the NCTA is respectfully reminded that they will need to demonstrate the avoidance and minimization of impacts to wetlands (and streams) to the maximum extent practical. In accordance with the Environmental Management Commission's Rules (15A NCAC 2H.0506(h)), mitigation will be required for impacts of greater than 1 acre to wetlands. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as wetland mitigation.

7. In accordance with the Environmental Management Commission's Rules (15A NCAC 2H 0506(h)), mitigation will be required for impacts of greater than 150 linear feet to any single stream. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as stream mitigation.

8. Future documentation, including the 401 Water Quality Certification Application, shall continue to include an itemized listing of the proposed wetland and stream impacts with corresponding mapping.

9. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCTA shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.

10. An analysis of cumulative and secondary impacts anticipated as a result of this project is required. The type and detail of analysis shall conform to the NC Division of Water Quality Policy on the assessment of secondary and cumulative impacts dated April 10, 2004.NCTA is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, and rip rap to jurisdictional wetlands, streams, and riparian buffers need to be included in the final impact calculations. These impacts, in addition to any construction impacts, temporary or otherwise, also need to be included as part of the 401 Water Quality Certification Application.

11. Where streams must be crossed, NCDWQ prefers bridges be used in lieu of culverts. However, we realize that economic considerations often require the use of culverts. Please be advised that culverts should be countersunk to allow unimpeded passage by fish and other aquatic organisms. Moreover, in areas where high quality wetlands or streams are impacted, a bridge may prove preferable. When applicable, NCTA should not install the bridge bents in the creek, to the maximum extent practicable.

12. Whenever possible, NCDWQ prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the streambanks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges shall allow for human and wildlife passage beneath the structure. Fish passage and navigation by canoeists and boaters shall not be blocked. Bridge supports (bents) should not be placed in the stream when possible.

13. Bridge deck drains shall not discharge directly into the stream. Stormwater shall 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 the most current version of NCDWQ's *Stormwater Best Management Practices*.

14. Sediment and erosion control measures should not be placed in wetlands or streams.

15. Borrow/waste areas should avoid wetlands to the maximum extent practical. Impacts to wetlands in borrow/waste areas will need to be presented in the 401 Water Quality Certification and could precipitate compensatory mitigation.

16. The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater shall not be permitted to discharge directly into streams or surface waters.

17. Based on the information presented in the document, the magnitude of impacts to wetlands and streams may require an **Individual Permit (IP)** application to the Corps of Engineers and corresponding 401 Water Quality Certification. Please be advised that a 401 Water Quality Certification requires satisfactory protection of water quality to ensure that water quality standards are met and no wetland or stream uses are lost. Final permit authorization will require the submittal of a formal application by the NCTA and written concurrence from NCDWQ. Please be aware that any approval will be contingent on appropriate avoidance and minimization of wetland and stream impacts to the maximum extent practical, the development of an acceptable stormwater management plan, and the inclusion of appropriate mitigation plans where appropriate.

18. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.

19. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted. When using temporary structures the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.

20. Placement of culverts and other structures in waters, streams, and wetlands shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.

21. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation, floodplain benches, and/or sills may be required where appropriate. Widening the stream channel should be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.

22. If foundation test borings are necessary; it shall be noted in the document. Geotechnical work is approved under General 401 Certification Number 3687/Nationwide Permit No. 6 for Survey Activities.

23. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250.

24. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.

25. While the use of National Wetland Inventory (NWI) maps, NC Coastal Region Evaluation of Wetland Significance (NC-CREWS) maps and soil survey maps are useful tools, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.

26. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams. This equipment shall be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

27. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures should be properly designed, sized and installed.

28. Riparian vegetation (native trees and shrubs) shall be preserved to the maximum extent possible. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.

NCDWQ appreciates the opportunity to provide comments on your project. Should you have any questions or require any additional information, please contact Polly Lespinasse at (704) 663-1699.

Cc: Liz Hair, US Army Corps of Engineers, Asheville Field Office (electronic copy only)
Chris Militscher, Environmental Protection Agency (electronic copy only)
Marla Chambers, NC Wildlife Resources Commission (electronic copy only)
Marella Buncick, US Fish and Wildlife Service, (electronic copy only)
Brian Wrenn, NCDWQ Central Office (electronic copy only)
Sonia Carrillo, NCDWQ Central Office (electronic copy only)
File Copy

Table C-5: NC Department of Environment and Natural Resources – Division of Water Quality

Document: a003 letter dated June 28, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
1	General	The document makes several references to the stream mitigation requirements for the project. The document indicates that all perennial streams will require mitigation. In addition, the document states that if an intermittent stream has a stream rating equal to or greater than 26, as per the completed NCDWQ Stream Identification Form, then mitigation will be provided. Effective October 16, 2009, NCDWQ will require mitigation for all jurisdictional streams, either intermittent or perennial. The applicable portion of the Intermittent Stream Mitigation Policy, as identified in the Public Notice, published August 14, 2009, is included below. NCDOT projects reviewed through the Clean Water Act Section 404/National Environmental Policy Act Merger 01 Process (Merger 01) or Safe Accountable Flexible Efficient Transportation Equity Act; A Legacy for Users (SAFETEA-LU, published by the US Army Corps of Engineers and the Federal Highway Administration, 2003) or its immediate successor, and that have reached agreement with Department of Environmental and Natural Resources on avoidance and minimization (Concurrence Point 4A) prior to the effective date of this policy are not subject to the new intermittent stream mitigation policy. Furthermore, if a project is not reviewed by the Merger 01 process or SAFETEA-LU or its immediate successor but has an issued Finding of No Significant Impact and has the written approval of the NC Division of Water Quality prior to the effective date of this policy, then it is not subject to the new Intermittent Stream Mitigation Policy. Therefore, please be advised, DWQ will require mitigation for all jurisdictional streams (stream rating equal to or greater than 19 as per the completed NCDWQ Stream Identification Form) impacted by this project.	NCTA and FHWA are aware of the changes to stream mitigation requirements. In June 24, 2010 letters to USACE and NCTA, the Ecosystem Enhancement Program confirmed that they will provide all compensatory stream (intermittent and perennial) and riparian wetland mitigation for this project. Copies of these letters can be found in **Appendix A**. The conceptual mitigation plan is incorporated into the Final EIS by reference and can be found on the project website: http://www.ncturnpike.org/projects/monroe/Final%20EIS/Tech_Report_Conceptual_Mitigation.pdf

Table C-5: NC Department of Environment and Natural Resources – Division of Water Quality

Document: a003 letter dated June 28, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
2		NCDWQ is very concerned with sediment and erosion impacts that could result from this project. As per the commitment in the Final Environmental Impact Statement, the North Carolina Turnpike Authority (NCTA) shall provide the most protective sediment and erosion control BMPs in accordance with Design Standards in Sensitive Watersheds to reduce the risk of nutrient runoff to North Fork Crooked Creek, South Fork Crooked Creek, Richardson Creek and Stewarts Creek. NCDWQ requests that road design plans provide treatment of the storm water runoff though best management practices as detailed in the most recent version of NCDWQ Stormwater Best Management Practices.	NCDOT's NPDES Stormwater Permit NCS000250 requires the use of the *North Carolina Department of Transportation Stormwater Best management Practices Toolbox* for the selection and design of post-construction linear stormwater control measures on NCDOT projects.
3		Due to the proximity of the project to Lake Twitty, which is classified as a Water Supply III (WS-III) Area in the project area, the NCTA shall design, construct, and maintain hazardous spill catch basins as per the commitment in the Final Environmental Impact Statement.	Final designs will incorporate hazardous spill basins along the project corridor within the designated hazardous spill basin area associated with Lake Twitty. These basins will be designed in accordance with NCDOT's *Best Management Practices for Protection of Surface Waters*, *Guidelines for the Location and Design of Hazardous Spill Basins*, and *Guidelines for Drainage Studies and Hydraulic Design*.

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

COUNTY: UNION
MECKLENBURG

F05: RAILROADS

STATE NUMBER: 10-E-4220-0435
DATE RECEIVED: 06/10/2010
AGENCY RESPONSE: 07/07/2010
REVIEW CLOSED: 07/12/2010

RECEIVED
JUN 11 2010
HISTORIC PRESERVATION OFFICE

MS RENEE GLEDHILL-EARLEY
CLEARINGHOUSE COORDINATOR
DEPT OF CULTURAL RESOURCES
STATE HISTORIC PRESERVATION OFFICE
MSC 4617 - ARCHIVES BUILDING
RALEIGH NC

FE 02-9791

Due 6/18/10 A-7m N/C at this time 6/17/10

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DEPT OF AGRICULTURE
DEPT OF CULTURAL RESOURCES
DEPT OF TRANSPORTATION

Due 6/24/10 S-

PROJECT INFORMATION

APPLICANT: State of N.C. Turnpike Authority
TYPE: National Environmental Policy Act
Final Environmental Impact Statement

DESC: Improvements in the Monroe Connector/Bypass from I-485 to US 74 in the vicinity of the Town of Marshville in Union Co. TIP Nos. R-3329 & R-2559

CROSS-REFERENCE NUMBER: 02-E-4220-0309 04-E-4220-0332 07-E-4220-0235 09-E-4220-0292

The attached project has been submitted to the N. C. State Clearinghouse for intergovernmental review. Please review and submit your response by the above indicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.

If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED: [X] NO COMMENT [ ] COMMENTS ATTACHED

SIGNED BY: Renee Gledhill-Earley DATE: 7-7-10

JUL 2010
RECEIVED
Secretary's Office
DOA

JUN 14 2010

Table C-6: NC Department of Cultural Resources

Document: a004 letter dated July 7, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
1	General	No comments.	None

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

JUL 15 2010

Date: July 12, 2010

Ms. Jennifer Harris, P.E.
North Carolina Turnpike Authority
5400 Glenwood Avenue, Suite 400
Raleigh, North Carolina 27612

SUBJECT: Federal Final Environmental Impact Statement for the Monroe Connector/Bypass, From I-485 at US 74 to US 74 Between the Towns of Wingate and Marshville, Mecklenburg and Union Counties, North Carolina; TIP Project Nos.: R-3329/R-2559; FHW-E40825-NC; CEQ No.: 20100209

Dear Ms. Harris:

The U.S. Environmental Protection Agency Region 4 (EPA) has reviewed the subject document and is commenting in accordance with Section 309 of the Clean Air Act and Section 102(2)(C) of the National Environmental Policy Act (NEPA. The North Carolina Turnpike Authority (NCTA) and the Federal Highway Administration (FHWA) are proposing to construct an approximate 20-mile, multi-lane, median divided bypass and toll facility from I-485 at US 74 to US 74 between the Towns of Wingate and Marshville in Mecklenburg and Union Counties.

The NCTA is utilizing the agency coordination process under SAFETEA-LU Section 6002. EPA provided detailed scoping comments under this process in a letter dated February 14, 2007, and comments on the Draft Environmental Impact Statement (DEIS) on June 15, 2009. In addition to comments on the Final Environmental Impact Statement (FEIS), EPA is also providing written comments on the Draft Indirect and Cumulative Effects (ICE) Quantitative Analysis report dated February 19, 2010. EPA has attached detailed technical review comments (See Attachment A).

EPA's primary environmental concern remains unresolved for impacts to the waters of the U.S., including the need to demonstrate additional avoidance and minimization for direct impacts to jurisdictional streams and wetlands, the need to provide environmental commitments to reduce the indirect and cumulative effects (ICE) to Section 303(d) listed impaired streams and the need to provide a detailed conceptual mitigation plan for jurisdictional impacts. These Clean Water Act issues need to be addressed prior to the issuance of a Record of Decision (ROD). FHWA and NCTA should consider a reduced median width and other avoidance and minimization measures to reduce the construction footprint in jurisdictional areas. FHWA and NCTA should work closely with local governments to insure that ICE resulting from the proposed project does not further degrade Section 303(d) listed streams. EPA recommends that a compensatory mitigation meeting be planned to discuss the conceptual mitigation for unavoidable impacts. EPA continues to have environmental concerns for wildlife habitat fragmentation, farmland losses, socio-economic impacts to existing businesses, and

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Mobile Source Air Toxics (MSATs). EPA also believes that additional consideration should be given with respect to MSATs associated with the Preferred Alternative DSA D and identified near- roadway, sensitive receptors. We understand that there is also an unresolved issue that needs to be addressed concerning the Carolina heelsplitter in the Goose Creek watershed per Section 7 of the Endangered Species Act; EPA defers to the U.S. Fish and Wildlife Service on this issue.

Mr. Christopher Militscher of my staff will continue to work with you and FHWA and other agencies on the continued environmental coordination activities for this project. Please feel free to contact Mr. Militscher of my staff at (919) 856-4206 should you have specific questions concerning EPA's comments.

Sincerely,

Heinz J. Mueller, Chief
NEPA Program Office

Cc: J. Sullivan, FHWA
K. Jolly, USACE
B. Wrenn, NCDENR
G. Thorpe, NCDOT

w/Attachment A

a005

Attachment A
FEIS Detailed Review Comments
Monroe Bypass/Connector Toll Facility
Mecklenburg and Union Counties
R-3329/R-2559

Response to EPA DEIS Comments

Responses to EPA's DEIS comments are included in Appendix B1 from pages B1-37 to B1-83. In addition, Section 3 of the FEIS also provides responses to generalized comments on Purpose and Need, the Range of Alternatives, Air Quality, Indirect and Cumulative Effects, and Protected Species.

1 Many of NCTA and FHWA's responses to DEIS comments are a reiteration of its stated positions from the DEIS and during TEAC meetings. For example, Comment #2, Page B1-49 refers to 'likely would be overwhelmed' and 'would not provide for high-speed regional travel'. The responses are generic and are not supported by actual analysis. Another unresolved issue pertains to traffic forecasting where Comment #2 refers to a substantial increase in traffic volumes expected by 2035. However, vehicle miles traveled (VMTs) are expected to slightly decrease. The modeling and projections are not believed by EPA to be accurate or reasonable. The projected VMT decrease is partly defended on the position that people from the north will have a shorter route to the 2 new toll facility. However, people who live south of existing US 74 will have a longer route to use the new toll facility. Population demographics actually show more people living to the south of existing US 74 than north of it. The other rationale for decreased VMTs is the 'slightly shorter route' of the new toll facility versus existing US 74. The ICE report also includes the potential for 1,300 new households in the project study area as well as hundreds of acres converted to commercial uses around new interchanges. This expected development would invariably increase VMTs as well.

3 EPA notes that the information contained in Section 1.1.8 of the FEIS on existing roadway improvements that has occurred in the past ten years. This new information contradicts and corrects the statement made in the DEIS: "Few, if any access management techniques have been applied to this roadway" (Comment #3, B1-49). Obviously from the list provided on pages 1-5 and 1-6, a substantial number of individual improvements to existing US 74 have been made during the last ten years. With all of these improvements, including numerous turn lane additions by NCDOT for retail stores and other commercial facilities, it indicates that local planners were encouraging significant amounts of commercial and retail development along this regionally strategic east-west highway corridor (See also NCTA Response to Comment #8). Local planners apparently did not believe that the US 74 corridor needed to be a regional high-speed facility as proposed by the NCDOT almost 20 years ago nor did they incorporate reasonable access and congestion management techniques in their local planning and zoning for these new commercial and retail facilities. Apparently, the local assumption was that NCDOT and FHWA would build Union County a new Monroe bypass as was initially proposed back in the late 1980's.

4 Regarding the Response to Comment #11, EPA continues to disagree with Quantitative Third Screening that was used for the Detailed Study Alternatives and the use of a 'conceptual right of way' and GIS level data in lieu of actual wetland and stream delineations. The FEIS response to EPA's DEIS comment has not been adequately 5 addressed. Similarly, Responses to Comments #12 and #13 do not address the increases and decreases in residential and business relocations and jurisdictional impacts. For Response to Comment #15, there is no socio-economic analysis to local businesses and 6 retail stores along US 74 that will potentially see far less business once the new toll facility is constructed. Response to Comment #18 does not include recommendations for potential avoidance and minimization by reducing the 70-foot proposed median and 12-7 foot paved outside shoulders. There is no specific recommendation as to what 'additional opportunities for impact minimization and cost reduction' will be and what opportunity for agency input will be considered during the final design.

8 The Response to Comment #19 concerning compensatory mitigation is not detailed or responsive to the specific issues (See comments below). The conceptual mitigation plan referenced in Response to Comment #20 and included in Section 2.5.4.4 is not detailed. Essentially, NCTA and FHWA state that with the exception of possibly 4 on-site mitigation opportunities, all compensatory mitigation will be provided through the in-lieu fee program of the Ecosystem Enhancement Program (EEP) and they have been regularly apprised of anticipated mitigation requirements. Unfortunately, NCTA and FHWA have been going on the assumption that only some of the intermittent stream impacts will require compensatory mitigation. This is no longer the case, as the North Carolina Division of Water Quality now requires mitigation for all intermittent streams. The conceptual mitigation plan is actually a technical memorandum that is incorporated by reference to the FEIS (This document should have been included in one of the appendices to the FEIS). There is no information provided through the EEP as to what mitigation assets are available or what is being planned for the impacted watershed basins. This deficiency of a detailed mitigation proposal is significant and needs to be resolved prior to the issuance of a ROD. Response to Comment #24 is also not responsive. The resource and permitting agencies have not been given the opportunity to provide a detailed field review of the 4 potential sites. EPA continues to have substantial environmental concerns for the lack of detail concerning compensatory mitigation.

9 NCTA and FHWA's Response to Comment #22 is not responsive and there is no estimate of potential impacts to jurisdictional resources from anticipated borrow pits and from waste disposal. This potentially substantial environmental issue is being deferred to later design work and potentially after the issuance of the Record of Decision (ROD). EPA does not agree with the Response to Comment #23 and the ICE findings. Contrary to the response provided, there are anticipated water quality issues associated with the proposed project, and minimally, to the 303(d) listed Stewarts Creek. Pollutant loadings 10 for the six catchments did not remain 'unchanged' between the 2030 No Build and the 2030 Recommended Preferred Alternative (RPA) scenarios. Table 17 of the ICE shows Total Nitrogen (TN) for lower Richardson's Creek to be 1.52% higher between the 2030 RPA and 2030 No-Build. Total Phosphorus (TP) shown in Table 18 is also increased by

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2.52% and 4.50% for Stewarts Creek and Richardson's Creek, respectively. Table 19 likewise shows four catchments with increased Total Suspended Solid (TSS) between 1.45% and 2.20% between the 2030 RPA and the 2030 No-Build. Referring to Tables 20 and 21, Total Fecal Coliform for Richardson's Creek is estimated to increase by 20.49% and Mean Fecal Coliform for Ray's Fork is estimated to increase by 46.9% between the 2030 RPA and the 2030 No-Build. The statement that "*water quality in these catchments was found to be unaffected by the Project...*", is inaccurate and not supported by the ICE report findings.

10

The Response to Comment #27 is similar to the discussion provided for Comment #2. EPA does not concur with the analysis on VMTs provided in the FEIS. The land use assumptions as it relates to a lack of access to sewer service in Response to Comment #29 is speculative. The ICE predicts 1,200 acres of low-density residential development, 700 more acres of medium density residential development and approximately 100 acres of industrial/office/institutional development compared to the 2030 No-Build. Considering the 'development sprawl' that has characterized the eastern portion of the project study area for the last 10 years or more, this additional increase in development resulting from the new toll facility is believed by EPA to be very significant. Water supply, wastewater treatment, available 'greenspace', and other natural resources will be further strained in the project study area resulting from the construction of the new toll facility.

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Responses to the EPA comments on Mobile Source Air Toxics (MSATs) are noted and EPA does not concur that a site specific analysis should not be performed for potential near roadway sensitive receptors such as schools identified from the DEIS. EPA has reviewed the updated information contained in Appendix E. NCTA and FHWA acknowledge there may be some localized MSAT increases and decreases but do not consider the near roadway aspects to sensitive receptors nor the potential for possible mitigation measures (such as noise walls) where schools will be in close proximity to the new toll facility. The same arguments concerning modeling deficiencies, health effects, future vehicle and fuel standards, national MSAT emission 'trends', etc. is repeated from previous NEPA documents and FHWA's 2006 Interim Guidance. The assessment criteria for performing a quantitative MSAT analysis is not specifically supported by any relevant or creditable studies or research. This regional 'airshed' view is not believed to be fully relevant to near roadway sensitive receptors. Higher traffic volumes of 140,000 ADT or more is not related to the proximity of the sensitive receptors to the new facility or the likelihood of exposure, including duration and concentration. There are innumerable toxicological studies that document the 'cumulative and synergistic effects' of exposure to harmful chemicals. The air quality in the Metrolina area is already compromised for ozone and particulate matter. Sensitive populations are already at greater risk from exposure to MSATs. The analysis provided in the FEIS does not address this issue. Much of the emission assumptions for MSATs are based on VMT estimates that are not believed to be accurate. The 3 elementary schools and 1 high school cited on page E-6 continue to be locations where, at a minimum, NCTA and FHWA should commit to localized MSAT monitoring, including baseline information and post-construction. The Responses to Comments #33, #34 and #35 are also not responsive and the same guidance and DEIS positions on MSATs is cited.

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Regarding Response to Comment #32, EPA will provide specific recommendations on reducing construction emissions at future TEAC meetings. It is confusing as to why NCTA and FHWA were unable to obtain this requested information on low-sulfur diesel fuel sources, air pollution control devices for equipment and other construction issues prior to issuing a FEIS.

14

The Responses to Comments #37 and #38 regarding Farmlands furthers EPA's previous concerns regarding the loss of agriculture in the project study area and the significant impact the proposed project will have on suitable prime and unique farmlands. The 2007 Census of Agriculture information confirms the continued trends of losing farmlands in North Carolina, including those in Mecklenburg and Union Counties. DSA D will convert 964 acres of prime farmland soils and Statewide and important farmland soils to non-agricultural uses. This represents 1.5 square miles of direct impact, exclusive of the indirect and cumulative effects from new development spurred by the project (The ICE predicts 1,200 acres of low-density residential development, 700 more acres of medium density residential development and approximately 100 acres of industrial/office/institutional development compared to the 2030 No-Build). This equates to potentially an additional 3.1 square miles of converting farmland soils and terrestrial forests to non-agricultural uses. The farm displacements comment in Section 1.3.2.4 is speculative opinion and not supported by any actual investigation or inquiry into 'suitable farm replacement property'.

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Part of the Response to Comment #39 is included in Section 1.3.4.3 regarding impacts to natural communities and wildlife. Under terrestrial wildlife the following statement is included in the FEIS: "*Habitat fragmentation also is expected to occur under the No-Build Alternative due to continued growth in population and development within Union County*". This comment is meant to detract from the actual impacts from the proposed project. A new, 19.7-mile, multi-lane high speed "linear" facility in a suburban and rural setting and the indirect and cumulative effects of induced development is going to have a significant impact on habitat fragmentation. Wildlife mortality and vehicle collisions with large mammals such as deer are expected to be very substantial. The FEIS does not propose any form of mitigation for these serious safety and environmental issues.

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EPA acknowledges the NCTA and FHWA's comments concerning air quality, North Carolina State Implementation Plan (NCSIP), and transportation conformity.

Jurisdictional Wetland and Stream Impacts

FHWA and NCTA's preferred alternative DSA D has 9,794 linear feet of perennial stream impact, 12, 269 linear feet of intermittent stream impact for a total of 22,063 linear feet of stream impact. However, these impacts are actually from the DEIS. These impacts include 104 total stream crossings. Wetland impacts are estimated at 8.1 acres with 47 total wetland systems being impacted. There are 2.6 acres of pond impacts. Impacts were estimated using functional design construction limits with an additional 40-

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foot buffer ("in accordance with NCDOT procedures"; Footnote in Table 1-8). Under the NEPA/Section 404 Merger process, preliminary designs are typically utilized and are more accurate than functional designs. Under the Merger process, calculations are based upon construction slope stakes and 25-foot buffers. EPA is uncertain as to the accuracy of the impact estimates as provided by NCTA for the proposed project. This is further illustrated on Pages 2-33 and 2-34 where impacts actually increased following the issuance of the DEIS. Service roads have added an additional 1,489 linear feet of total stream impact which 1,260 linear feet is expected to require compensatory mitigation.

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Table 2-11 does not match the information contained in Table 1-8. The total length of streams requiring compensatory for the preferred alternative DSA D increased by 685 linear feet to total 13,235 linear feet from the issuance of the DEIS (Table 2-3). Overall, stream impacts after avoidance and minimization proposed by NCTA and FHWA increased by 1,020 linear feet (i.e., 22,063 linear feet for DSA D in DEIS and 23,083 linear feet for DSA D in FEIS). Design refinements identified on Page 2-34 resulted in a decrease of 709 linear of jurisdictional stream impacts, but the overall total stream impacts increased to 23,083 linear feet. Wetland impacts remained the same, pond impacts increased by 0.5 acres, the number of streams impacted increased by 3 to total 107 and the number of wetland systems impacted decreased by 1 to 46 systems. Most of the bridging decisions discussed during the TEAC meetings were based upon avoidance to human resources (Section 2.3 of the FEIS) and not to specifically reducing impacts to jurisdictional systems. Indirectly, there were some reductions to the increases resulting from the inclusion of service roads and their anticipated impacts (Page 2-11 of the FEIS).

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However, the overall increase in stream impacts from the DEIS to the FEIS for the Preferred Alternative DSA D (and "the likely LEDPA"; Page 3-4) is approximately 4.6%. These stream impact 'reductions' are identified on Pages 2-11 and 2-12, Section 2.3.3 of the FEIS. EPA continues to have substantial environmental concerns that the DEIS did not provide an accurate assessment and analysis of the actual jurisdictional impacts. Other Section 404 avoidance and minimization measures such as steeper side slopes in jurisdictional areas, reduced median widths, reduced paved shoulders, the use of retaining walls, etc., were not addressed and should be considered during TEAC meetings and included in the Record of Decision (ROD).

Compensatory Mitigation and Other Special Conditions

The FEIS includes statements that compensatory mitigation is only required for intermittent streams scoring greater than 26 on the DWQ stream delineation forms. EPA understands that NCDWQ is requiring compensatory mitigation for all jurisdictional streams, including intermittent and perennial. The NCDWQ compensatory mitigation requirement for all intermittent streams was made effective in October of 2009. The 'conceptual mitigation plan' identified on Page 2-34 is not detailed. The EEP assets that are currently available or planned for this project are not included in the generalized discussion. The potential mitigation credits for the 4 sites are not listed. The statement under 'Wetland Finding' that wetland impacts resulted in no net gain from the refined design is misleading. Jurisdictional stream impacts increased from the addition of service roads between the DEIS and the FEIS.

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The FEIS indicates on Page 2-33 that stream and wetland impacts are expected to decrease from functional designs to preliminary designs as the level of the design increases. The total impact to streams is 23,083 linear feet and the total wetland impact is estimated at 8.1 acres. Surface water or pond impacts are estimated at 3.1 acres. EPA continues to have substantial environmental concerns for water quality based on the magnitude of the impacts to waters of the U.S. North Fork Crooked Creek, South Fork Crooked Creek, Richardson Creek and Stewarts Creek are all on the 303(d) list of impaired waters.

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The FEIS identifies that, "strict adherence to standard Best Management Practices (BMPs) including those for sedimentation and erosion control and the NCDOT Design Standards in Sensitive Watersheds, will minimize project impacts". A North Carolina State University (NCSU) study conducted for NCDOT potentially refutes this proposition, especially in very erosive Piedmont soils. This 3-year study showed that tons of sediment each year was lost from an NCDOT highway project despite the use of BMPs and that 2 of the 3 years of the study were in severe drought conditions. NCTA and FHWA seem to be anticipating these potential impacts to impaired waters using BMPs as 'a turbidity water quality testing program' for the main stem of Stewarts Creek will also be implemented to evaluate the performance of BMPs (Page 2-32). Testing is proposed upstream and downstream of the construction area as well as before, during and after construction. While EPA generally supports this testing program, the FEIS fails to provide an adequate response plan to potential turbidity problems once they are detected through sampling (testing). The FEIS places full responsibility of 'pollution' and implementation of BMPs on the selected contractor. EPA believes that a turbidity-testing program is also appropriate for other impacted 303(d) listed waters, including Richardson Creek, North Fork Crooked Creek and South Fork Crooked Creek

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Indirect and Cumulative Effects Quantitative Analysis

Appendix I of Volume 3 includes the Quantitative Indirect and Cumulative Effects (ICE) Analysis on Water Quality. Also, Page 2-49 and 2-50 of the FEIS includes a summary of water modeling. The ICE analysis includes models and calculations based on various land use change assumptions for impervious cover changes. The FEIS report contains the same tables presented in the March 11, 2010, draft ICE report. Model estimates of annual stream flow, runoff and annual pollutant loadings of total nitrogen, total phosphorus, total suspended solids and fecal coliform. A Baseline condition, 2030 No-Build and 2030 Build scenarios were evaluated. EPA does believe that the following statement is germane to the direct action under consideration: "*In reality, substantial reductions in pollutant loadings could be attained as future development takes place if existing BMP regulations are enforced and BMPs are constructed and maintained properly*". Table 5 in the ICE report shows that Union County has no stormwater BMPs.

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Indirect and cumulative effects including changes in impervious surface are expected to be very significant in several of the watersheds. The North Fork Crooked Creek, South Fork Crooked Creek, Richardson Creek and Stewarts Creek are 303(d) listed. One of the largest predicted ICE changes in pollutant loadings is to Stewarts

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Creek. Obviously, new development and a lack of enforced BMPs have obviously caused the watershed to be impaired (Page 2-50). NCTA and FHWA propose no mitigation for the ICE resulting from the proposed project and the changes in impervious surfaces, development density and pollutant loadings to Stewarts Creek. An increase of 7% increase in impervious surface in the Stewarts Creek watershed could have increased
26 indirect and cumulative impacts on water quality that do not appear to be addressed in the ICE report or the FEIS. The North Fork Crooked Creek, South Fork Crooked Creek, and Richardson Creek are also 303(d) listed. Several other 303(d) listed streams will also have ICE that result in additional pollutant loadings, including Richardson Creek and Crooked Creek although the rate of change in impervious surface is predicted to be lower. NCTA and FHWA are proposing no mitigation for the ICE to water quality to these impaired waters. FHWA's position on not mitigating for ICE is included on Page 3-22 of the FEIS.

The ICE makes several assumptions in predicting future land use in the study area. One of the assumptions is that growth in Union County may be controlled by a moratorium on new sewer connections. There may be a moratorium implemented at the local level, however, the moratorium implemented by NCDWQ has subsequently been lifted. It is also NCDWQ's position that Union County's existing wastewater facilities currently have the capacity to accept additional waste loads. The ICE analysis does not
27 appear to reflect this changed condition and what effects it would have on growth projections through the design year of 2030. Table 1-7 provides active NPDES permits with discharges to streams in the project study area. The permitted flows are included for 6 of the 8 entities listed. Alvac and the City of Monroe are apparently not limited. EPA requests that the average daily flow versus capacity be provided in the ROD. This 'capacity versus use' issue should be further evaluated in the context of the ICE assumptions on development in the project study area. It is also important to note that all of the receiving streams shown in Table 1-7 are 303(d) listed for impairments. EPA has concerns regarding riparian buffers and what controls have actually been adopted, are being implemented and enforced through local governments.

EPA continues to have substantial environmental concerns resulting from the
28 indirect and cumulative effects of the recommended preferred alternative (RPA – DSA D) on water resources and the lack of proposed measures to address these impacts. These environmental concerns need to be addressed prior to the issuance of a ROD.

Table C-7: US Environmental Protection Agency

Document: a005 letter dated July 12, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
1	Response to EPA DEIS Comments	Many of NCTA and FHWA's responses to DEIS comments are a reiteration of its stated positions from the DEIS and during TEAC meetings. For example, Comment #2, Page B1-49 refers to 'likely would be overwhelmed' and 'would not provide for high-speed regional travel'. The responses are generic and are not supported by actual analysis.	The noted responses were based on the professional judgment of the engineers who investigated this issue utilizing data from traffic modeling scenarios as well as field verification through travel time analyses. A detailed analysis was not necessary to reach these conclusions.
2	Response to EPA DEIS Comments	Another unresolved issue pertains to traffic forecasting where Comment #2 refers to a substantial increase in traffic volumes expected by 2035. However, vehicle miles traveled (VMT's) are expected to slightly decrease. The modeling and projections are not believed by EPA to be accurate or reasonable. The projected VMT decrease is partly defined on the position that people from the north will have a shorter route to the new toll facility. However, people who live south of existing US 74 will have a longer route to use the new toll facility. Population demographics actually show more people living in the south of existing US 74 than north of it. The other rationale for decreased VMT's is the 'slightly shorter route' of the new toll facility versus existing US 74. The ICE report also includes the potential for 1,300 new households in the project study area as well as hundreds of acres converted to commercial uses around new interchanges. This expected development would invariably increase VMT's as well.	Through the use of projected employment and population within traffic analysis zones, the Metrolina Regional Model was developed with input from local municipalities and is the best tool available to predict future traffic growth throughout the region. VMTs are direct outputs provided by the model which represents those projects identified as part of the 2035 Long Range Transportation Plan. This model was also used as part of the conformity determinations for the region which were approved by EPA on April 22, 2010. Referring to Table E-2 of the Draft EIS, while VMTs for the entire 13 county Metrolina Region did decrease between the Build and No-build scenarios, it is difficult if not impossible to identify the specific reason for this reduction because of the large area represented. A more realistic approach would be to analyze the difference at the county level. At the Union County Level, there is an approximate 22,000 VMT increase between the No-Build and DSA D Build scenario, and this same scenario results in a 2,800 VHT reduction. It is our judgment that these numbers are reasonable considering the proposed improvements.

Table C-7: US Environmental Protection Agency

Document: a005 letter dated July 12, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
3	Response to EPA DEIS Comments	EPA notes that the information contained in Section 1.1.8 of the FEIS on existing roadway improvements that has occurred in the past ten years. This new information contradicts and corrects the statement made in the DEIS: "Few, if any access management techniques have been applied to this roadway" (Comment #3, B1-49). Obviously from the list provided on pages 1-5 and 1-6, a substantial number of individual improvements to existing US 74 have been made during the last ten years. With all of these improvements, including numerous turn lane additions by NCDOT for retail stores and other commercial facilities, it indicates that local planners were encouraging significant amounts of commercial and retail development along this regionally strategic east-west highway corridor (See also NCTA response to Comment #8). Local planners apparently did not believe that the US 74 corridor needed to be a regional high-speed facility as proposed by the NCDOT almost 20 years ago nor did they incorporate reasonable access and congestion management techniques in their local planning and zoning for these new commercial and retail facilities. Apparently, the local assumption was that NCDOT and FHWA would build Union County a new Monroe bypass as was initially proposed back in the late 1980's.	The improvements listed in Section 1.1.8 are considered access management techniques, i.e. turn lanes, increased queue length or traffic signal addition, to improve access to development either on or in proximity to the US 74 corridor. None were specific to improving the overall corridor nor meet the purpose and need for this project. In the 1970's the NCDOT developed a Thoroughfare Plan for the City of Monroe and it's vicinity to serve as a guide to solving existing and anticipated traffic problems in the area. The plan was mutually adopted by NCDOT, the City of Monroe and Union County between 1980 and 1983. This plan highlighted improvements to major and minor roadways and included several new roadways including a northern bypass of US 74 around US 74. In the 1990's revisions to this plan were considered to include a connector route from the proposed bypass to the Charlotte Outer Loop (I-485). The Environmental Assessment of the original Monroe Bypass was approved in March 1996 and a Finding of No Significant Impact was signed in March 1997. A decision to rescind these documents was not made until January 2006. As many of the changes occurred along US 74, there was no indication at that time of the long delay associated with the project would occur or that an entirely new environmental study would need to be performed. Many of these changes were initiated and constructed with the assumption that the Monroe Bypass was still going to be built. Given the long history of the project, it is entirely appropriate for the community to have planned around the proposed roadway.
4	Response to EPA DEIS Comments	Regarding the Response to Comment #11, EPA continues to disagree with Quantitative Third Screening that was used for the Detailed Study Alternative and the use of a 'conceptual right of way' and GIS level data in lieu of actual wetland and stream delineations. The FEIS response to EPA's DEIS comment has not been adequately addressed.	The previous response to USEPA comment regarding the quantitative screening is still valid. The final methodology for Alternative screening was discussed at the April 18, 2007 Turnpike Environmental Agency Coordination (TEAC) and results of the first and second qualitative screening and 3rd quantitative screening were discussed at the 5/15/07, 9/27/07 and 10/17/07 TEAC meetings. The minutes of these meetings do not reflect USEPA raising any concern with the proposed methodology. USEPA provided NCTA with a letter on 12/4/07 containing their comments to the Draft Alternatives Development and Analysis Report. In these comments there is no mention of concern with the level of detail of the third quantitative screening or the use of 'conceptual right of way'. The only concern raised in regard to the third quantitative screening was that a "more 'robust' quantitative analysis needs to be constructed for this project, including development of an emission inventory, obtaining 'near-roadside' baseline monitoring data, and an evaluation of the potential health impacts (including cancer risk estimates based upon published values) for the different detailed study alternatives A, C and G."

Table C-7: US Environmental Protection Agency

Document: a005 letter dated July 12, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
5	Response to EPA DEIS Comments	Similarly, Responses to Comments #12 and #13 do not address the increases and decreases in residential and business relocations and jurisdictional impacts.	See response to comment 4 in the Environmental Protection Agency Letter (a005). Changes in residential and business relocations and jurisdictional impacts between the quantitative third screening Preliminary Study Alternatives and the Detailed Study Alternatives were related to changes in the designs (which would have been similar for all Preliminary Study Alternatives moving into Detailed Study Alternatives), continued updates to GIS data, and use of surveyed wetlands and streams for calculating impacts from the Detailed Study Alternatives.
6	Response to EPA DEIS Comments	For Response to Comment #15, there is no socio-economic analysis to local businesses and retail stores along US 74 that will potentially see far less business once the new toll facility is constructed.	A socio-economic analysis is not required. Local traffic will continue to use existing US 74 to access the businesses located along it. This project has the support of Union County along with the Union County Partnership for Progress which promotes economic and community development in Union County and its cities and towns. Operating under contract with Union County Government, Partnership for Progress targets and recruits new businesses and supports existing businesses throughout the County.
7	Response to EPA DEIS Comments	Response to Comment #18 does not include recommendations for potential avoidance and minimization by reducing the 70-foot proposed median and 12-foot paved outside shoulders. There is no specific recommendation as to what 'additional opportunities for impact minimization and cost reduction' will be and what opportunity for agency input will be considered during the final design.	As discussed in Section 2.3.1 of the ROD, changes in design criteria such as steeper side slopes in jurisdictional areas, reduced median widths, reduced paved shoulders, the use of retaining walls, etc will be discussed as part of the Value Engineering analyses of the Design/Build phase. In advance of the Value Engineering analyses, the project details section of the Design-Build Request for Proposal (RFP) calls for the use of a 46-foot median on new location portions of the roadway. The RFP also identifies the reduction of the 12-foot (4-foot paved) inside shoulders to 6-foot (4-foot paved) and allows for a maximum cut and fill slope of 2:1 (H:V). Any variations in the functional design and/or construction methods that nullify any decisions reached between the NCTA and the Environmental Agencies; and/or require additional coordination with the Environmental Agencies shall be the responsibility of the selected Design-Build Team.

Table C-7: US Environmental Protection Agency

Document: a005 letter dated July 12, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
8	Response to EPA DEIS Comments	The Response to Comment #19 concerning compensatory mitigation is not detailed or responsive to the specific issues (See comments below). The conceptual mitigation plan referenced in Response to Comment #20 and included in Section 2.5.4.4 is not detailed. Essentially, NCTA and FHWA state that with the exception of possibly 4 on-site mitigation opportunities, all compensatory mitigation will be provided through the in-lieu fee program of Ecosystem Enhancement Program (EEP) and they have been regularly apprised of anticipated mitigation requirements. Unfortunately, NCTA and FHWA have been going on the assumption that only some of the intermittent stream impacts will require compensatory mitigation. This is no longer the case, as the North Carolina Division of Water Quality now requires mitigation for all intermittent streams. The conceptual mitigation plan is actually a technical memorandum that is incorporated by reference to the FEIS (This document should have been included in one of the appendices to the FEIS). There is no information provided through the EEP as to what mitigation assets are available or what is being planned for the impacted watershed basins. This deficiency of a detailed mitigation proposal is significant and needs to be resolved prior to the issuance of a ROD. Response to Comment #24 is also not responsive. The resource and permitting agencies have not been given the opportunity to provide a detailed field review of the 4 potential sites. EPA continues to have substantial environmental concerns for the lack of detail concerning compensatory mitigation.	NCTA and FHWA are aware of the changes to stream mitigation requirements. In a June 24, 2010 letter to USACE and NCTA, the Ecosystem Enhancement Program confirmed that they will provide all compensatory stream (intermittent and perennial) and riparian wetland mitigation for this project. A copy of this letter can be found in **Appendix A**. The conceptual mitigation plan is incorporated into the Final EIS by reference and can be found on the project website: http://www.ncturnpike.org/projects/monroe/Final%20EIS/Tech_Report_Conceptual_Mitigation.pdf
9	Response to EPA DEIS Comments	NCTA and FHWA's response to Comment #22 is not responsive and there is no estimate of potential impacts to jurisdictional resources from anticipated borrow pits and from waste disposal. This potentially substantial environmental issue is being deferred to later design work and potentially after the issuance of the Record of Decisions (ROD).	Until final design plans are completed, the exact amount of borrow and waste materials associated with this project cannot be determined. As previously stated, the Design-Build team will be required to acquire applicable permits relative to borrow pits and comply with requirements for borrow pits, dewatering, and any temporary work conducted in jurisdictional areas.

Table C-7: US Environmental Protection Agency

Document: a005 letter dated July 12, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
10	Response to EPA DEIS Comments	EPA does not agree with the Response to Comment #23 and the ICE findings. Contrary to the response provided, there are anticipated water quality issues associated with the proposed project, and minimally, to the 303(d) listed Stewarts Creek. Pollutant loadings for the six catchments did not remain 'unchanged' between the 2030 No-Build and the 2030 Recommended Preferred Alternative (RPA) scenarios. Table 17 of the ICE shows Total Nitrogen (TN) for lower Richardson's Creek to be 1.52% higher between the 2030 RPA and 2030 No-Build. Total Phosphorus (TP) shown in Table 18 is also increased by 2.52% and 4.50% for Stewarts Creek and Richardson's Creek, respectively. Table 19 likewise shows four catchments with increased Total Suspended Solid (TSS) between 1.45% and 2.20% between 2030 RPA and the 2030 No-Build. Referring to Tables 20 and 21, Total Fecal Coliform for Richardson's Creek is estimated to increase by 20.49% and Mean Fecal Coliform for Ray's Fork is estimated to increase by 46.9% between the 2030 RPA and the 2030 No-Build. The statement that "*water quality in these catchments was found to be unaffected by the Project…*" is inaccurate and not supported by the ICE report findings.	The previous response to Draft EIS Comment #23 was clarified in section 2.5.5.2 of the Final EIS. "For the FLUSA as a whole, minor increases in stream flow, runoff, and pollutant loadings are confined to the six catchments intersected by the Preferred Alternative: Crooked, Richardson (Middle), Rays Fork, Stewarts, Richardson (Lower), and Salem Creeks. Of these catchments, Stewarts had the largest change in development density between the No Build and Build scenarios. Stewarts also had the largest amount of new development between 2030 No Build and Build. However, Richardson Creek (Lower) would experience the largest percent increases in runoff (5.97 percent increase between 2030 No Build and Build scenarios), and pollutant loads because the development would largely take place in an urban portion of the catchment. Water quality in the remainder of the FLUSA (13 catchments) was found to be unaffected by the Preferred Alternative, as the estimated runoff, stream flow and pollutant loadings for the catchments remained unchanged between the 2030 No Build and Build scenarios." It was recognized that there would be some change to six catchments however the remaining catchments in the study area would not be affected. The percent changes in pollutant loading expected between the Build and No Build scenarios was provided in the *Indirect and Cumulative Effects Water Quality Analysis* (PBS&J, April 2010) which is included as Appendix I of the Final EIS. Consistent with acceptable practices, no attempt was made to determine within the Final EIS whether these increases are excessive. There is no clear guidance on what % change in runoff, nitrogen loading, etc. are considered excessive. The North Carolina Department of Natural Resources – Division of Water Quality (DWQ) will be provided this data for their consideration during the Section 401 Water Quality Certification process, and to date they have not raised any concerns with this issue.
11	Response to EPA DEIS Comments	The Response to Comment #27 is similar to the discussion provided for Comment #2. EPA does not concur with the analysis on VMTs provides in the FEIS.	See response to comment 2 in the Environmental Protection Agency Letter (a005).

Table C-7: US Environmental Protection Agency

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COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
12	Response to EPA DEIS Comments	The land use assumptions as it relates to a lack of access to sewer service in Response to Comment #29 is speculative. The ICE predicts 1,200 acres of low-density residential development, 700 more acres of medium density residential development and approximately 100 acres of industrial/office/institutional development compared to the 2030 No-Build. Considering the 'development sprawl' that has characterized the eastern portion of the project study area for the last 10 years or more, this additional increase in development resulting from the new toll facility is believed by EPA to be very significant. Water supply, wastewater treatment, available 'greenspace', and other natural resources will be further strained in the project study area resulting from the construction of the new toll facility.	The ICE predicts additional development of the following amounts and types: 700 acres medium density residential, less than 100 acres high density residential, 200 acres commercial and 100 acres industrial/office or institutional. This is in addition to the direct addition of roadway acreage from the new highway. Approximately 1,200 fewer acres of low density residential development is expected under the Build Scenario as it will be replaced by roadway, medium or high density residential, commercial or industrial/office or institutional uses. Overall, the net impact is the addition of about 1,000 developed acres, or just less than 1% more than under the No Build Scenario. Any additional development attributable to the Build Scenario will likely add to demand for water and wastewater services and may require development of previously undeveloped areas. The incremental increase, however, is relatively small compared to the overall anticipated level of growth.

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Document: a005 letter dated July 12, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
13		Responses to the EPA comments on Mobile Source Air Toxics (MSATs) are noted and EPA does not concur that a site specific analysis should not be performed for potential near roadway sensitive receptors such as schools indentified from the DEIS. EPA has reviewed the updated information contained in Appendix E. NCTA and FHWA acknowledge there may be some localized MSAT increases and decreases but do not consider the near roadway aspects to sensitive receptors nor the potential for possible mitigation measures (such as noise walls) where schools will be in close proximity to the new toll facility. The same arguments concerning modeling deficiencies, health effects, future vehicle and fuel standards, national MSAT emission 'trends', etc. is repeated from previous NEPA documents and FHWA's 2006 Interim Guidance. The assessment criteria for performing a quantitative MSAT analysis is not specifically supported by any relevant or creditable studies or research. This regional 'airshed' view is not believed to be fully relevant to near roadway sensitive receptors. Higher traffic volumes of 140,000 ADT or more is related to the proximity of the sensitive receptors to the new facility or the likelihood of exposure, including duration and concentration. There are innumerable toxicological studies that document the 'cumulative and synergistic effects' of exposure to harmful chemicals. The air quality in the Metrolina area is already compromised for ozone and particulate matter. Sensitive populations are already at greater risk from exposure to MSATs. The analysis provide in the FEIS does not address this issue. Much of the emission assumptions for MSATs are based on VMT estimates that are not believed to be accurate. The 3 elementary schools and 1 high school cited on page E-6 continue to be locations where, at a minimum, NCTA and FHWA should commit to localized MSAT monitoring, including baseline information and post-construction. The Responses to Comments #33, #34 and #35 are also not responsive and the same guidance and DEIS positions on MSATs is cited.	As stated in Appendix E of the Final EIS, "Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project-level decision-making within the context of the NEPA. Nonetheless, air toxics concerns continue to be raised on highway projects during the NEPA process. Even as the science emerges, FHWA is duly expected by the public and other agencies to address MSAT impacts in our environmental documents. The FHWA, USEPA, the Health Effects Institute, and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this emerging field. While this research is ongoing, FHWA requires each NEPA document to qualitatively address MSATs and their relationship to the specific highway project through a tiered approach (*Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents*, September 30, 2009). This approach is consistent and meets the requirements of 40 CFR 1502.22 which requires that "When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking." In FHWA's view, existing information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action. It is FHWA's opinion that responses to Draft EIS comments 33, 34 and 35 are complete and responsive and do not require additional explanation.

Table C-7: US Environmental Protection Agency

Document: a005 letter dated July 12, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
14		Regarding Response to Comment #32, EPA will provide specific recommendations on reducing emissions at future TEAC meetings. It is confusing as to why NCTA and FHWA were unable to obtain this requested information on low-sulfur diesel fuel sources, air pollution control devices for equipment and other construction issues prior to issuing a FEIS.	For the past two years, Mecklenburg County Air Quality has administered a sub-grant program to provide incentive funding to organizations that replace, re-power, or retrofit their heavy-duty non-road construction equipment used in the Metrolina region as part of the Grants to Replace Aging Diesel Engines (**GRADE**) project. Over 100,000 public and privately owned equipment and engines (Non-Road Diesel, On-Road Heavy Duty Diesel and Stationary Diesel Equipment) in the 13-county, bi-state region of North and South Carolina, are eligible to participate in this grant opportunity. With funding from the Federal environmental grants, stimulus funds, state grants and local funding has resulted in almost $3 million in funding to support **GRADE** since its inception in 2007. One of the construction firms shortlisted for the Design-Build phase is a participant in this program. The second phase of this project, **GRADE+,** specifically targets nitrogen oxides (NOx) that contribute to the ozone problem in the Charlotte region. Any company that operates eligible equipment within the 13 county region is eligible to apply for funding to clean up that equipment. Contractors who are not currently participating in this program will be encouraged to do so as additional funding becomes available. The NCTA will providing the Design-Build Team any additional information that USEPA can offer specific to the following issues: 1) availability of low sulfur fuel for construction equipment and information on cost differential; 2) Information on the latest air pollution control devices on construction equipment and whether all equipment needs to be new or be retrofitted; 3) A suggested reasonable amount of time for equipment to idle versus the effect of equipment restarts; and 4) Examples of other forms of dust control that have been used successfully on large construction projects (e.g. foam).

Table C-7: US Environmental Protection Agency

Document: a005 letter dated July 12, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
15		The Responses to Comments #37 and #38 regarding Farmlands furthers EPA's previous concerns regarding the loss of agriculture in the project study area and the significant impact the proposed project will have on suitable prime and unique farmlands. The 2007 Census of Agriculture information confirms trends of losing farmlands in North Carolina, including those in Mecklenburg and Union Counties. DSA D will convert 964 acres of prime farmland soils and Statewide and important farmland soils to non-agricultural uses. This represents 1.5 square miles of direct impact, exclusive of the indirect and cumulative effects from new development spurred by the project (The ICE predicts 1,200 acres of low-density residential development, 700 more acres of medium density residential development and approximately 100 acres of industrial/office/institutional development compared to the 2030 No-Build). This equates to potentially an additional 3.1 square miles of converting farmland soils and terrestrial forests to non-agricultural uses.	This project meets the requirements of Farmland Protection Policy Act of 1981 (FPPA), 7 U.S.C. 4201, as amended, and its implementing regulations, 7 CFR Part 658. Potential farmland conversion was coordinated with the United States Department of Agriculture – Natural Resources and Conservation Services (NRCS). As part of the farmland evaluation, NRCS form AD1006 was completed. Sites receiving a total score of 160 points on this form are given increasingly higher levels of consideration for protection (7 CFR 658.4). None of the DSAs studied as part of this project received a score higher than 160 points. Farmland was considered in the evaluation of all the DSA's, and in the selection of the Preferred Alternative. The Preferred Alternative has among the lowest impacts to Prime farmland soils, agricultural land and forests as discussed in **Section 1.3.2.3** of the Final EIS.
16		The farm displacements comment in Section 1.3.2.4 is speculative opinion and not supported by any actual investigation or inquiry into 'suitable farm replacement property'.	The presence of suitable farm replacement was identified through the research associated with the *Relocation Reports for the Monroe Connector/Bypass* (Carolina Land Acquisition, January 2009).

Table C-7: US Environmental Protection Agency

Document: a005 letter dated July 12, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
17		Part of the Response to Comment #39 is included in Section 1.3.4.3 regarding impacts to natural communities and wildlife. Under terrestrial wildlife the following statement is included in the FEIS: "*Habitat fragmentation also is expected to occur under the No-Build Alternative due to continued growth in population and development within Union County*'. This comment is meant to detract from the actual impacts from the proposed project. A new, 19.7-mile, multi-lane speed "linear" facility in a suburban and rural setting and the indirect and cumulative effects of induced development is going to have a significant impact on habitat fragmentation. Wildlife mortality and vehicle collisions with large mammals such as deer are expected to be very substantial. The FEIS does not propose any form of mitigation for these serious safety and environmental issues.	Forested habitat fragmentation was addressed through a patch analysis which measured the amount of edge between forested patches and developed patches in the Baseline and future conditions. These comparisons are presented in Table 25 of the *Indirect and Cumulative Effects Quantitative Analysis* (Michael Baker Engineering, Inc, April 2010). The North Carolina Gap Analysis Project (NCGAP) categories used to define the forested lands were the same as those identified in Section 6.3 of the *Indirect and Cumulative Effects Quantitative Analysis*. The methodology used to distribute land use effects in the ICE analysis by definition creates a greater fragmentation of developed parcels than would be expected to occur with a typical process of land development in the future; therefore, the fragmentation effects should be considered high and conservative to a large extent. Any new location facility will have some impacts on habitat fragmentation. The ICE concluded that induced development would not have a significant effect on forest fragmentation compared to the No Build scenario. The North Carolina Wildlife Resources Commission specifically noted that the extensive use of bridge crossings should help limit wildlife mortality from road collisions by providing numerous safe crossings under the proposed road.
18	Jurisdictional Wetland and Stream Impacts	FHWA and NCTA's preferred alternative DSA D has 9,794 linear feet of perennial stream impact, 12,269 linear feet of intermittent stream impact for a total of 22,063 linear feet of stream impact. However, these impacts are actually from the DEIS. These impacts include 104 total stream crossings. Wetland impacts are estimated at 8.1 acres with 47 total wetland systems being impacted. There are 2.6 acres of pond impacts. Impacts were estimated using functional design construction limits with an additional 40-foot buffer ("in accordance with NCDOT procedures"; Footnote in Table 1-8). Under the NEPA/Section 404 Merger process, preliminary designs are typically utilized and are more accurate than functional designs. Under the Merger process, calculations are based upon construction slope stakes and 25-foot buffers. EPA is uncertain as to the accuracy of the impact estimates as provided by NCTA for the proposed project. This is further illustrated on Pages 2-33 and 2-34 where impacts actually increased following the issuance of the DEIS. Service roads have added an additional 1,489 linear feet of total stream impact which 1,260 linear feet is expected to require compensatory mitigation.	Updated jurisdictional resource impacts for the Preferred Alternative are found in **Table 2-3** of the Final EIS. As stated in Section 9.4.2 of the Section 6002 Coordination Plan prepared for this project, "*functional design will be used as the basis for comparing the impacts of the alternatives in the DEIS (known as the Detailed Study Alternatives) and will be used for developing the cost estimates presented in the DEIS*." This matter was previously discussed at the December 15, 2006 TEAC meeting and as documented in the minutes, "*Several of the agencies expressed general support for this approach, noting that in most cases an increased level of design would not affect the decision on a Preferred Alternative and completing preliminary design on multiple alternatives is often an inefficient use of time and funds.*" NCDOT procedure *Wetland Stream and Riparian Buffer Impact Calculations* (September 2006) states that for a Functional Design level of detail, impacts will be computed from slope stake limits plus an additional 40 feet to each side of the slope stake limit. Refined impacts of the preferred alternative based on the final design will be reflected in the final permit application.

Table C-7: US Environmental Protection Agency

Document: a005 letter dated July 12, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
19		Table 2-11 does not match the information contained in Table 1-8. The total length of streams requiring compensatory for the preferred alternative DSA D increased by 685 linear feet to total 13,235 linear feet from the issuance of the DEIS (Table 2-3). Overall, stream impacts after avoidance and minimization proposed by NCTA and FHWA increased by 1,020 linear feet (i.e., 22,063 linear feet for DSA D in DEIS and 23,083 linear feet for DSA D in FEIS). Design refinements identified on Page 2-34 resulted in a decrease of 709 linear feet of jurisdictional stream impacts, but the overall total stream impacts increased to 23,083 linear feet. Wetland impacts remained the same, pond impacts increased by 0.5 acres, the number of streams impacted increased by 3 to total 107 and the number of wetland systems impacted decreased by 1 to 46 systems.	The data presented in Tables 1-8 and 2-11 represent two different scenarios. Table 1-8 reflects impacts associated with the Detailed Study Alternatives (DSAs) as presented in the Draft EIS. Table 2-11 reflects impacts of the Preferred Alternative as a result of the addition of service roads, design refinements and updated field work.
20		Most of the bridging decisions discussed during the TEAC meetings were based upon avoidance to human resources (Section 2.3 of the FEIS) and not to specifically reducing impacts to jurisdictional systems. Indirectly, there were some reductions to the increases resulting from the inclusion of service roads and their anticipated impacts (Page 2-11 of the FEIS). However, the overall increase in stream impacts from the DEIS to the FEIS for the Preferred Alternative DSA D (and "the likely LEDPA"; Page 3-4) is approximately 4.6%. These stream impact 'reductions' are identified on Pages 2-11 and 2-12, Section 2.3.3 of the FEIS. EPA continues to have substantial environmental concerns that the DEIS did not provide an accurate assessment and analysis of the actual jurisdictional impacts. Other Section 404 avoidance and minimization measures such as steeper side slopes in jurisdictional areas, reduced median widths, reduced paved shoulders, the use of retaining walls, etc., were not addressed and should be considered during TEAC meetings and included in the Record of Decision (ROD).	See response to comments 7, 17 and 18 in the Environmental Protection Agency Letter (a005).

Table C-7: US Environmental Protection Agency

Document: a005 letter dated July 12, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
21	Compensatory Mitigation and Other Special Conditions	The FEIS includes statements that compensatory mitigation is only required for intermittent streams scoring greater than 26 on the DWQ stream delineation forms. EPA understands that NCDWQ is requiring compensatory mitigation for all jurisdictional streams, including intermittent and perennial. The NCDWQ compensatory mitigation requirement for all intermittent streams was made effective in October of 2009. The 'conceptual mitigation plan' identified on Page 2-34 is not detailed. The EEP assets that are currently available or planned for this project are not included in the generalized discussion.	See response to comment 8 in the Environmental Protection Agency Letter (a005)
22		The potential mitigation credits for the 4 sites are not listed. The statement under 'Wetland Finding' that wetland impacts resulted in no net gain from the refined design is misleading. Jurisdictional stream impacts increased from the addition of service roads between the DEIS and the FEIS.	The statement under "Wetland Findings" that there is no net gain in wetland impacts is accurate. Increases in stream impact between the DEIS and FEIS are discussed earlier in **Section 2.5.4.4**.
23		The FEIS indicates on Page 2-33 that stream and wetland impacts are expected to decrease from functional designs to preliminary designs as the level of the design increases. The total impact to streams is 23,083 linear feet and the total wetland impact is estimated at 8.1 acres. Surface water or pond impacts are estimated at 3.1 acres. EPA continues to have substantial environmental concerns for water quality based on the magnitude of the impacts to waters of the U.S. North Fork Crooked Creek, South Fork Crooked Creek, Richardson Creek and Stewarts Creek are all on the 303(d) list of impaired waters.	As the project moves into final design, it is anticipated that estimated impacts to wetlands and streams would decrease as the buffer required to be included in the calculations is decreased. Also, see response to comment 10 in the Environmental Protection Agency Letter (a005).

Table C-7: US Environmental Protection Agency

Document: a005 letter dated July 12, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
24		The FEIS identifies that, 'strict adherence to standard Best Management Practices (BMPs) including those for sedimentation and erosions control and the NCDOT Design Standards in Sensitive Watersheds, will minimize project impacts". A North Carolina State University (NCSU) study conducted for NCDOT potentially refutes this proposition especially in very erosive Piedmont soils. This 3-year study showed that tons of sediment each year was lost from an NCDOT highway project despite the use of BMPs and that 2 of the 3 years of the study were in severe drought conditions. NCTA and FHWA seem to be anticipating these potential impacts to impaired waters using BMPs 'as a turbidity water quality testing program' for the main stem of Stewarts Creek will also be implemented to evaluate the performance of BMPs (Page 2-32). Testing is proposed upstream and downstream of the construction area as well as before, during and after construction. While EPA generally supports this testing program, the FEIS fails to provide an adequate response plan to potential turbidity problems once they are detected through sampling (testing). The FEIS places full responsibility of 'pollution' and implementation of BMPs on the selected contractor. EPA believes that a turbidity-testing program is also appropriate for other impacted 303(d) listed waters, including Richardson Creek, North Fork Crooked Creek and South fork Crooked Creek.	The NCSU study cited *"Improving construction site runoff quality with fiber check dams and polyacrylamide"(*Richard A. McLaughlin, Scott E. King and Greg D. Jennings, North Carolina State University, March 2009) does not conclude that the current NCDOT BMPs were not effective, but rather identified additional methods which may perform better for similar costs. As a result of this study, NCDOT is in the process of incorporating natural fiber check dams enhanced with polyacrylamide as the new BMP in road construction. http://www.ncsu.edu/project/calscommblogs/news/archives/2009/04/nc_state_study.html

Table C-7: US Environmental Protection Agency

Document: a005 letter dated July 12, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
25	Indirect and Cumulative Effects Quantitative Analysis	Appendix I of Volume 3 includes the Quantitative Indirect Cumulative Effects (ICE) Analysis on Water Quality. Also, Page 2-49 and 2-50 of the FEIS includes a summary of water modeling. The ICE analysis includes models and calculations based on various land use change assumptions for impervious cover changes. The FEIS report contains the same tables presented in the March 11, 2010, draft ICE report. Model estimates of annual stream flow, runoff and annual pollutant loadings of total nitrogen, total phosphorus, total suspended solids and fecal coliform. A Baseline condition, 2030 No-Build and 2030 Build scenarios were evaluated. EPA does believe that the following statement is germane to the direct action under consideration: "*in reality, substantial reductions in pollutant loadings could be attained as future development takes place if existing BMP regulations are enforced and BMPs are constructed and maintained properly*". Table 5 in the ICE report shows that Union County has no stormwater BMPs.	The statement has been removed from the *Indirect and Cumulative Effects Water Quality Analysis* (PBS&J, April 2010) and the document revised.

Table C-7: US Environmental Protection Agency

Document: a005 letter dated July 12, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
26	Indirect and Cumulative Effects Quantitative Analysis	Indirect and cumulative effects including changes in impervious surface are expected to be very significant in several of the watersheds. The North Fork Crooked Creek, South Fork Crooked Creek, Richardson Creek and Stewarts Creek are 303(d) listed. One of the largest predicted ICE changes in pollutant loadings is to Stewarts Creek. Obviously, new development and a lack of enforced BMPs have obviously caused the watershed to be impaired (Page 2-50). NCTA and FHWA propose no mitigation for the ICE resulting from the proposed project and the changes in impervious surfaces, development density and pollutant loading to Stewarts Creek. An increase of 7% increase in impervious surface in the Stewarts Creek watershed could have increased indirect and cumulative impacts on water quality that do not appear to be addressed in the ICE report or the FEIS. The North fork Crooked Creek, South Fork Crooked Creek, and Richardson Creek are also 303(d) listed. Several other 303(d) listed streams will also have ICE that result in additional pollutant loadings, including Richardson /creek and Crooked Creek although the rate of change in impervious surface is predicted to be lower. NCTA and FHWA are proposing no mitigation for the ICE to water quality to these impaired waters. FHWA's position on not mitigating for ICE is included on Page 3-22 of the EIS.	See response to comment 10 in the Environmental Protection Agency Letter (a005). As noted, FHWA's legal responsibility for mitigating project impacts can be found in 23 CFR 771.105(d)

Table C-7: US Environmental Protection Agency

Document: a005 letter dated July 12, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
27	Indirect and Cumulative Effects Quantitative Analysis	The ICE makes several assumptions in predicting future land use in the study area. One of the assumptions is that growth in Union County may be controlled by a moratorium on new sewer connections. There may be a moratorium implemented at the local level, however, the moratorium implemented by NCDWQ has subsequently been lifted. It is also NCDWQ's position that Union County's existing watershed facilities currently have the capacity to accept additional waste loads. The ICE analysis does not appear to reflect this changed condition and what effects it would have on growth projections through the design year of 2030. Table 1-7 provides active NPDES permits with discharges to streams in the project study area. The permitted flows are included for 6 of the 8 entities listed. Alvac and the City of Monroe are apparently not limited. EPA requests that the average daily flow versus capacity be provided in the ROD. This 'capacity versus use' issue should be further evaluated in the context of the ICE assumption on development in the project study area. It is also important to note that all of the receiving streams shown in Table 1-7 are 303(d) listed for impairments. EPA has concerns regarding riparian buffers and what controls have actually been adopted, are being implemented and enforced through local governments.	In the Executive Summary of the ICE, item 5 on page ii under the assumptions and observations that informed the process says "Past growth has caused a moratorium in new sewer connections in Union County. The new process for allocating sewer service, once adopted, may serve as a control on growth." This item should be considered an observation as noted in interviews with local planners regarding the short term development situation. Most local officials and planners agreed that in the long term, by 2030, any existing capacity limitations would be addressed and that water and wastewater capacity would not be a limit on long term growth. Therefore, the ICE land use forecasting process did not consider any capacity limitation on water or wastewater services in determining land use for the No Build or Build scenarios. Anticipated areas to be served by water and wastewater utilities were considered in both the No Build and Build Scenarios when allocating forecasted growth and estimating density of development. Areas that are not expected to be served by wastewater would have limited ability to increase density beyond low density residential. Per interviews with local planners, certain communities, such as Unionville and Fairview, have no intention of increasing density of development beyond low density residential even if water and wastewater services are provided. Stream buffer regulations are described in the ICE and their use in land use forecasting is described in section 3.4. Most stream buffer regulations come from the post-construction ordinances developed by localities in concert with NCDENR. Planners and other officials interviewed were unaware of any violations of these buffers. See Appendix A of the ICE Report for responses from local officials regarding stream buffer regulations and their enforcement.
28	Indirect and Cumulative Effects Quantitative Analysis	EPA continues to have substantial environmental concerns resulting from the indirect and cumulative effects of the recommended preferred alternative (RPA – DSA D) on water resources and the lack of proposed measures to address these impacts. These environmental concerns need to be addressed prior to the issuance of a ROD.	Concerns expressed in the EPA's letter (a005) have been addressed in the responses provided to comments 1 through 27. The NCTA must obtain a Section 404 permit from the USACE and a Section 401 Water Quality Certification from the NCDWQ prior to project construction. Mitigation needed for these permits will be determined by the USACE and the NCDWQ.

North Carolina
Department of Administration

Beverly Eaves Perdue, Governor

Moses Carey, Jr., Secretary

July 22, 2010

Ms. Jennifer Harris
State of N.C. Turnpike Authority
1578 Mail Service Center
Raleigh, NC 27699-1578

Re: SCH File # 10-E-4220-0435; FEIS; Improvements in the Monroe Connector/Bypass from I-485 to US 74 in the vicinity of the Town of Marshville in Union Co. TIP Nos. R-3329 & R-2559

Dear Ms. Harris:

The above referenced environmental impact information has been submitted to the State Clearinghouse under the provisions of the National Environmental Policy Act. According to G.S. 113A-10, when a state agency is required to prepare an environmental document under the provisions of federal law, the environmental document meets the provisions of the State Environmental Policy Act. Attached to this letter for your consideration are **additional** comments made by agencies in the course of this review.

If any further environmental review documents are prepared for this project, they should be forwarded to this office for intergovernmental review.

Should you have any questions, please do not hesitate to call.

Sincerely,

Chrys Baggett (SJG)

Ms. Chrys Baggett
State Environmental Review Clearinghouse

Attachments

cc: Region F

Mailing Address:
1301 Mail Service Center
Raleigh, NC 27699-1301

Telephone: (919)807-2425
Fax (919)733-9571
State Courier 851-01-00
e-mail state.clearinghouse@doa.nc.gov

Location Address:
116 West Jones Street
Raleigh, North Carolina

a006

NORTH CAROLINA STATE CLEARINGHOUSE
DEPARTMENT OF ADMINISTRATION
INTERGOVERNMENTAL REVIEW

COUNTY: UNION
MECKLENBURG

F05: RAILROADS

STATE NUMBER: 10-E-4220-0435
DATE RECEIVED: 06/10/2010
AGENCY RESPONSE: 07/07/2010
REVIEW CLOSED: 07/12/2010

CLEARINGHOUSE COORDINATOR
CC&PS - DIV OF EMERGENCY MANAGEMENT
FLOODPLAIN MANAGEMENT PROGRAM
MSC # 4719
RALEIGH NC

REVIEW DISTRIBUTION
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DEPT OF AGRICULTURE
DEPT OF CULTURAL RESOURCES
DEPT OF TRANSPORTATION

JUL 2010 RECEIVED Secretary's Office DOA

RECEIVED JUN 11 2010 N.C. Floodplain Mapping Program

PROJECT INFORMATION
APPLICANT: State of N.C. Turnpike Authority
TYPE: National Environmental Policy Act
Final Environmental Impact Statement

DESC: Improvements in the Monroe Connector/Bypass from I-485 to US 74 in the vicinity of the Town of Marshville in Union Co. TIP Nos. R-3329 & R-2559

CROSS-REFERENCE NUMBER: 02-E-4220-0309 04-E-4220-0332 07-E-4220-0235 09-E-4220-0292

The attached project has been submitted to the N. C. State Clearinghouse for intergovernmental review. Please review and submit your response by the above indicated date to 1301 Mail Service Center, Raleigh NC 27699-1301.

If additional review time is needed, please contact this office at (919)807-2425.

AS A RESULT OF THIS REVIEW THE FOLLOWING IS SUBMITTED: ☐ NO COMMENT ☑ COMMENTS ATTACHED

SIGNED BY: John F. Sutton DATE: 7/9/10

1 Project impacts numerous regulated Special Flood Hazard Areas. Coordination with NCDOT Hydraulics Unit should be made to ensure Compliance with EO 11988 and the FEMA NFIP Regulations - 44 CFR, AND NC EO 123 ARE MET Through the MOA between NCDOT and NCEM OGTM.

Table C-8: NC Department of Crime Control and Public Safety – Floodplain Management Program

Document: a006 letter dated July 9, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
1	Floodplains	Project impacts numerous regulated Special Flood Hazard Areas. Coordination with NCDOT Hydraulics Unit should be made to ensure compliance with E.O. 11988 and the FEMA NFIP Regulations (44 CFR and NC E.O. 123) are met through the MOA between NCDOT and NCEM OGTM.	As of June 27, 2009, the NCTA is a division of NCDOT and will coordinate closely with the NCDOT Hydraulics unit.

a007

United States Department of the Interior

AUG 2 2010

FISH AND WILDLIFE SERVICE
Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

July 29, 2010

Mr. Steven D. DeWitt, P.E.
North Carolina Turnpike Authority
1578 Mail Service Center
Raleigh, North Carolina 27699-1578

Dear Mr. DeWitt:

Subject: Endangered Species Concurrence and Comments on the Final Environmental Impact Statement for the Proposed Monroe Connector/Bypass Project, Mecklenburg and Union Counties, North Carolina, TIP Nos. R-3329 and R-2559

We have reviewed the Biological Assessment (BA) and your concurrence request regarding potential impacts to federally listed species for the subject project and the final Environmental Impact Statement (EIS). We provide the following comments in accordance with the provisions of section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act).

The North Carolina Turnpike Authority proposes to construct a new-location, controlled-access toll facility from I-485 in Mecklenburg County to US 74 between the towns of Wingate and Marshville in Union County, about 20 miles in length. The project is known as the Monroe Connector/ Bypass, and the recommended preferred alternative (RPA) roughly parallels existing US 74 to the north, connecting to existing US 74 on both the eastern and western termini.

We have been involved in the development of this project and have provided extensive comments in writing and through participation in agency coordination meetings. Our concerns for the implementation of the project have included impacts to streams and wetlands and wildlife habitat and, in particular, the potential for indirect impacts to the Goose and Sixmile Creek watersheds, both of which are occupied by the federally endangered Carolina heelsplitter (*Lasmigona decorata*) and are designated critical habitat for the heelsplitter in Goose and Duck Creeks. The RPA has no direct impacts to the Goose or Sixmile Creek watersheds or federally listed species. The following provides our concurrence with your conclusions for federally listed species for the RPA.

Carolina heelsplitter (*Lasmigona decorata*)

We have reviewed the BA and your conclusions regarding the impacts of this project on the federally endangered Carolina heelsplitter and its designated critical habitat in the Goose Creek watershed. In addition, we have carefully reviewed the source documents for the BA, including the draft and final EISs, the Qualitative and Quantitative Indirect and Cumulative Effects Assessments, and the Indirect and Cumulative Effects Water Quality Analysis. According to the information provided, levels of impervious surface and water quality parameters were the primary indirect effects analyzed. Current levels of imperviousness in the Goose and Sixmile Creek watersheds are at 13 percent and 25 percent, respectively, and are expected to increase to 17 percent and 30 percent in the 2030 no-build scenario. These changes are independent of the project, which shows little change in the levels of imperviousness between the build and no-build scenarios. Given that aquatic habitat degradation begins at levels of 6 percent imperviousness, these watersheds are already experiencing negative changes affecting the long-term viability of the heelsplitter in both Goose and Sixmile Creeks. Water quality parameters modeled for these watersheds show similar trends for the build and no-build scenarios.

Although the analysis concluded that the effects to the Carolina heelsplitter from the proposed project are very similar to the no-build scenario, it acknowledged that there is a level of uncertainty associated with the conclusions because of the assumptions used in the analysis of effects. In order to address this uncertainty, you have agreed to fund conservation in the Flat Creek watershed in South Carolina to help offset any potential but unpredictable impacts to the species. In addition, you have agreed to fund the continued operation of the U.S. Geological Survey's stream gauge on Goose Creek for 5 years. Based on the analysis, the information provided, and the proposed conservation, we concur that the proposed project is "not likely to adversely affect" the Carolina heelsplitter in the project area. However, the Carolina heelsplitter is one of the most critically endangered species in the Southeastern United States and is rapidly declining throughout its range, primarily from the effects of increased impervious surface area as a result of urbanization. Without significant conservation efforts this species is likely to become extinct in the near future. Given the degree of imperilment of the Carolina heelsplitter and in accordance with section 7(a)(1) of the Act, we encourage you to consider implementing additional measures to help further the purposes of the Act, such as conservation and restoration within the Goose and Duck Creek watershed and/or the purchase of additional land or credits in the Flat Creek watershed.

Schweinitz's sunflower (*Helianthus schweinitzii*)

We have reviewed the BA and your conclusions regarding the impacts of this project on the federally endangered Schweinitz's sunflower (*Helianthus schweinitzii*). Multiple surveys of the proposed project corridors located no sunflowers in the corridors, but there are two occurrences of the Schweinitz's sunflower in the vicinity of the RPA. The plants occur near Interchange 3 (Indian Trail/Fairview Road), and portions of both occurrences are in a Union Power Utility right-of-way. One group of plants is a known Element Occurrence (EO) 77; the other group, newly found during surveys, currently is named ESI 1. There will be no direct impacts to these plants from project construction. However, given the proximity of the sunflowers to the project, there were concerns about indirect impacts. In order to avoid and minimize impacts to the plants

at this location, the area will be fenced during construction. In addition, to prevent negative impacts after construction, you have agreed to manage EO 77 and ESI 1 by posting "No Mow" signs at each occurrence, managing the plants using the "NCDOT Roadside Vegetation Management Guidelines in Marked Areas," and working with Union Power to include these sites in their Schweinitz's Sunflower Restricted Sites Plan. Based on the negative survey data in the project right-of-way, the fencing to protect the plants close to the project during construction, and the proposed post-construction measures, we concur that the proposed project is "not likely to adversely affect" the Schweinitz's sunflower in the project area.

1 Based on the information provided and the conservation measures proposed for the Carolina heelsplitter and the Schweinitz's sunflower, we believe the requirements under section 7(c) of the Act are fulfilled. However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

Comments on the Final EIS

2 Our letter of June 12, 2009, identifies a number of concerns regarding the draft EIS. We continue to be concerned about the level of impacts to streams and wetlands and the impacts to terrestrial wildlife habitat. As indicated in the table on page 2-33 of the final EIS, the impacts to streams (perennial and intermittent combined) are still over 23,000 linear feet, and there are over 8 acres of impacts to wetlands. Even with further minimization, the impacts to streams are likely to remain at about 4 miles of streams directly impacted by the project. Every opportunity to further minimize these impacts should be made; and, where possible and feasible, mitigation for the unavoidable impacts should be on or near the site. Impacts to terrestrial wildlife habitat, particularly fragmentation as a direct impact of the project, have not been addressed. There still is no analysis of patch size and the degree to which the RPA fragments those patches. If wildlife passage is needed on parts of the project, such an analysis is a tool to appropriately identify and design the type of structures needed to conserve wildlife and protect the traveling public.

We appreciate the opportunity to provide these comments and will continue to participate in the planning process for this project. If you have any questions, please contact Ms. Marella Buncick of our staff at 828/258-3939, Ext. 237. In any future correspondence concerning this project, please reference our Log Number 4-2-07-132.

Sincerely,

Brian P. Cole
Field Supervisor

a007

cc:

Mr. John F. Sullivan, III, Division Administrator, Federal Highway Administration, 310 New Bern Avenue, Suite 410, Raleigh, NC 27601
Mr. Chris Militscher, U.S. Environmental Protection Agency, 1313 Alderman Circle, Raleigh, NC 27603
Mr. Brian Wrenn, North Carolina Division of Water Quality, Central Office, 2321 Crabtree Boulevard, Suite 250, Raleigh, NC 27604
Ms. Marla J. Chambers, Western NCDOT Permit Coordinator, North Carolina Wildlife Resources Commission, 12275 Swift Road, Oakboro, NC 28129
Ms. Liz Hair, Asheville Regulatory Field Office, U.S. Army Corps of Engineers, 151 Patton Avenue, Room 208, Asheville, NC 28801-5006

Table C-9: US Department of the Interior - Fish and Wildlife Service

Document: a007 letter dated July 29, 2010

COMMENT NO.	PRIMARY TOPIC	COMMENT	RESPONSE
1	Protected Species	Based on the information provided and the conservation measures proposed for the Carolina heelsplitter and the Schweinitz's sunflower, we believe the requirements under section 7(c) of the Act are fulfilled. However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.	Comment acknowledged and concur.
2	Protected Species	Our letter of June 12, 2009, identifies a number of concerns regarding the draft EIS. We continue to be concerned about the level of impacts to streams and wetlands and the impacts to terrestrial wildlife habitat. As indicated in the table on page 2-33 of the final EIS, the impacts to streams (perennial and intermittent combined) are still over 23,000 linear feet, and there are over 8 acres of impacts to wetlands. Even with further minimization, the impacts to streams are likely to remain at about 4 miles of streams directly impacted by the project. Every opportunity to further minimize these impacts should be made; and, where possible and feasible, mitigation for the unavoidable impacts should be on or near the site. Impacts to terrestrial wildlife habitat, particularly fragmentation as a direct impact of the project, have not been addressed. There still is no analysis of patch size and the degree to which the RPA fragments those patches. If wildlife passage is needed on parts of the project, such an analysis is a tool to appropriately identify and design the type of structures needed to conserve wildlife and protect the traveling public.	Forested habitat fragmentation was addressed through a patch analysis which measured the amount of edge between forested patches and developed patches in the Baseline and future conditions. These comparisons are presented in Table 25 of the *Indirect and Cumulative Effects Quantitative Analysis* (Michael Baker Engineering, Inc, April 2010). The North Carolina Gap Analysis Project (NCGAP) categories used to define the forested lands were the same as those identified in Section 6.3 of the *Indirect and Cumulative Effects Quantitative Analysis*. The methodology used to distribute land use effects in the ICE analysis by definition creates a greater fragmentation of developed parcels than would be expected to occur with a typical process of land development in the future; therefore, the fragmentation effects should be considered high and conservative to a large extent. Any new location facility will have some impacts on habitat fragmentation. The ICE concluded that induced development would not have a significant effect on forest fragmentation compared to the No Build scenario. The North Carolina Wildlife Resources Commission specifically noted that the extensive use of bridge crossings should help limit wildlife mortality from road collisions by providing numerous safe crossings under the proposed road.