

**NC 24/27 TROY BYPASS**  
**From NC 24/27 Just West of SR 1138 (Dairy Road) to Just East of the Little River**  
**MONTGOMERY COUNTY, NORTH CAROLINA**  
**FEDERAL AID NO. STP-24(6)**  
**STATE PROJECT NO. 8.T551001**  
**TIP NO. R-623**

**Administrative Action**  
**Finding of No Significant Impact**

**Submitted Pursuant to the**  
**National Environmental Policy Act**  
**42 U.S.C. 4332 (2)(c)**

**United States Department of Transportation**  
**Federal Highway Administration**  
**and**  
**North Carolina Department of Transportation**  
**Project Development and Environmental Analysis Branch**

3/31/09

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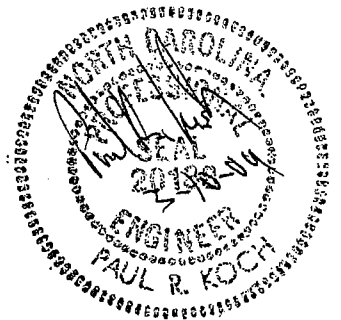
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March 2009

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3-10-09  
Date


  
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## PROJECT COMMITMENTS

### NC 24/27 TROY BYPASS

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#### *Project Development & Environmental Analysis Branch and Roadway Design Unit*

1. The NCDOT shall extend control of access for a minimum of 350 feet north and south along SR 1005 (Pekin Road) and utilize a superstreet intersection at this location.
2. NCDOT will provide a 25-foot corridor (from the toe of slope to the top of the bank) beneath the proposed bridges on the west side of the Little River to accommodate the Town of Troy's proposed greenway.
3. NCDOT will conduct a survey for the Schweinitz sunflower during the blooming window of September-October approximately two years prior to the project let date. The NCDOT shall maintain ongoing coordination with the USFWS to meet the requirements of formal consultation under ESA Section 7 and submit to FHWA all appropriate documentation to complete the ESA Section 7 process. Avoidance and minimization of impacts to the species will be evaluated as final design progresses.
4. Based on design survey data, NCDOT will investigate the options of expressway gutter, reduced shoulder width, or a retaining wall to avoid impacts to the US Forest Service Uwharrie Headquarters Office located along NC 24/27 near Page Street.
5. Archaeological site 31MG1910 has been determined eligible for the National Register of Historic Places under criterion D. As site 31MG1910 will be adversely affected by the project, NCDOT will mitigate impacts through Data Recovery investigations. These investigations will be conducted in consultation with the State Historic Preservation Office. Data Recovery work will occur after NCDOT secures right-of-entry and/or right-of-way acquisition and before construction activities begin. No construction activities will occur within the site limits until all archaeological data recovery field investigations are completed.

#### *Hydraulics Unit*

1. For the stream crossing designated as E5 (as shown on EA Exhibit 4.10.1), NCDOT will evaluate a second culvert barrel (the currently proposed structure is a single 12x12 box culvert) to accommodate the floodplain and riparian corridor.

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Appendix A	Agency Coordination
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Appendix E	FEMA Flood Insurance Rating Map (FIRM) Panels

## **1.0 TYPE OF ACTION**

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This Finding of No Significant Impact (FONSI) describes the Selected Alternative for the proposed NC 24/27 Troy Bypass. In accordance with the National Environmental Policy Act (NEPA), this FONSI describes why the proposed project would not have a significant effect on the environment and concludes that an environmental impact statement (EIS) will not be required (40 CFR 1508.13).

The information presented in this FONSI is a summary of the analyses contained in the Environmental Assessment (EA), dated January 17, 2007 (NCDOT, 2007). The EA contains supporting project information, including background data on the purpose and need for the proposed project, a discussion of the affected environment, and a complete description of the anticipated impacts of each alternative. To maintain brevity, the EA is incorporated by reference [40 CFR 1500.4(j)].

## **2.0 ADDITIONAL INFORMATION**

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

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## **3.0 DESCRIPTION OF PROPOSED ACTION**

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The North Carolina Department of Transportation (NCDOT) 2009-2015 Transportation Improvement Program (TIP) includes the construction of a new roadway from NC 24/27 just west of SR 1138 (Dairy Road)/SR 1550 (Saunders Road) to just east of the Little River. The proposed project is TIP Project No. R-623 and is located south of the city limits of Troy in Montgomery County, North Carolina. Exhibit 1 shows the project location.

The project is referred to as the NC 24/27 Troy Bypass and is proposed as a four-lane, median-divided facility on new location. The facility would provide shoulders and a 46-foot median with partial control of access. The approximate length of the project is 6.0 miles. NC 24/27 is included in the North Carolina Strategic Corridor Plan in which it is specifically designated as an expressway. The expressway designation carries the goal of reducing signalized intersections to the maximum extent possible to improve intrastate mobility and connectivity. To facilitate this goal, intersections would utilize a superstreet configuration, which restricts left turns along the new roadway and from side streets. [To make a left turn, traffic is directed to a designated U-turn location, where travelers must make a U-turn then right-turn to access side streets.] Superstreet configurations are proposed for intersections at SR 1138 (Dairy Road)/SR 1550 (Saunders Road), NC 24/27/109, SR 1005 (Pekin Road), Page Street, and SR 1324/SR 1586 (Glen Road/Holly Hills Road). Intersections at SR 1613 (Alexander Drive) and Oak Hills Drive are proposed as right-in/right-out only. Left turns would be permitted at the SR 1554 (Troy Candor Road) intersection.

The purpose and need for this project is based on current and projected traffic volumes, particularly the high volumes of truck traffic (7% to 10%) traveling through downtown Troy. The proposed bypass would provide additional roadway capacity, accommodate projected traffic volumes, reduce congestion on main arteries in downtown Troy and provide better access to NC 24/27.

#### **4.0 ALTERNATIVES CONSIDERED**

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This section addresses the various alternatives analyzed for the proposed action. Alternatives that did not meet the goals of the project, created disproportionate adverse impacts, or were considered impractical or noncompetitive, were eliminated from further consideration.

##### **No-Build Alternative**

The No-Build Alternative is projected to result in a number of adverse traffic impacts on roadways in and around the project study area. As NC 24/27 currently provides levels-of-service (LOS) at or near capacity, operating at LOS E in the central business district of Troy and LOS D outside of town, the increased traffic predicted in the design year (2030) is beyond the capacity of the two- and three-lane sections. Congestion worsens to LOS F in town and E outside of town in the design year. The projected traffic necessitates the roadway being widened to a multi-lane section throughout most of the corridor or the construction of a multilane

bypass facility. The No Build Alternative would therefore not satisfy the purpose and need for the proposed project.

### **Improve Existing Alternative**

The Improve Existing Alternative (also identified in preliminary studies as Alternative A) would involve roadway widening and intersection improvements along existing NC 24/27 through the downtown area to improve capacity and traffic flow. The Improve Existing Alternative was eliminated from detailed study primarily due to impacts to residential and commercial properties in downtown Troy.

### **Transportation System Management Alternative**

Transportation System Management (TSM) improvements involve increasing the available capacity of the facility within the existing right-of-way with minimum capital expenditures and without reconstructing the existing facility. TSM improvements would not adequately address design year traffic demand and would therefore not satisfy the purpose and need for the project.

### **Mass Transit Alternative**

The project study area is not currently served by mass transit and there are currently no general public routes in Montgomery County. Implementation of mass transit or the expansion of existing transit services is not anticipated to be a feasible or reasonable solution for design year traffic demand and therefore would not satisfy the purpose and need for the proposed project.

### **Build Alternatives**

The following paragraphs describe the build alternatives carried forward for detailed study, as agreed upon by the NEPA/404 Merger Team on June 18, 2003. The build alternatives share common northern and southern termini and all of the alternatives were aligned to avoid ponds and endangered Schweinitz's sunflower populations, and to decrease wetland and stream impacts to the maximum extent possible. The build alternatives are shown in Exhibit 2.

**Alternative B** – The corridor for Alternative B starts on existing NC 24/27 approximately 1,500 feet west of the intersection with SR 1138 (Dairy Road)/SR 1550 (Saunders Road). The alternative continues along NC 24/27 until it splits from the existing roadway in an east-southeast direction near Alexander Drive and Oak Hills Drive. The corridor then passes south of Dogwood Avenue before turning east where it crosses SR 1005 (Pekin Road) south of

Springdale Heights and SR 1553 (Roslyn Road) south of the Progress Energy powerline right-of-way. Alternative B then turns northeast and crosses SR 1554 (Troy Candor Road) at the power line right-of-way. The alignment continues along this bearing for approximately 2,000 feet before turning east to meet with NC 24/27 just west of SR 1324 (Glen Road)/Holly Hills Drive. The corridor then continues east along NC 24/27 over the Little River bridge and ends at the existing four-lane divided section just east of the Little River.

**Alternative C** – The corridor for Alternative C follows the same alignment as Alternative B except for a section between SR 1553 (Roslyn Road) and the junction with NC 24/27. For this section, the alternative turns just north of east past SR 1553 (Roslyn Road), crossing SR 1554 (Troy Candor Road) just south of the Progress Energy powerline right-of-way. This corridor continues in this direction, passing north of the Holly Hills neighborhood and connecting back to NC 24/27 just west of SR 1324 (Glen Road)/Holly Hills Drive.

**Alternative D** – The corridor for Alternative D follows the same alignment as Alternative C except for a section between SR 1005 (Pekin Road) and the junction with NC 24/27 on the east end of the project. For this section, the alternative turns southeast past SR 1005 (Pekin Road) and passes south of the end of SR 1553 (Roslyn Road), where it turns north to a northeast bearing. The corridor then continues in that direction, crossing SR 1554 (Troy Candor Road) and the Progress Energy powerline right-of-way before turning east to join the Alternative C alignment west of the Holly Hills neighborhood.

**Alternative E (Selected)** – The corridor for Alternative E follows the same alignment as Alternative D except for a section just beyond the split from NC 24/27 on the western end of the project to the alignment south of SR 1553 (Roslyn Road). For this section, Alternative E splits from the existing roadway in a southeast direction near Alexander Drive and Oak Hills Drive. The corridor then passes south of Dogwood Avenue in a parallel manner and continues southeast before starting to turn east near SR 1005 (Pekin Road). The alignment crosses SR 1005 (Pekin Road) just north of SR 1519 (Capelsie Road) and continues turning eastward. The alignment takes a sharper turn to a northeast heading approximately 1,500 feet south of the end of SR 1553 (Roslyn Road) and joins the Alternative D corridor past this point before crossing SR 1554 (Troy Candor Road).



## **5.0 SELECTED ALTERNATIVE**

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The proposed bypass was planned and designed through the NEPA/404 Merger Process, an interagency process that integrates the NEPA planning process and the Clean Water Act Section 404 permitting process. The NEPA/404 Merger Process allows regulatory and resource agencies to participate in the entire transportation decision making process and is structured with milestones called “concurrency points”. The NEPA/404 Merger Team meet and agree on each of the following concurrency points: CP1 – Purpose & Need & Study Area; CP2 – Detailed Study Alternatives; CP2A – Bridging Decisions & Alignment Review; CP3 – Least Environmentally Damaging Practicable Alternative (LEDPA); and CP4A – Avoidance & Minimization.

As documented in the EA, the NEPA/404 Merger Team agreed upon Concurrency Points 1, 2, and 2A. However, the NEPA/404 Merger Team was unable to reach concurrence on Concurrency Point 3 at meetings held on December 13, 2007 and April 17, 2008. Of the four build alternatives, the NCDOT recommended Alternative E as the project’s LEDPA. This position was largely based on the lower amount of direct impacts (i.e. residential relocations, noise impacts, stream impacts, and wetland impacts) and the Town of Troy and Montgomery County’s support of Alternative E. Local governments indicated that Alternative E would best suit the future land use planning goals and objectives of the Town of Troy and Montgomery County, primarily by reducing future infrastructure costs associated with extending utilities under the new roadway corridor. The local governments indicated that Alternative E would be the least inhibitive of future economic growth for the Town of Troy. The FHWA supported the NCDOT in this recommendation.

The NEPA/404 Merger Team focused most of the discussion on whether Alternative B or Alternative E should be the LEDPA. Although Alternative E would create fewer direct impacts to noise receptors, streams, and wetlands and create fewer residential relocations than Alternative B, several of the NEPA/404 Merger Team members opposed Alternate E. Their reasons were its higher impacts to upland natural communities and its greater potential for indirect and cumulative effects (ICEs) on natural systems due to its longer length and farther distance from the urban center of Troy.

When the NEPA/404 Merger Team is unable to reach agreement on a concurrency point, a Conflict Resolution Process is initiated. In this process, team members provide a written

summary of their position and a regulatory justification. These briefs are provided to the NEPA/404 Merger Management Team which then meets to discuss the project. At the NEPA/404 Merger Management Team meeting on July 30, 2008, Alternative E was selected as the LEDPA. Alternative E was selected over Alternative B primarily because it would create less direct impacts to jurisdictional streams and wetlands and is supported by a Town of Troy resolution. To address team member concerns regarding ICEs associated with Alternative E, Town of Troy and Montgomery County governments were asked to examine measures to reduce the potential for ICEs. The requested local government commitments are included in the NEPA/404 Merger Management Team signature form for Concurrence Point 3, contained in Appendix A.

On January 22, 2009, the NEPA/404 Merger Team reached agreement on Concurrence Point 4A. The signature form for this meeting is contained in Appendix A. It was agreed that the fill slopes at several locations along the Selected Alternative would be modified to further reduce stream and wetland impacts. Impact totals in this document reflect these modifications. Reduction amounts are detailed in Section 10.0.

A description of the Selected Alternative is provided in the following paragraphs. Exhibit 3 shows the Selected Alternative. Typical sections for the Selected Alternative are shown in Exhibit 4. Exhibits 5 and 6 show the proposed intersection and lane configurations for the Selected Alternative.

The Selected Alternative originates along existing NC 24/27/109 approximately 1,500 feet west of the proposed superstreet intersection at SR 1138 (Dairy Road)/SR 1550 (Saunders Road). A traffic signal is assumed at the intersection of eastbound NC 24/27 Bypass and northbound SR 1550 (Saunders Road). The Selected Alternative continues eastward to a superstreet intersection at NC 24/27/109. The Selected Alternative then continues along NC 24/27 until it diverges from the existing roadway, passing south of Dogwood Avenue in a parallel manner and continuing southeast before starting to turn east near SR 1005 (Pekin Road). The Selected Alternative crosses SR 1005 (Pekin Road) just north of SR 1519 (Capelsie Road) as a superstreet intersection. Due to the high traffic volumes at the southbound approach, dual right-turn lanes and a traffic signal is proposed at the intersection of the westbound bypass and SR 1005 (Pekin Road).

The Selected Alternative continues eastward then takes a sharp turn northeast, passing approximately 1,500 feet south of SR 1553 (Roslyn Road) and continues northeast to a superstreet intersection at SR 1554 (Troy Candor Road). The Selected Alternative traverses the Progress Energy powerline right-of-way then crosses SR 1332 (Page Road) as a superstreet intersection. East of the SR 1332 (Page Road) intersection, the proposed bypass continues northeastward then turns east to converge with existing NC 24/27 at a superstreet intersection.

The proposed bypass would not intersect existing NC 24/27; therefore, a new conventional intersection would be created at the existing T-intersection of NC 24/27 and SR 1332 (Page Road) and the road would be extended south to create the SR 1332 (Page Road) superstreet intersection with the bypass. A cul-de-sac would be created on existing NC 24/27 east of the SR 1332 (Page Road) intersection. Properties along this section of existing NC 24/27 would access the bypass via the SR 1332 (Page Road) extension and superstreet intersection with the bypass. The Selected Alternative continues east along the existing NC 24/27 alignment and includes a superstreet intersection at SR 1324 (Glen Road)/Holly Hills Drive. The Selected Alternative then continues east along NC 24/27 over the Little River bridge and ends at the existing four-lane divided section just east of the Little River.

### **Basis for Selection**

Alternative E was selected on the following basis:

- Fewer residential relocations (Alternatives D and E impact the same number of residences);
- Lowest number of noise impacts;
- Lowest amount of stream impacts;
- Low wetland impacts;
- Highest public support as indicated in written comments received at the public hearing or within the 30 day comment period following the hearing; and,
- Supported by a Town of Troy resolution.

## **6.0 SUMMARY OF PROJECT IMPACTS**

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Descriptions of the anticipated impacts are provided in the following section. Table 1 summarizes the impacts for the Selected Alternative.

**Relocations** – Alternative E would displace nine (9) residences, ten (10) businesses, and one (1) non-profit organization.

**Community Facilities** – No community facility impacts are associated with the proposed project.

**Environmental Justice** – Low-income or minority populations would not experience direct disproportional effects from the Selected Alternative; however, the minority population along SR 1005 (Pekin Road) may experience indirect and cumulative effects (ICEs) from the additional heavy trucks (estimated to be approximately 268 trucks per day in 2030) anticipated to travel the two-lane road to access the bypass. These effects would include increases in truck traffic noise. Potential impacts may include residents perceiving the increased truck traffic as a negative effect on their quality of life and the aesthetics of the area. It should be noted that although there is a likely potential for increased truck traffic, this increase would be spread out during daylight hours and not during evening hours when truck noise would be most disruptive to adjacent residences.

In an effort to minimize the potential impact, NCDOT met with the Town of Troy and local logging companies on September 13, 2004 to discuss the feasibility of routing heavy truck traffic after construction of the proposed bypass. It was proposed that truck traffic with origins and destinations along NC 134 north of Troy access and exit the bypass via SR 1332 (Page Road) or SR 1324 (Glen Road) in lieu of NC 134 and SR 1005 (Pekin Road). Representatives from the two logging companies present at the meeting responded favorably to the proposed truck routes. Routing trucks along these paths would minimize the amount of trucks using SR 1005 (Pekin Road) and minimize the associated impacts to residences along this corridor. This proposed routing is shown in EA Exhibit 4.3.1.

**Indirect and Cumulative Effects** – ICEs directly related to the proposed project are “encroachment-alteration effects” and include ICEs such as habitat fragmentation, increased imperviousness, vehicular pollution, and noise. These are the long-term impacts of the roadway itself. ICEs related to growth potentially induced by a transportation project are known as “indirect effects related to induced growth”. The proposed project is not anticipated to create substantial changes in population projections or future land use. Potential ICEs could result from the increased accessibility of the project study area, but the extent of these effects would

be tempered by the project study area's slow growth rate and the limited increase in access created by the project.

**Utilities** – The Selected Alternative would cross water and sewer lines along Roslyn Road and a Progress Energy high kVA (kilovolt-amp) powerline near SR 1554 (Troy Candor Road). The Selected Alternative may impact one or more of the existing towers and would require replacement of these towers outside of the right-of-way.

**Archaeological and Historic Architectural Resources** – There are five historic architectural properties within the project's Area of Potential Effects (APE) that are eligible for listing in the National Register of Historic Places (NRHP). Two of these properties, the Wooley-Sanders House and the Neal Clark House, are within the proximity of the Selected Alternative. Through coordination with the State Historic Preservation Office (HPO), it was determined Alternative E would have **No Adverse Effect** on the two eligible historic architectural properties.

In 2008, an intensive archaeological survey and evaluation was conducted for the Selected Alternative (Gosser et al., 2008). Nineteen archaeological sites and four isolated finds were identified during the survey. One of these sites was determined to be eligible for listing in the NRHP. The remaining 22 archaeological resources were determined to be not eligible.

Options considered to avoid impacts to the NRHP-eligible site primarily focused on shifting the alignment either to the east or the west. Because the preliminary design of the Selected Alternative was developed to minimize impacts to streams and wetlands to the maximum extent possible, shifting the alignment in either direction would create additional stream and wetland impacts. Shifting the alignment westward would also impact populations of the federally-protected Schweinitz's sunflower currently located outside the proposed right-of-way. Alternate typical sections were not included for consideration primarily because this measure would not altogether avoid impacts to the site. Additionally, the site is located within a proposed superstreet intersection, which precluded alteration of the lane configuration. The site is also in an area with a 2:1 fill slope that transitions to a cut slope. It would not be possible to reduce the fill slopes any further or to modify the cut slopes at this location.

Because of these constraints, avoidance of the site is not feasible. Coordination with HPO determined that impact minimization would include the development and implementation of a data recovery plan for the site.

In accordance with Section 106 of the National Historic Preservation Act of 1966 (NHPA) (36 CFR 800), the NCDOT has filed an “Adverse Effect Determination” with the Advisory Council on Historic Preservation (ACHP) and developed a Memorandum of Agreement (MOA) between the FHWA, NCDOT, SHPO, and the Catawba Indian Nation regarding the data recover plan and other courses of action for the archaeological site adversely affected by the proposed bypass. Correspondence from the ACHP, dated February 19, 2009, and the final MOA are included in Appendix B.

**Rare and Protected Species** – At the time this document was prepared, Schweinitz’s sunflowers (*Helianthus schweinitzii*) were located within the right-of-way of the Selected Alternative. NCDOT and USFWS representatives met on November 25, 2008 and agreed that the NCDOT will conduct a survey for the Schweinitz’s sunflower during the blooming window of September-October approximately two years prior to the project let date. Minutes to this meeting are contained in Appendix A. The timing of this follow-up survey was proposed because the plant is prone to migrate based on land disturbance in its vicinity. This characteristic means that the number of plants within the construction limits may change during the time prior to the project’s construction. The two-year timeframe allows for the identification of populations within the right-of-way and the implementation of any recovery plans deemed necessary by the USFWS. (If surveys are conducted too early, new populations could potentially go undocumented. This timeframe optimizes the possibility of an accurate assessment of populations within the right-of-way. This timeframe also provides sufficient time to relocate plants from within the right-of-way if deemed feasible.) The NCDOT shall maintain ongoing coordination with the USFWS to meet the requirements of formal consultation under ESA Section 7. Avoidance and minimization of impacts to the species will be evaluated as final design progresses.

**Biotic Communities** – Upland communities within the project study area are represented by four community types: Mesic Mixed Hardwood Forest, Dry Mesic Oak Hickory Forest, Maintained/Disturbed and Pine Plantation. The primary impact to these communities is the loss of riparian habitat and forest fragmentation. Project construction would result in direct loss of nesting, foraging and shelter habitat and render portions of the remaining habitat less suitable for many species due to roadway noise and fragmentation. The approximate forested land lost for the Selected Alternative is 195.5 acres.

**TABLE 1: SUMMARY OF IMPACTS**

EVALUATION FACTOR	SELECTED ALTERNATIVE (Alternative E)
<b>CONSTRUCTION FACTORS</b>	
Mainline Length (miles)	6.31
Intersections	8
Construction Cost	\$45,200,000
Right of Way Cost	\$4,000,000
Total Cost	\$49,200,000
<b>SOCIOECONOMIC FACTORS</b>	
Residential Relocations	9
Business Relocations	10
Non-profit relocations	1
Schools/Parks Impacted	0/0
Churches/Cemeteries Displaced	0/0
Receptors Impacted by Noise	17
<b>INFRASTRUCTURE FACTORS</b>	
Major Utility Line Crossings ( <i>High KVA Powerline</i> )	2 Towers
Sewer/Water Line Crossings	1
<b>CULTURAL RESOURCE FACTORS</b>	
Archaeological Sites	1
Historic Properties Adversely Affected	0
<b>NATURAL RESOURCE FACTORS</b>	
Protected Species Impacted <sup>2</sup>	TBD
Stream Crossings <sup>3</sup>	6
Shading Effects – linear feet <sup>4</sup>	128
Stream Impacts – linear feet <sup>5</sup>	6,420
Upland Natural Systems – acres <sup>6</sup>	195.5
Wetland Systems – acres <sup>6</sup>	0.78
<b>LAND USE FACTORS<sup>6</sup></b>	
Rural Residential – acres	54.6
Commercial – acres	5.8
Industrial – acres	0
Agricultural/Pasture – acres	10.1
Open – acres	119.1
<b>PHYSICAL FACTORS</b>	
Floodplains – acres	5.0
Farmland – acres <sup>7</sup>	94.2
Hazardous Materials Sites	2
Exceedances of CO NAAQS	0

NOTES: There are no impacts to railroad crossings or natural gas line crossings

- 1 An intensive archaeological survey and evaluation conducted for the Selected Alternative identified one site eligible for listing on the National Register of Historic Places. This site is located within the right-of-way of the Selected Alternative.
- 2 Denotes final impacts to be determined. Schweinitz's sunflower (*Helianthus schweinitzii*) is currently within the proposed right-of-way. Given this plant's itinerant nature, the number of plants within the construction limits may change in the time prior to the project's construction. As such, the NCDOT will conduct a survey for the Schweinitz's sunflower during the blooming window of September-October approximately two years prior to the project let date. The NCDOT shall maintain ongoing coordination with the USFWS to meet the requirements of formal consultation under ESA Section 7.
- 3 Based on number of major drainage structures.
- 4 Shading effects are attributed to proposed bridges. Dual bridges are proposed at two locations for each build alternative.
- 5 Impacts are from proposed culverts, earthwork (fill slopes), or cut slopes and are based on the proposed construction limits plus an extended 25-foot boundary.
- 6 Impacts based on construction limits plus an extended 25-foot boundary.
- 7 Disturbed, abandoned, and/or undeveloped land.
- 8 Includes prime and statewide important farmlands as based on proposed right-of-way boundaries for the Selected Alternative. The farmland impacts of the Selected Alternatives are in compliance with the Farmland Protection Policy Act and do not require further consideration for protection.

**Waters of the United States** – The delineated wetland community types found within the project study area includes headwater forest, wet seep and Piedmont bottomland hardwood forest. Waters within the project study area include the Little River, Warner Creek, Turkey Creek, and unnamed tributaries to Warner Creek, Turkey Creek, and the Little River. Wetland impacts for the Selected Alternative total 0.78 acre. Stream impacts for the Selected Alternative are 6,420 linear feet for Alternative E. Anticipated wetland and stream impacts are also shown in Table 1.

**Water Quality** – The natural hydraulics of some waterbodies would be affected by construction of the proposed project. Impacts to water resources in the project study area are likely to result from activities associated with project construction, such as clearing and grubbing on stream banks, riparian buffer impacts, in-stream construction, fertilizers and pesticides used in re-vegetation, and pavement construction. Streams traversed by the new facility would be impacted as a result of bridge and/or culvert construction at stream crossings. Secondary impacts to water quality would occur through non-point source pollution runoff and sedimentation along the highway corridor.

**Riparian Buffers** – There are six major stream crossings associated with each of the alternatives; therefore, associated riparian buffer areas would be affected. At the time this document was prepared, no state buffer rules had been enacted for the Yadkin-Pee Dee River Basin.

**Land Use** – Without an active catalyst for growth (e.g., economic development initiative, water/sewer expansion, attraction as a retirement community, etc.), Troy's population is projected to grow at a continuous rate, relatively uninfluenced by construction of the proposed bypass. Therefore, the population projections for the No-Build and Build Scenarios are identical and minimal induced growth effects are anticipated as a result of the proposed project.

**Floodplains** – The 100-year floodplain would be traversed by the Selected Alternative. The approximate floodplain acreage impacted for the Selected Alternative is 5.0 acres.

**Farmlands** – The majority of the project study area's soils are characterized as prime and statewide important farmlands. A Farmland Conversion Impact Rating Form was submitted to the Natural Resources Conservation Service for all the Build Alternatives and is included in EA Appendix A.3. The total score for the Selected Alternative is 119, as based on 250-foot



corridors. This score is deemed to be in compliance with the Farmland Protection Policy Act (FPPA). Further, the actual impacts based on construction limits would be less than the total amount of farmland within the project corridors.

**Hazardous Material Sites/Underground Storage Tanks** – There are two truck repair facilities within the corridor of the Selected Alternative. These facilities have several above-ground storage tanks. Monetary and scheduling impacts resulting from these two sites are expected to be low risk.

**Air Quality** – The 1-hour and 8-hour carbon monoxide standards, as established by the National Ambient Air Quality Standards, are 35 parts per million (ppm) and 9 ppm, respectively. Based on predicted concentration levels, neither the 1-hour or 8-hour criteria would be exceeded by the Selected Alternative.

**Mobile Source Air Toxics (MSATs) Impact Analysis** – Recently, concerns for air toxics impacts are more frequent on transportation projects during the NEPA process. Transportation agencies are increasingly expected by the public and other agencies to address MSAT impacts in their environmental documents as the science emerges. Mobile Source Air Toxics (MSATs) analysis is a continuing area of research where, 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 impacts from MSATs are limited. These limitations impede FHWA's ability to evaluate how mobile source health risks should factor into project-level decision-making under the National Environmental Policy Act (NEPA). Also, the US Environmental Protection Agency (USEPA) has not established regulatory concentration targets for the six relevant MSAT pollutants appropriate for use in the project development process. FHWA has several research projects underway to more clearly define potential risks from MSAT emissions associated with transportation projects. 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. The FHWA will continue to monitor the developing research in this emerging field. A qualitative analysis of MSATs for this project appears in its entirety in EA Section 4.7.

**Noise** – The Selected Alternative would impact 17 receivers. For many of the impacted receivers, specifically those along existing NC 24/27, noise walls are not a viable option due to the need to maintain access to existing properties. It should be noted that impacts along these

facilities occur with or without the proposed project. Other impacted receivers along the Selected Alternative are spread widely along the alignment, rather than being clustered. Based on a cost analysis, the construction of noise walls at these locations was found to be unfeasible. Therefore, noise walls are not recommended for the Selected Alternative.

***Mineral Resources*** – There are no active mines or quarries within the project study area therefore; the proposed project would not pose any impacts to mining or mineral resources.

***Preliminary Cost Estimate*** – The estimated construction and right-of-way costs for the Selected Alternative are \$49,200,000. Cost data for the Selected Alternative is also shown in Table 1.

#### ***Measures Taken to Avoid and Minimize Impacts***

This section discusses the measures taken to minimize impacts and to integrate agency concerns identified during coordination (i.e., scoping and the NEPA/404 Merger Process) for the NC 24/27 Troy Bypass.

***Direct Impact Avoidance & Minimization*** – The following measures were taken during the initial design of the proposed project:

- Impacts to wetlands, streams, and protected species (i.e., Schweinitz's sunflower) were avoided and/or minimized by adjusting alignments and slopes;
- At locations where wetland impacts are likely, the preliminary design of each build alternative was developed to preserve the largest amount of contiguous wetland area;
- Stream crossings were designed as close to 90° as possible; and,
- Residential and business relocations were minimized by adjusting alignments and slopes.

The following measures were developed in the NEPA/404 Merger process and during the preparation of the EA and this FONSI:

- For the stream crossing designated as E5 (as shown on EA Exhibit 4.10.1), NCDOT will evaluate a second culvert barrel (the currently proposed structure is a single 12x12 box culvert) to accommodate the floodplain and serve as a wildlife passage for small animals;
- NCDOT will provide a 25-foot corridor (from the toe of slope to the top of the bank) beneath the proposed bridges on the west side of the Little River to accommodate the Town of Troy's proposed greenway;
- To minimize potential ICEs to the Neal Clark House and the Wooley Saunders House, the NCDOT shall extend control of access for a minimum of 350 feet north and south along SR 1005 (Pekin Road) and utilize a superstreet intersection at this location;
- NCDOT will determine the practicability of limiting construction clearing operations to specific times during the year and will consult with the US Fish and Wildlife Service as to the times;
- NCDOT will investigate the options of expressway gutter, reduced shoulder width, or build a retaining wall to avoid impacts to a small amount of maintained/disturbed land that is part of the US Forest Service (USFS) Uwharrie Headquarters Office property located adjacent to the existing NC 24/27 right-of-way near SR 1332 (Page Street); and,
- NCDOT will conduct a survey for the Schweinitz sunflower during the blooming window of September-October approximately two years prior to the project let date. Avoidance and minimization of impacts to the species will be evaluated as final design progresses.
- As detailed in the Concurrence Point 4A signature form in Appendix A, the NCDOT will adjust fill slopes at several stream and wetland locations to further minimize direct impacts.

***Indirect and Cumulative Effect (ICE) Avoidance & Minimization*** – The use of superstreet intersections, partial access control, and the extension of access control along SR 1005 (Pekin Road) minimize the potential for indirect effects related to induced growth.

The following items were identified during the NEPA/404 Merger as measures local officials will examine in the future. These items are listed in the Concurrence Point 3 form contained in Appendix A.

- The Town of Troy and/or Montgomery County will determine the practicability of creating an area to protect the habitat of the Schweinitz's sunflower population located in the project area;
- The Town of Troy and/or Montgomery County will determine the practicability of incorporating smart growth principles into local plans as possible;
- The Town of Troy and/or Montgomery County will determine the practicability of limiting habitat fragmentation in future zoning ordinances;
- To minimize effects from the access changes associated with the cul-de-sac on existing NC 24/27, NCDOT will provide informational sign(s) on the bypass to aid visitors in locating the USFS Uwharrie Headquarters Office; and,
- The Town of Troy and/or Montgomery County will determine the practicality of creating a Historic Overlay District where the historic properties are located along the Selected Alternative at SR 1005 (Pekin Road).

## **7.0 PUBLIC INVOLVEMENT AND AGENCY COORDINATION**

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The following sections describe public involvement and agency coordination efforts conducted after the finalization of the EA.

***Circulation of the Environmental Assessment*** – The EA was finalized on January 17, 2007 and circulated to federal, state, and local agencies for review and comments. The EA and project mapping were also made available for public review. The review period for the EA closed in April 2007.

***Agency Comments Received on the Environmental Assessment*** – Comments on the EA were received from the federal and state agencies. These letters are contained in Appendix C. Project-specific comments requiring a detailed response are included in the following bullets.

- **US Environmental Protection Agency (April 5, 2007)**

- “...EPA supports North Carolina’s Division of Water Quality (DWQ) recommendation that NCDOT consider the use of a double barrel culvert in lieu of a single larger culvert at stream crossing B5, C5, D5 and E5, in order to accommodate flood flows and maintain natural stream dimensions. “

***Response: The commitment to evaluate a second barrel is being carried forward in this FONSI and will be resolved through the NEPA/404 Merger Process.***

- “...EPA believes that the possible use of earthen berms to minimize potential noise increases from the project were prematurely dismissed (Page 4-53), and where cost-effective, they can be possibly worked into the final grading and roadway design without diminishing property access. Also, proper landscaping and vegetative screening along the right of way can have a profound psychological effect on impacted receptors and their perception of increased highway noise. Considering the very rural setting of this project, EPA recommends that NCDOT consider more ‘context-sensitive, yet practicable’ minimization measures for noise abatement. “

***Response: For purposes of the noise analysis, noise walls were evaluated for feasibility and reasonableness. Where walls are warranted, berms could be an effective option if obtaining additional right-of-way is feasible. Earth berms would effectively provide the same level of noise abatement if designed at the appropriate height. However, no walls were recommended, so berms of appropriate size to provide abatement were not recommended from strictly a noise analysis standpoint. Use of smaller berms for visual screening and context sensitivity during final design is not precluded by this evaluation.***

- “The avoidance and minimization requirements under the Farmland Protection Policy Act (FPPA) are not required for the alternatives for the proposed project and the actual impact to Prime Farmlands appears to EPA to be 0 acres for the 4 alternatives based upon the NRCS Land Evaluation and Site Assessment (LESA) criteria set forth in 7CFR Section 658.4(c)(2). Tables in the Finding of No Significant Impact (FONSI) and for later Merger 01 meetings need to reflect this information.”

***Response: Table S.1 in this FONSI was revised to clarify that farmland impacts of the Selected Alternatives are in compliance with the Farmland Protection Policy Act and do not require further consideration for protection.***

- “Alternative E has substantially more impacts to Mesic mixed hardwood forest than Alternative B (almost 24 acres). Because wildlife fragmentation is a documented issue for this project (FWS letter, 2/26/07), EPA least prefers Alternative E due to the substantial increase in upland forest impacts.”

***Response: Comment noted. [See Section 5.0 for information on the NEPA/404 Merger Team’s Conflict Resolution Process and the role of the Merger Management Team.]***

- “In summary, EPA does not have any environmental objections to any of the proposed Alternatives. However, EPA believes that from a natural resource standpoint, Alternative B represents the least environmentally damaging

alternative. The human impacts including relocations and noise receptors are not above the per mile average for a new location project in this part of North Carolina. EPA will continue to stay active in the Merger 01 process for this proposed project. Thank you for the opportunity to comment.”

**Response: Comment noted. [See Section 5.0 for information on the NEPA/404 Merger Team’s Conflict Resolution Process and the role of the Merger Management Team.]**

- **North Carolina Division of Emergency Management (March 13, 2007)**

- “The proposed NC 24/27 Troy Bypass project will require issuance of a floodplain development permit by Montgomery County. If the project encroaches on the regulatory floodways or non-encroachment areas of Warner Creek, Little [River], and Densons Creek either a valid no-impact certification by a North Carolina licensed professional engineer or an approved Conditional Letter of Map Revision will be required before the permit is issued.”

**Response: As stated in Section 9.0, NCDOT will coordinate with FEMA and local authorities in the final design stage of the project to ensure compliance with applicable floodplain management ordinances and permitting requirements.**

- **North Carolina Division of Water Quality (February 23, 2007)**

- “This project is being planned as part of the 404/NEPA Merger Process. As a participating team member, the NCDWQ will continue to work with the team.”

**Response: Comment noted.**

- “NCDWQ would also recommend the use of a double barrel culvert in lieu of a single larger culvert at stream crossing B5, C5, D5 and E5, in order to accommodate flood flows and maintain natural stream dimensions.”

**Response: The commitment to evaluate a second barrel is being carried forward in this FONSI and will be resolved through the NEPA/404 Merger Process.**

- General Comments (B – BB)

**Response: As noted by the NCDWQ, the proposed project is being planned through the NEPA/404 Merger Process. As such, the environmental documentation for the proposed project, including the EA, FONSI, and permit applications have included/will include detailed information regarding anticipated stream and wetland impacts, avoidance and minimization measures, and mitigation plans. Through the NEPA/404 Merger Process (particularly Concurrence Points 4B (30% Hydraulic Review) and 4C (Permit Drawings Review), the hydraulic design component of the Selected Alternative’s final design will include appropriate sediment and erosion control measures and stormwater best management practices.**

- **NC Wildlife Resources Commission (March 2, 2007)**

- “At this time, we do not have any specific comments, we concur with the EA for this project. We will continue to assess the impacts associated with the remaining alternatives in preparation for the selection of the LEDPA and for further avoidance and minimization measures. Thank you for the opportunity to comment on this EA.”

**Response: Comment noted.**

**Public Hearing** – A Combined Public Hearing was held on September 17, 2007 at which 122 citizens were in attendance.

**Summary of Public Comments** – A total of 56 written comments were received at the hearing and in the 30-day comment period following the hearing. Thirteen written comments expressed support for Alternative E; twelve expressed support for Alternative B; one expressed support for Alternative C; one expressed favor for any build alternative other than Alternative E; and, one expressed support for any build alternative other than Alternatives D and E. The remaining 28 written comments contained a variety of positions ranging from including opposition to the entire project to opposition to the use of superstreet intersections. They also include a number of questions regarding the planning and design process results.

The Town of Troy's resolution in support of Alternative E, contained in Appendix D, was also put into record at that time.

## **8.0 WETLANDS FINDING**

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Surface waters and wetlands fall under the broad category of "Waters of the United States" as defined in Title 33 of the Code of Federal Regulations (CFR) Part 328.3, 1987 Guidelines. Wetlands are found in the transitional zone between terrestrial and aquatic habitats and are influenced to varying degrees by both. Wetlands are areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted to life in saturated conditions. Any action that proposes to fill into these areas falls under the jurisdiction of the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). Wetland delineations were conducted in July and August 2003 using methods outlined in the 1987 Corps of Engineers Wetlands Delineation Manual (USACE, 1987). The USACE Jurisdictional Determination is included in EA Appendix A.4.

Wetland impacts for the Selected Alternative total 0.78 acre. Stream impacts for the Selected Alternative are 6,420 linear feet for Alternative E. Anticipated wetland and stream impacts are also shown in Table 1. Impacts to Waters of the United States are regulated by the USACE, in cooperation with the USFWS and the USEPA, through the CWA Section 404 permitting process. Issuance of a federal Section 404 permit requires a state Section 401 Water Quality Certification, which is administered by the NC Division of Water Quality.

Compensatory mitigation for the proposed project would be provided through the Ecosystem Enhancement Program (EEP). The EEP was established on July 22, 2003 through a Memorandum of Agreement (MOA) between the NCDOT, NCDENR, and USACE. Compensatory mitigation would be provided in sufficient quantity and quality to offset project impacts in accordance with the requirements of the CWA of 1970, as amended.

## **9.0 FLOODPLAIN FINDING**

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The 100-year floodplains of the project study area would be traversed by the Selected Alternative. The approximate total floodplain acreage affected by the Selected Alternative is 5.0 acres. Six major drainage structures (conveyances larger than 72 inches in diameter) are proposed for the project. These structures were selected through the NEPA/404 Merger Process and designed to minimize potential changes to existing drainage patterns.

As discussed in EA Section 4.11, the proposed crossing of Warner Creek (Crossing No. E3) is within a Special Flood Hazard Area (Zone A) and the existing bridge on NC 24/27 over the Little River is located within the upstream limits of a detailed Flood Insurance Study. The existing bridge at the Little River would be replaced with dual bridges (Crossing No. E6) that would provide equal or greater hydraulic conveyance. Appendix E contains the Flood Insurance Rate Map (FIRM) panels for Crossing Nos. E3 and E6, which show the established limits of the 100-year floodplain and floodway in the vicinity of the project.

NCDOT will coordinate with the North Carolina Floodplain Mapping Program (NCFMP) [the delegated state agency for administering the Federal Emergency Management's (FEMA's) National Flood Insurance Program (NFIP)], to determine the status of the project in regard to applicability of the NCDOT'S Memorandum of Agreement with the NCFMP (dated June 5, 2008) or a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

This project involves construction activities on or adjacent to FEMA-regulated streams. Therefore, the Division shall submit sealed as-built construction plans to the Hydraulics Unit upon completion of project construction, certifying that the drainage structures and roadway embankment that are located within the 100-year floodplain were built as shown in the construction plans, both horizontally and vertically.



## 10.0 ADDITIONS AND REVISIONS

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- EA Section 4.6 (Page 4-27) is modified as follows to clarify the proposed truck re-routing proposal (revised text in italics):

In an effort to minimize this potential impact, NCDOT met with the Town of Troy and local logging companies on September 13, 2004 to discuss the feasibility of routing heavy truck traffic *after construction of the proposed bypass. It was proposed that truck traffic with origins and destinations along NC 134 north of Troy access and exit the bypass via SR 1332 (Page Road ) or SR 1324 (Glen Road) in lieu of NC 134 and SR 1005 (Pekin Road).* Representatives from the two logging companies present at the meeting responded favorably to the proposed truck routes. Routing trucks along these paths would minimize the amount of trucks using Pekin Road and minimize the associated impacts to residences along this corridor. This proposed routing is shown in Exhibit 4.3.1.

- Section 4.8 is revised to include an expanded definition of noise abatement criteria and analysis procedures to clarify the EA discussion of noise impacts:

**Traffic Noise Impact Analysis** – To determine if highway noise levels are compatible with various land uses, the Federal Highway Administration (FHWA) has developed noise abatement criteria and procedures to be used in the planning and design of highways. These abatement criteria and procedures are set forth in accordance with Title 23 Code of Federal Regulations (CFR), Part 772, U.S. Department of Transportation, FHWA, Procedures for Abatement of Highway Traffic Noise and Construction Noise.

A summary of the noise abatement criteria for various land uses is presented in the following discussion. One factor for considering traffic noise mitigation is when future noise levels either approach or exceed the criteria levels for each activity category. Title 23 CFR, Section 772.11a states, “In determining and abating traffic noise impacts, primary consideration is to be given to exterior areas. Abatement will usually be necessary only where frequent human use occurs and a lowered noise level would be of benefit.”

The NCDOT Noise Abatement Guidelines state that noise abatement must be considered when either of the following conditions exists:

1. The predicted design year noise levels approach (reach 1 dBA less than) or exceed the FHWA Noise Abatement Criteria (NAC) contained in 23 CFR 772, or
2. The predicted design year noise levels substantially exceed existing noise levels as defined below:

NCDOT uses a 10 dBA to 15 dBA increase of future predicted noise levels above existing noise levels to define “substantial increase” in exterior noise levels. This sliding scale allows a greater increase at a lower existing noise level before a “substantial” increase is defined. As noise walls generally reduce volumes by 5

dBA their use is usually not as effective in less noisy areas. A 10 dBA change in noise levels is judged by most people as a doubling or halving of the loudness of the sounds.

Existing Leq(h)	Increase
50 or less dBA	15 or more dBA
51 dBA	14 or more dBA
52 dBA	13 or more dBA
53 dBA	12 or more dBA
54 dBA	11 or more dBA
55 or more dBA	10 or more dBA

Based on the guidelines above, a traffic noise impact occurs when either of the previous conditions is satisfied. Consideration for noise abatement measures can be applied to receivers that fall in either category. Physical measures to abate anticipated traffic noise levels can often be applied with a measurable degree of success by the application of solid mass, attenuable measures to effectively detract, absorb, and reflect highway traffic noise emissions. These measures may include earth berms or noise walls.

TNM was utilized to determine the number of Category B land use receivers that, during the peak hour in the design year, would meet either of the conditions described above.

**NOISE ABATEMENT CRITERIA**  
(Hourly A-Weighted Sound Level - decibels (dBA))

Activity Category	Leq(h)	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	---	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: Title 23 Code of Federal Regulations (CFR), Part 772, U.S. Department of Transportation, Federal Highway Administration (FHWA), Procedures for Abatement of Highway Traffic Noise and Construction Noise.

**Excerpted from the EA:** According to the analysis, it is anticipated that 2030 traffic volumes will result in 17 impacted receivers for the No-Build Alternative, 29 impacts for Alternative B, 29 impacts for Alternative C, 18 impacts for Alternative D, and 17 impacts for Alternative E. Most of these impacts occurred because predicted noise levels meet or exceed the NAC and experience substantial noise level increases.

- Per NC Division of Water Quality (NCDWQ) direction, stream impact totals were revised to reflect impacts to jurisdictional streams only. [This revision was made prior to the selection of the LEDPA.]
- Since the finalization of the EA, recent NCDOT guidance states that stream and wetland impacts should be calculated based on the construction limits plus an extended 25-foot boundary rather than the extended 10-foot boundary shown in the EA. As such, stream and wetland impact totals referenced in this FONSI include an additional 15-foot boundary to create the extended 25-foot boundary. [This revision was made prior to the selection of the LEDPA.]

### STREAM IMPACT REVISIONS

(linear feet)

	B	C	D	E
EA stream impacts based on extended 10-foot boundary	3,092	4,021	3,920	3,948
Additional stream impacts based on extended 25-foot boundary	4,089	3,396	3,571	3,028
Reduction based on removing non-jurisdictional streams	0	0	217	511
Reduction based on additional minimization efforts *	NA	NA	NA	45
<b>Final Revised Stream Impact Totals</b>	<b>7,181</b>	<b>7,417</b>	<b>7,274</b>	<b>6,420</b>

NOTE: In preparation for the NEPA/404 Merger Team meeting for Concurrence Point 4A (Avoidance and Minimization), the preliminary design of the Selected Alternative was further evaluated to identify locations where stream and wetland impacts could be reduced.

### WETLAND IMPACT REVISIONS

(acres)

	B	C	D	E
EA wetland impacts based on extended 10-foot boundary	0.80	0.70	0.60	0.50
Increase based on extended 25-foot boundary	0.17	0.18	0.36	0.39
Reduction based on additional minimization efforts *	NA	NA	NA	0.11
<b>Final Revised Wetland Impact Totals</b>	<b>0.97</b>	<b>0.88</b>	<b>0.96</b>	<b>0.78</b>

NOTE: In preparation for the NEPA/404 Merger Team meeting for Concurrence Point 4A (Avoidance and Minimization), the preliminary design of the Selected Alternative was further evaluated to identify locations where stream and wetland impacts could be reduced.

## 11.0 BASIS FOR FINDING OF NO SIGNIFICANT IMPACT

The Federal Highway Administration (FHWA) has determined that the Selected Alternative (Alternative E) will have no significant adverse environmental impacts. Table 2 summarizes the anticipated impacts associated with the proposed projects and assesses their significance based on each impact's context and intensity (40 CFR 1508.27).

This FONSI is based on the EA (incorporated by reference), which has been independently evaluated by the FHWA and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an EIS is not

required. The FHWA takes full responsibility for the accuracy, scope, and content of the EA and this FONSI.

**TABLE 2: BASIS FOR FINDING OF NO SIGNIFICANT IMPACT**

EVALUATION FACTOR	SIGNIFICANT IMPACT?
<b>Relocations</b>	<b>No.</b> The Selected Alternative would incur residential and business relocations; however, relocation assistance, the availability of local housing, and continuous public involvement have minimized the adverse effects associated with this impact.
<b>Environmental Justice</b>	<b>No.</b> The minority population along SR 1005 (Pekin Road) may experience indirect and cumulative effects (ICEs) from additional heavy trucks. This effect will be minimized by routing heavy truck traffic on alternate routes and is not anticipated to create a significant impact on this community.
<b>Indirect and Cumulative Effects</b>	<b>No.</b> The proposed project is not anticipated to create significant changes in population projections or future land use. The extent of any potential effect would be tempered by the project study area's slow growth rate and the limited increase in access created by the project.
<b>Utilities</b>	<b>No.</b> The replacement of the impacted towers to a location outside the right-of-way would not be a significant impact.
<b>Historic Architectural Resources</b>	<b>No.</b> Through coordination with the State Historic Preservation Office (HPO), it was determined Alternative E would have No Adverse Effect on the two eligible historic architectural properties.
<b>Archaeological Resources</b>	<b>No.</b> To minimize impacts to the archaeological site within the corridor of the Selected Alternative, a data recovery plan will be developed and implemented.
<b>Rare and Protected Species</b>	<b>No.</b> Although Schweinitz's sunflowers ( <i>Helianthus schweinitzii</i> ) are likely to be located within the right-of-way of the Selected Alternative prior to the project's construction, extensive and ongoing coordination with the US Fish and Wildlife Service allows for the development and implementation of a recovery plan to avoid the potential for any significant impacts to this protected species.
<b>Biotic Communities</b>	<b>No.</b> The large amount of contiguous forested land in the area (privately owned gamelands, Uwharrie National Forest land, or local conservation areas) tempers the effects on forest communities such that no significant impacts to biotic communities are anticipated.

**TABLE 2: BASIS FOR FINDING OF NO SIGNIFICANT IMPACT (cont.)**

EVALUATION FACTOR	SIGNIFICANT IMPACT?
<b><i>Waters of the United States</i></b>	<b>No.</b> Compensatory mitigation for stream and wetland impacts will be provided through the Ecosystem Enhancement Program (EEP) in sufficient quantity and quality to offset project impacts.
<b><i>Water Quality</i></b>	<b>No.</b> Construction activities would strictly follow NCDOT best management practices to avoid and minimize effects on local water quality. Drainage structures were sized to maintain existing channel dimensions and stability. Grass roadside ditches will provide stormwater treatment along the highway corridor. Given these avoidance and minimization measures, no significant impacts to water quality are associated with the project.
<b><i>Land Use</i></b>	<b>No.</b> The proposed project would not alter land use development rates or patterns. Without an active catalyst for growth (e.g., economic development initiative, water/sewer expansion, attraction as a retirement community, etc.), Troy's population is projected to grow at a continuous rate, relatively uninfluenced by construction of the proposed bypass.
<b><i>Floodplains</i></b>	<b>No.</b> Construction of the Selected Alternative would not result in a substantial encroachment to regulatory floodways and is not expected to increase the extent or level of flood hazard risk.
<b><i>Farmlands</i></b>	<b>No.</b> The project is in compliance with the Farmland Protection Policy Act (FPPA).
<b><i>Hazardous Material Sites/Underground Storage Tanks</i></b>	<b>No.</b> There are two truck repair facilities within the corridor of the Selected Alternative that have several above-ground storage tanks on the premises. No significant impacts are associated with removing these tanks from the proposed right-of-way.
<b><i>Air Quality</i></b>	<b>No.</b> Neither the 1-hour or 8-hour criteria would be exceeded by the Selected Alternative.
<b><i>Noise</i></b>	<b>No.</b> For many of the impacted receivers, specifically those along existing NC 24/27, noise impacts occur with or without the proposed project. It is also noted that the No-Build Alternative has the same number of impacted receivers as the Selected Alternative.

As described in the EA, two public workshops were held during the development of alternatives and prior to completion of the EA. Early in the public involvement process, the evaluation of Alternative A (Improve Existing) generated relatively substantial public controversy. Alternative A was eliminated for several reasons; in large part due to public input. Following publication

and distribution of the EA, a combined corridor/design public hearing was held. Subsequent public input for the remaining alternatives included concerns regarding direct property impacts and the “super-street” intersection configuration. Given the quantity and content of the comments in relation to the scale of this project, none of this input was considered to be substantially controversial.

During the design of the build alternatives, many potential direct impacts were completely avoided or if unavoidable, minimized to the maximum extent possible. Adverse effects were also minimized through mitigation measures such as extending control of access along SR 1005 (Pekin Road) to eliminate the potential for induced growth. Both the beneficial and adverse impacts of the project were identified and it was determined that the benefits associated with the proposed bypass, particularly the project’s goal to reduce congestion in downtown Troy and protect the mobility and connectivity of critical highway facilities as part of the NC Strategic Highway Corridors Program, are not outweighed by the adverse impacts associated with the project.

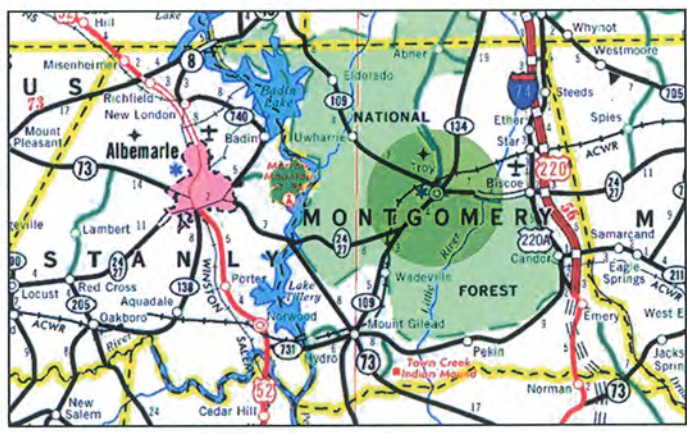
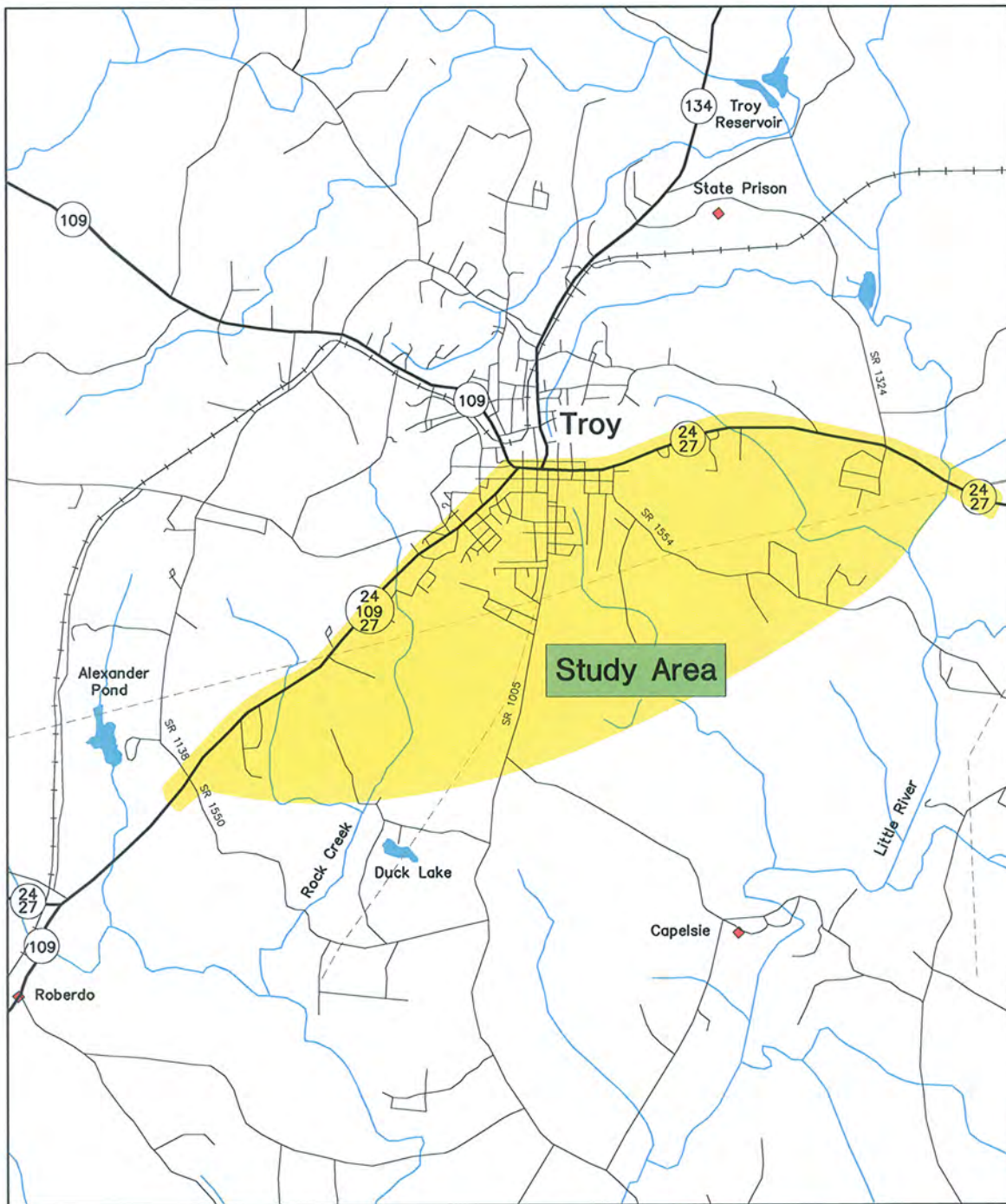
## **12.0 REFERENCES**

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- Gosser, Dennis C., Bamann, Susan. Hall, Bill. Lautzenheiser, Loretta. 2008. Intensive Archaeological Survey and Evaluation for the NC 24/27 Troy Bypass. Prepared for the NC Department of Transportation, Project Development and Environmental Analysis Branch. Coastal Carolina Research Inc., Tarboro, NC
- North Carolina Department of Transportation (NCDOT). 2007. Environmental Assessment for the NC 24/27 Troy Bypass from NC 24/27 just west of SR 1138 (Dairy Road) to just east of the Little River. Montgomery County, NC. Federal Aid No. STP-24(6). State Project No. 8.T551001. STIP NO. R-623. Prepared by Stantec Consulting Services, Inc. Raleigh, NC.

# EXHIBITS

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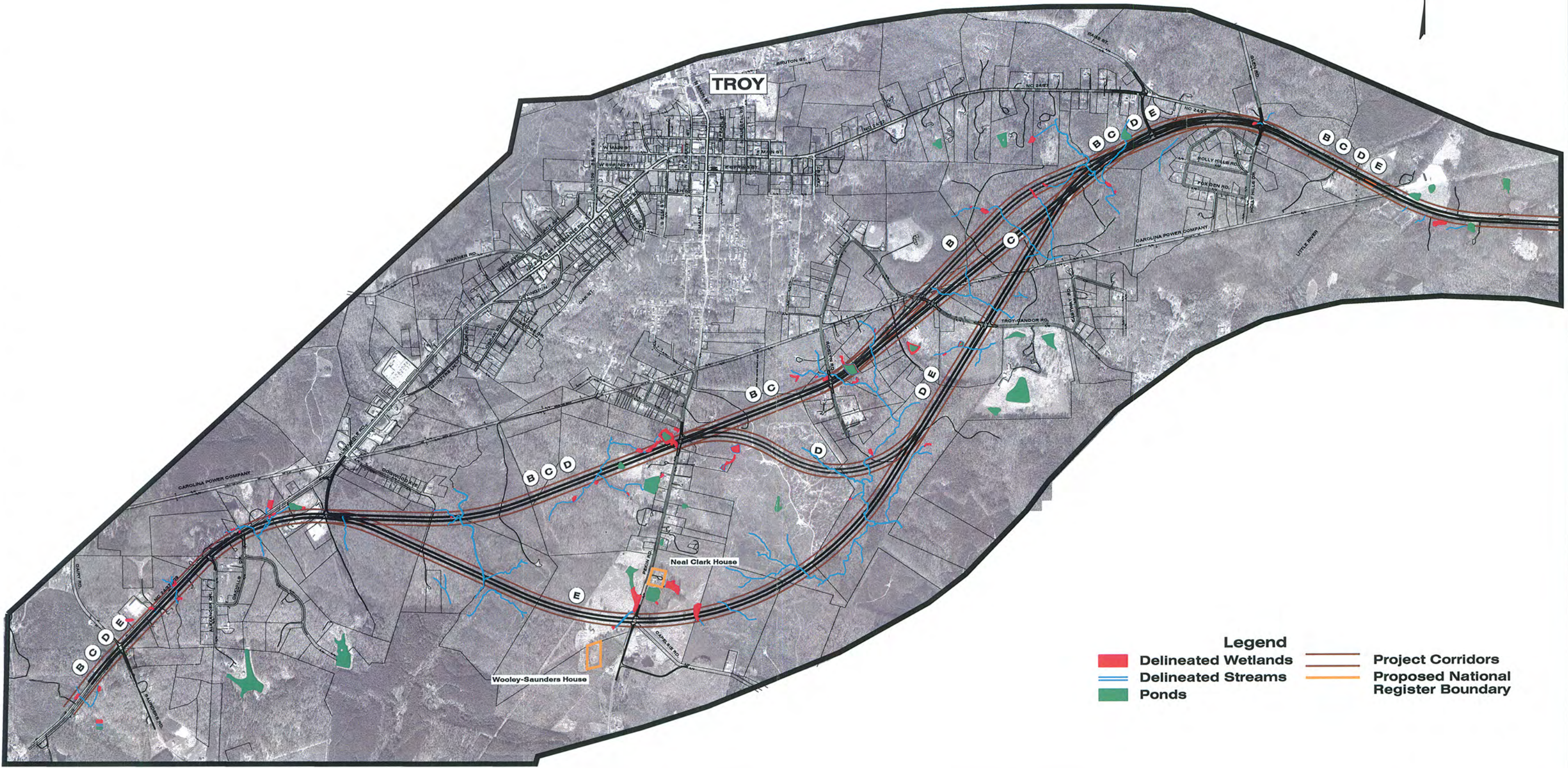


**NC 24/27 Improvements**  
**SR 1138 to East of Little River TIP NO. R-623**  
**Montgomery County, North Carolina**

**Project Location**  
**NTS**  
**Exhibit 1**



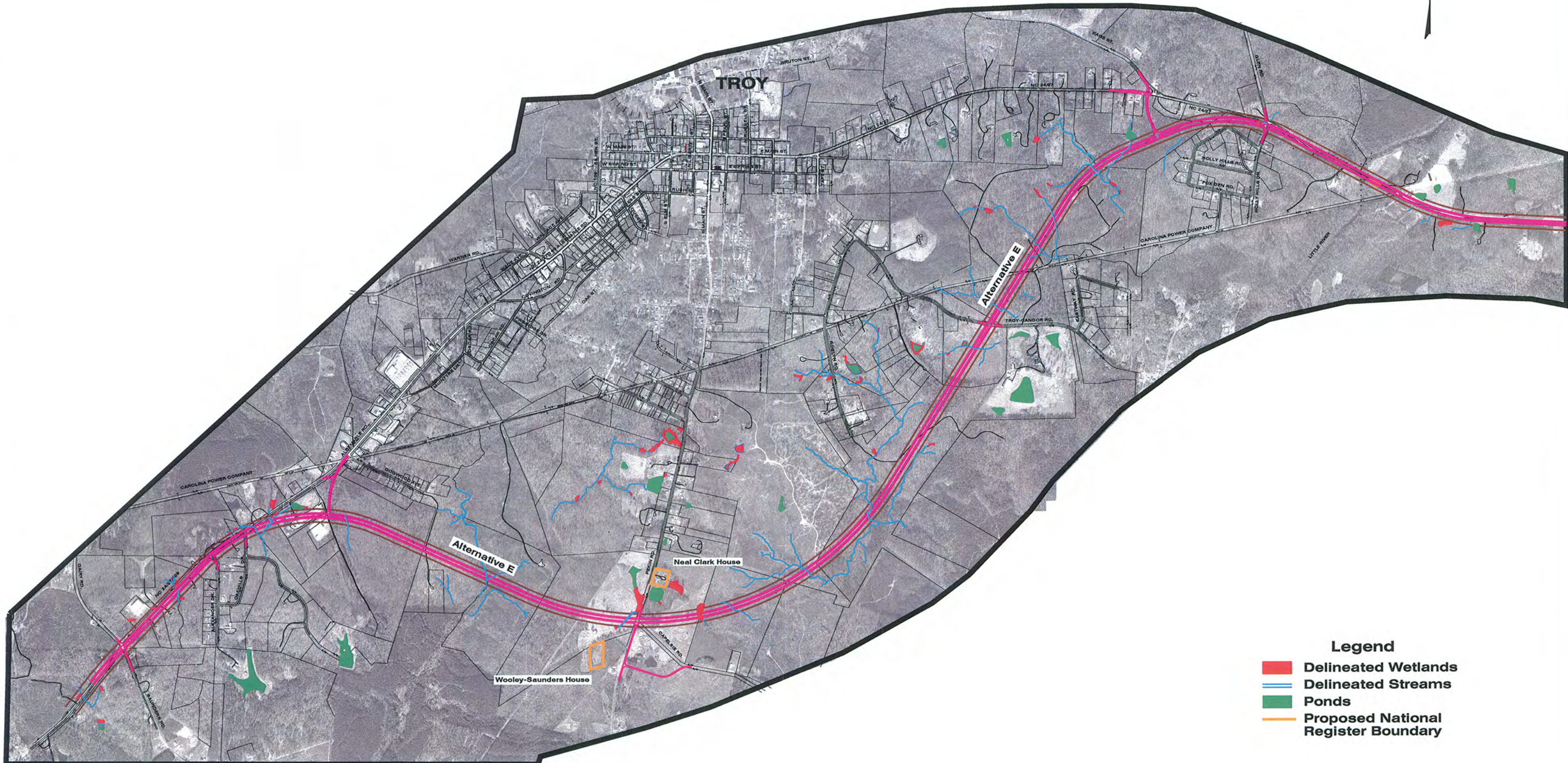




- Legend**
- Delineated Wetlands
  - Delineated Streams
  - Ponds
  - Project Corridors
  - Proposed National Register Boundary

**NC 24/27 Improvements**  
TIP No. R-623  
Montgomery County, North Carolina



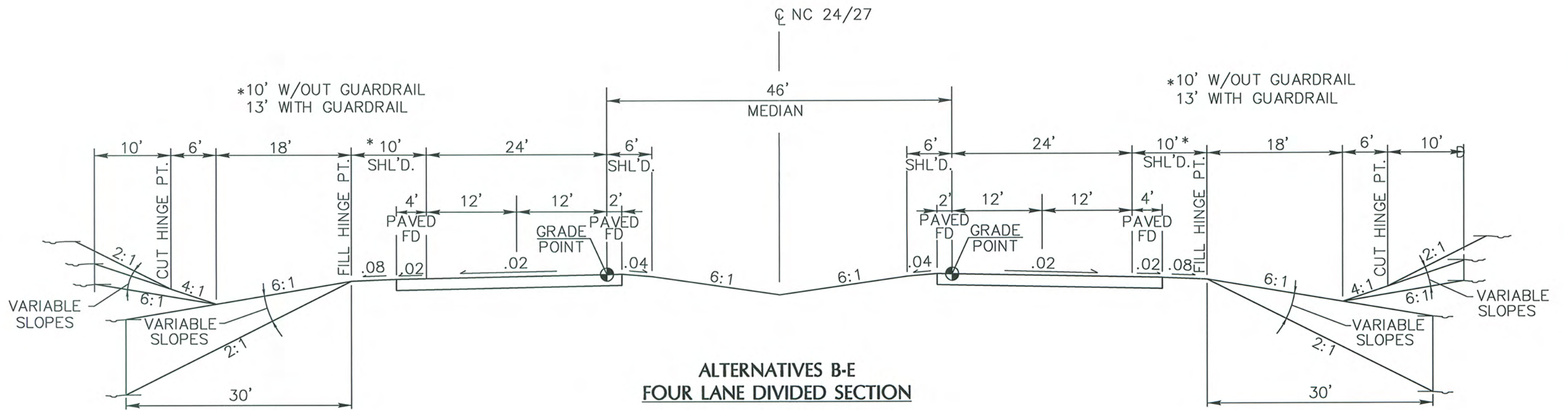


- Legend**
- Delineated Wetlands
  - Delineated Streams
  - Ponds
  - ▭ Proposed National Register Boundary

**NC 24/27 Improvements**  
TIP No. R-623  
Montgomery County, North Carolina

Selected  
Alternative  
NTS  
Exhibit 3

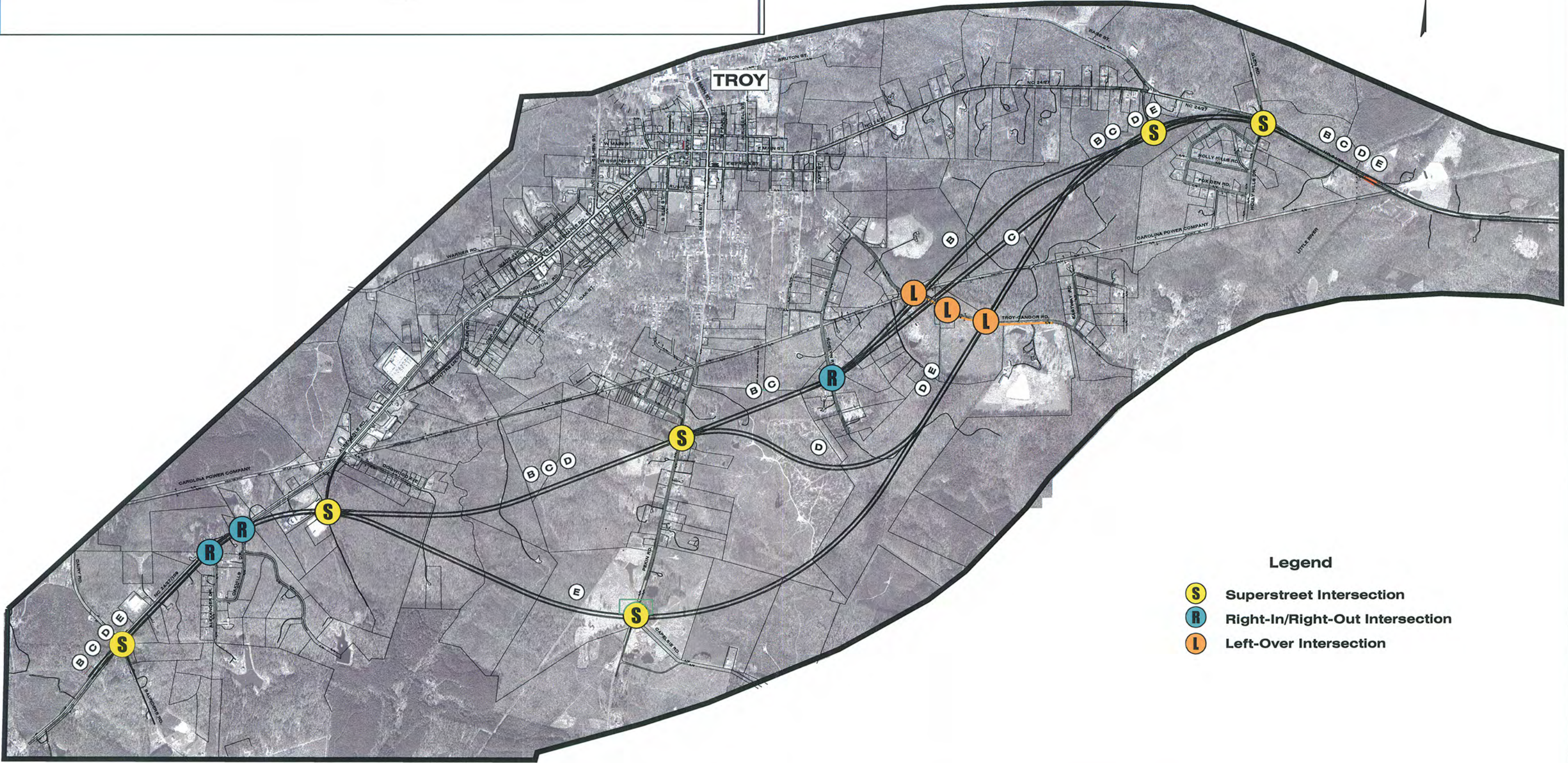
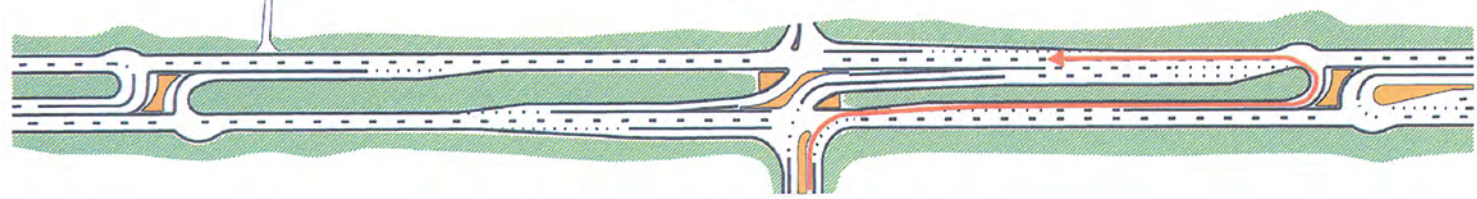




**NC 24/27 Improvements**  
 TIP No. R-623  
 Montgomery County, North Carolina



*SUPER-STREET*



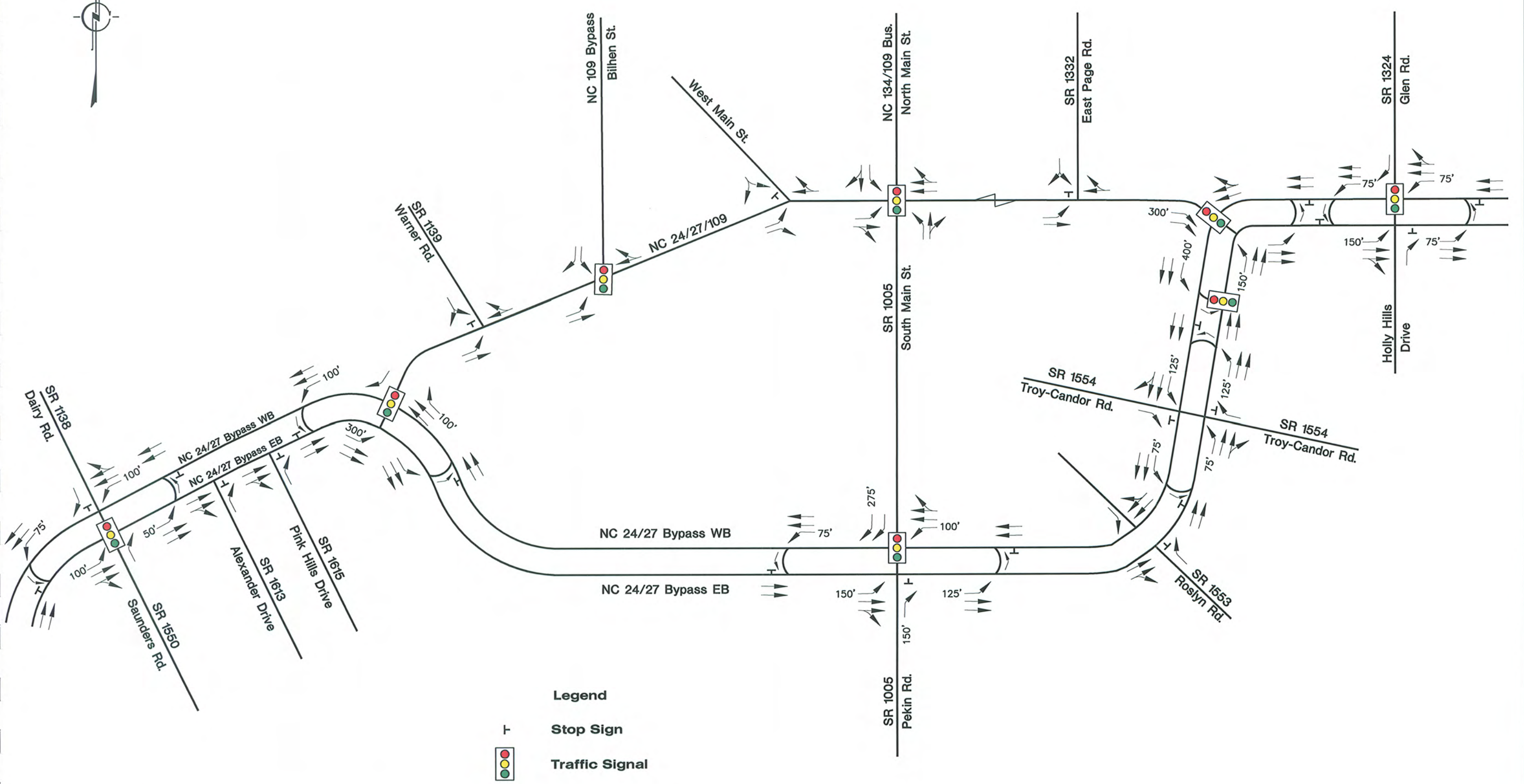
**Legend**

-  Superstreet Intersection
-  Right-In/Right-Out Intersection
-  Left-Over Intersection



**NC 24/27 Improvements**  
TIP No. R-623  
Montgomery County, North Carolina

Intersection  
Configurations  
NTS  
Exhibit 5



**Legend**

T Stop Sign

Traffic Signal

**NC 24/27 Improvements**  
TIP No. R-623  
Montgomery County, North Carolina

Proposed Lane Configuration  
and Traffic Control  
NTS  
Exhibit 6



# APPENDIX A

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## AGENCY COORDINATION



**Stantec**

**NC 24/27 TROY BYPASS (TIP NO. R-623)  
T&E SPECIES (SCHWEINITZ'S SUNFLOWER) STATUS MEETING**

Meeting Date: November 25, 2008

Place/Time: NCDOT Transportation Bldg., Room 407, Raleigh  
9:30 am

Attendees: Ahmad Al-Sharawneh, NCDOT PD&EA  
Derrick Weaver, NCDOT PD&EA  
Rachelle Beauregard, NCDOT Natural Environment Unit  
Greg Brew, NCDOT Roadway Design Unit  
Gary Jordan, US Fish & Wildlife Service  
Paul Koch, Stantec  
Andrea Dvorak-Grantz, Stantec  
Dean Sarvis, Stantec

Distribution: Attendees

---

**PURPOSE OF MEETING:** To discuss the impacts of Alternative E on the Schweinitz's sunflower prior to Concurrence Point 4A.

**ITEMS OF DISCUSSION:** The following paragraphs summarize the discussion and decisions resulting from this meeting:

The meeting opened with a brief project summary and description of alternatives by Paul Koch. Then a history of the Schweinitz's sunflower (sunflower) surveys for the project was provided. Locations of GPS-located sunflowers were shown for both the original 2003 survey and the recent 2008 update.

Based on the previous 2003 survey, there were no sunflowers within the Alternative E footprint. In a summary of the 2008 survey, Andrea Dvorak-Grantz revealed that the populations had migrated within the study area, due primarily to tree-cutting and substantial disturbance on the private property in the area. These changes have resulted in 16 sunflowers inside of the Alternative E footprint.

It was then discussed that the purpose of the meeting was to determine if any additional actions were necessary prior to the Concurrence Point 4A (Minimization) meeting (tentatively scheduled for January 2009) in order to avoid or minimize impacts of Alternative E on the sunflowers.

Paul Koch and Dean Sarvis presented an aerial photo showing an avoidance alignment which shifted slightly south of the existing alignment. Based on existing constraints, including other sunflower populations, this was deemed to be the only feasible avoidance alignment. It was noted that in order to avoid the sunflowers, the alignment would increase stream impacts by approximately 1,500 feet and wetland impacts by 0.1 acre. The avoidance option would also add a residential relocation.

**Reference: NC 24/27 Troy Bypass – T&E Species (Schweinitz's sunflower) Status**

Gary Jordan stated that due to the relatively small impact to the sunflowers and the additional impacts to streams, wetlands, and residences that would be incurred by shifting the alignment, that no further avoidance measures were recommended from the perspective of USFWS.

Because the sunflower locations in the area change over time and are not completely predictable, further update surveys (prior to construction) were discussed. Derrick Weaver offered that an environmental commitment could be made regarding future surveys.

**CONCLUSIONS:** The group agreed that no further changes to Alternative E are warranted to attempt to avoid the sunflower impacts. The group also agreed that the FONSI should include an environmental commitment stating that:

*NCDOT will conduct a survey for Schweinitz's sunflower during the blooming window of September-October approximately two years prior to the project let date.*

**CORRECTIONS & OMISSIONS:** This summary is the writer's interpretation of the events, discussions, and transactions that took place during the meeting. If there are any additions and/or corrections please inform the writer in writing within seven (7) days.

**Paul R. Koch, PE**  
*Project Manager*  
paul.koch@stantec.com

PRK/  
cc: File



# NEPA/404 MERGER MANAGEMENT TEAM MEETING

## Elevation of Concurrence Point No. 3: LEDPA

**Project No./TIP No./ Name/ Description:**

State Project Number: 8.T551001  
TIP Project Number: R-0623  
TIP Description: NC 24/27 Improvements From SR 1138 to east to the Little River in Montgomery County

**Recommended Alternative:**

Alternative E originates at NC 24/27 west of the intersection of NC 24/27 and SR 1138 (Dairy Road)/SR 1550 (Saunders Road) and extends in a southeasterly direction, intersecting Dogwood Avenue and SR 1005 (Pekin Road). Alternative E crosses SR 1005 (Pekin Road) just north of SR 1519 (Capelsie Road) then begins to curve northeast to intersect SR 1553 (Roslyn Road) and SR 1554 (Troy-Candor Road). Alternative E continues in a northeast direction to eventually converge with existing NC 24/27 just west of SR 1324 (Glen Road/Holly Hill Drive)

The Merger Management Team has concurred on this date of July 30, 2008 with the selection of Alternative E with conditions (see below) as the Least Environmentally Damaging Practicable Alternative (LEDPA) for TIP Project No. R-0623.

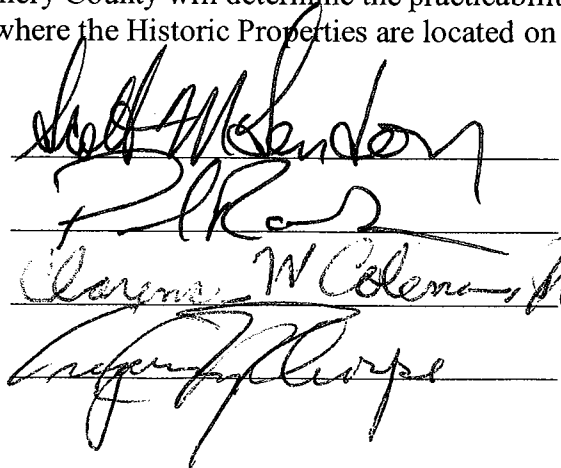
1. NCDOT will coordinate with our Construction Unit to determine the practicability of limiting the Construction Clearing Operations to specific times during the year. We will consult with the USFWS as to the times.
2. The TOWN of Troy and/or Montgomery County will determine the practicability of creating an area to protect the habitat of the Schweinitz's Sunflower population located in the project area.
3. The TOWN of Troy and/or Montgomery County will determine the practicability of incorporating the ideas of Smart Growth into any Local Plans as possible. These could include Stream Buffers, Storm Water Management, etc.
4. The TOWN of Troy and/or Montgomery County will determine the practicability of Limiting Habitat Fragmentation in any future Zoning Ordinances.
5. The TOWN of Troy and/or Montgomery County will determine the practicability creating a Historic Overlay District where the Historic Properties are located on Alignment E at Pekin Road.

US Army Corps of Engineers

NC DENR, Division of Water Quality

Federal Highway Administration

NC Department of Transportation



The image shows four handwritten signatures, each on a horizontal line. From top to bottom, the signatures appear to be: 1. A signature that looks like 'John A. ...'. 2. A signature that looks like 'P. ...'. 3. A signature that looks like 'Carina W. ...'. 4. A signature that looks like 'Andrew ...'.

# NEPA/404 MERGER TEAM MEETING AGREEMENT

## Concurrence Point No. 4A: Avoidance and Minimization

### PROJECT NO./TIP NO./ NAME/DESCRIPTION:

Federal Aid Project Number: STP-24(6)

State Project Number: 8.T551001

TIP Project Number: R-623

TIP Description: NC 24/27 Improvements From SR 1138 to east of the Little River in Montgomery County

### LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE (LEDPA):

Alternative E originates at NC 24/27 west of the intersection of NC 24/27 and SR 1138 (Dairy Road)/SR 1550 (Saunders Road) and extends in a southeasterly direction, intersecting Dogwood Avenue and SR 1005 (Pekin Road). Alternative E crosses SR 1005 (Pekin Road) just north of SR 1519 (Capelsie Road) then begins to curve northeast to intersect SR 1553 (Roslyn Road) the SR 1554 (Troy-Candor Road). Alternative E continues in a northeast direction to eventually converge with existing NC 24/27 just west of SR 1324 (Glen Road)/Holly Hills Drive.

### AVOIDANCE AND MINIMIZATION:

The following measures were taken during the initial design of the LEDPA (Alternative E):

- Impacts to wetlands, streams, and protected species (i.e., Schweinitz's sunflower) were avoided and/or minimized by adjusting alignments and slopes;
- At locations where wetland impacts are likely, the preliminary design was developed to preserve the largest amount of contiguous wetland area;
- Stream crossings were designed as close to 90° as possible; and,
- Residential and business relocations were minimized by adjusting alignments and slopes.

The following measures were developed in the NEPA/404 Merger process and during the preparation of the EA:

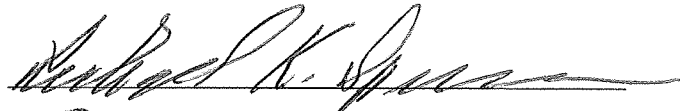
- For stream crossing E5, NCDOT will evaluate a second culvert barrel (the currently proposed structure is a single 12x12 box culvert) to accommodate the floodplain and riparian corridor.
- NCDOT will provide a 25-foot corridor (from the toe of slope to the top of the bank) beneath the proposed bridges on the west side of the Little River to accommodate the Town of Troy's proposed greenway.
- To minimize potential indirect and cumulative effects (ICEs) to the Neal Clark House and the Wooley Saunders House, the NCDOT shall extend control of access for a minimum of 350 feet north and south along SR 1005 (Pekin Road) and utilize a superstreet intersection at this location.
- NCDOT will conduct a survey for Schweinitz's sunflower during the blooming window of September-October approximately two years prior to the project let date.
- Based on design survey data, NCDOT will investigate the options of expressway gutter, reduced shoulder width, or a retaining wall to avoid impacts to the US Forest Service Uwharrie Headquarters Office located along NC 24/27 near Page Street.

The following additional measures were presented at the January 22, 2009 Merger Team meeting:


- For Wetland No. 25, NCDOT will adjust the slope to a 2:1, reducing wetland impact from 0.21 to 0.10 acres.
- For Stream No. 42, NCDOT will adjust the slope to a 2:1, reducing stream impact from 407 to 397 linear feet.
- For Stream No. 57, NCDOT will adjust the slope to a 2:1, reducing stream impact from 263 to 247 linear feet.
- For Stream No. 62, NCDOT will adjust the slope to a 2:1, reducing stream impact from 68 to 49 linear feet.

The Project Team has concurred on this date of January 22, 2009 on the avoidance and minimization measures for the Least Environmentally Damaging Practicable Alternative (LEDPA) for TIP Project No. R-623.

US Army Corps of Engineers

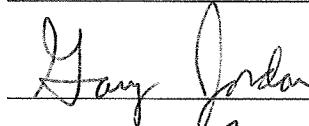


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US Environmental Protection Agency

US Fish and Wildlife Services

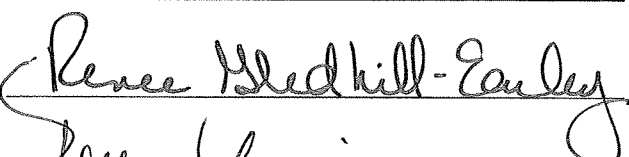


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NC Wildlife Resources Commission

NC Department of Cultural Resources

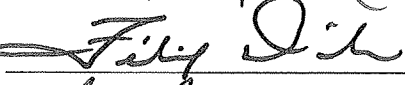


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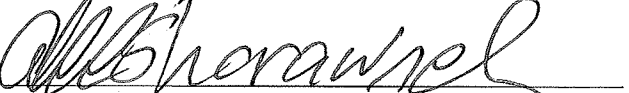


NC DENR, Division of Water Quality

Federal Highway Administration



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NC Department of Transportation

# APPENDIX B

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## ARCHAEOLOGICAL RESOURCES COORDINATION



*Preserving America's Heritage*

February 19, 2009

John F. Sullivan, III, P.E.  
Division Administrator  
FHWA – North Carolina Division  
310 New Bern Avenue, Suite 410  
Raleigh, NC 27601

Ref: *Proposed NC 24/27 Troy Bypass Project (STP-24(6))  
Montgomery County, North Carolina*

Dear Mr. Sullivan:

On February 5, 2009, the Advisory Council on Historic Preservation (ACHP) received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information you provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and you determine that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the North Carolina State Historic Preservation Office (SHPO) and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

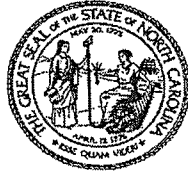
Thank you for providing us with your notification of adverse effect. If you have any questions or require our further assistance, please contact Najah Duvall-Gabriel at 202 606-8585 or via e-mail at [ngabriel@achp.gov](mailto:ngabriel@achp.gov).

Sincerely,

LaShavio Johnson  
Historic Preservation Technician  
Federal Permitting, Licensing and Assistance Section  
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004  
Phone: 202-606-8503 • Fax: 202-606-8647 • [achp@achp.gov](mailto:achp@achp.gov) • [www.achp.gov](http://www.achp.gov)



North Carolina Department of Cultural Resources  
State Historic Preservation Office

Peter B. Sandbeck, Administrator

Beverly Eaves Perdue, Governor  
Linda A. Carlisle, Secretary  
Jeffrey J. Crow, Deputy Secretary  
March 10, 2009

Office of Archives and History  
Division of Historical Resources  
David Brook, Director

MEMORANDUM

To: Matt Wilkerson  
Archaeology Group Leader  
NC Department of Transportation

From: Renee Gledhill-Earley *RGE*  
Environmental Review Coordinator

Re: MOA for NC 24/27 (Troy Bypass) from NC 24/27 just east of SR 1138 to just east of the Little River, R-0623, Montgomery County, ER01-8063

Thank you for your letter of March 4, 2009, transmitting the Memorandum of Agreement for the above referenced undertaking. Jeffrey Crow, State Historic Preservation Officer, has signed the agreement. We return it to you as requested and look forward to implementation of the stipulations

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579. In all future communication concerning this project, please cite the above referenced tracking number.

Attachment

**MEMORANDUM OF AGREEMENT  
BETWEEN THE  
FEDERAL HIGHWAY ADMINISTRATION  
AND  
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER,  
FOR  
THE CONSTRUCTION OF NC 24/27 (TROY BYPASS)  
FROM NC 24/27 JUST EAST OF SR 1138  
TO JUST EAST OF LITTLE RIVER  
MONTGOMERY COUNTY, NORTH CAROLINA  
TIP R-0623  
FEDERAL AID PROJECT STP-24(6)**

**Whereas**, the Federal Highway Administration (FHWA), has determined that the construction of the NC 24/27 Troy Bypass near Troy in Montgomery County (the Undertaking) will have an adverse effect upon archaeological site 31MG1910, a property determined eligible for listing in the National Register of Historic Places, and

**Whereas**, FHWA has consulted with the North Carolina State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

**Whereas**, in accordance with 36 CFR Part 800, FHWA acknowledges and accepts the advice and conditions outlined in the Advisory Council on Historic Preservation's (Council) "Recommended Approach for Consultation on the Recovery of Significant Information from Archaeological Sites," published in the Federal Register (FR Doc. 99-12055) on May 17, 1999; and

**Whereas**, the Advisory Council on Historic Preservation (Council) has been notified of the adverse effect on the historic property and asked to participate in the consultation, and has decline to participate; and

**Whereas**, the North Carolina Department of Transportation (NCDOT) and the Catawba Indian Nation have been invited to participate in the consultation and concur in this Memorandum of Agreement (MOA); and

**Whereas**, the signatories and concurring party agree that the recovery of significant information from 31MG1910 may be done in accordance with the published guidance;

**Whereas**, the signatories and concurring parties agree that it is in the public interest to expend funds for the recovery of significant information from this archaeological site to mitigate the adverse effects of the project;

Now, therefore, the FHWA and the North Carolina SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take in to account the effect of the Undertaking on the historic property.

### Stipulations

FHWA will ensure that the following measures are carried out:

- I. In consultation with the SHPO and the Catawba Indian Nation, the NCDOT will develop a Data Recovery Plan (DRP) for Site 31MG1910, which will be affected by the subject Undertaking.
- II. The NCDOT will ensure that the DRP is implemented after Right-of-Way is acquired or once Right-of-Entry is secured from the property owners and prior to construction activities within the site location as shown in the DRP.
- III. Upon completion of the Data Recovery efforts, the NCDOT will prepare and forward a Management Summary to the SHPO and the Catawba Indian Nation detailing the results of the Data Recovery field investigations. The Management Summary will contain sufficient information to demonstrate that the field investigation portion of the DRP has been implemented.
- IV. Upon receipt of the Management Summary, the SHPO will respond within ten (10) days to the recommendations contained within the document.
- V. Upon acceptance of the recommendations contained in the Management Summary, the SHPO will issue the NCDOT documentation that the Data Recovery field investigations have been completed.
- VI. The analysis and report preparation detailing Site 31MG1910 will be completed by the NCDOT, or their consultants, within twelve (12) months after completion of the fieldwork.
- VII. If historic properties are discovered or unanticipated effects on historic properties are found after FHWA approves the Undertaking and construction has commenced, FHWA will consult with the SHPO, the property owner, and any Indian tribe that may ascribe traditional cultural and religious significance to the properties in accordance with 36 CFR 800.13(b). Inadvertent or accidental discovery of human remains will be handled in accordance with North Carolina General Statutes 65 and 70.
- VIII. Any Signatory may terminate this MOA by providing notice to the other party(ies), provided that the party(ies) will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. Termination of this MOA will require compliance with 36 CFR 800.



This MOA may be terminated by the execution of a subsequent MOA that explicitly terminates or supersedes its terms.

IX. Should any of the Signatories or Concurring Parties object within (30) days to any plans or documentation provided for review pursuant to this Agreement, the FHWA shall consult with the objecting party(ies) to resolve the objection. If the FHWA or objecting party(ies) determines that the objection cannot be resolved, the FHWA will forward all documentation relevant to the dispute to the Advisory Council on Historic Preservation (Council). Within thirty (30) days after receipt of all pertinent documentation, the Council will either:

1. Provide the FHWA with recommendations which the FHWA will take into account in reaching a final decision regarding the dispute, or
2. Notify the FHWA that it will comment pursuant to 36 CFR Section 800.7(c) and proceed to comment. Any Council comment provided in response to such a request will be taken into account by the FHWA, in accordance with 36 CFR Section 800.7 (c) (4) with reference to the subject of the dispute.

Any recommendation or comment provided by the Council will be understood to pertain only to the subject of the dispute; FHWA's responsibility to carry out all of the actions under this agreement that are not the subject of the dispute will remain unchanged.

**Other Terms and Conditions**

This agreement shall be null and void if its terms are not carried out within five (5) years from the date of its execution, unless the signatories agree in writing to an extension for carrying out its terms.

Execution of this MOA by the FHWA and the North Carolina SHPO, its subsequent acceptance by the Council and implementation of its terms, evidence that the FHWA, has afforded the Council an opportunity to comment on the Undertaking, and that the FHWA, has taken into account the effects of the Undertaking on historic properties.

**AGREE:**

  
\_\_\_\_\_  
Federal Highway Administration

Date: 3/4/09

  
\_\_\_\_\_  
State Historic Preservation Officer

Date: 3/10/09

**CONCUR:**

  
\_\_\_\_\_  
North Carolina Department of Transportation

Date: 3/3/09

**Other Terms and Conditions**

This agreement shall be null and void if its terms are not carried out within five (5) years from the date of its execution, unless the signatories agree in writing to an extension for carrying out its terms.

Execution of this MOA by the FHWA and the North Carolina SHPO, its subsequent acceptance by the Council and implementation of its terms, evidence that the FHWA, has afforded the Council an opportunity to comment on the Undertaking, and that the FHWA, has taken into account the effects of the Undertaking on historic properties.

**CONCUR:**

Wenonah H. Haire, DMD  
Dr. Wenonah Haire, Catawba Indian Nation  
Tribal Historic Preservation Officer

Date: 3/20/09

# **APPENDIX C**

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## **COMMENTS ON THE ENVIRONMENTAL ASSESSMENT**

U.S. ENVIRONMENTAL PROTECTION AGENCY  
REGION 4 RALEIGH OFFICE  
TERRY SANFROD FEDERAL COURTHOUSE  
310 NEW BERN AVENUE  
RALEIGH, NORTH CAROLINA 27601

Date: April 5, 2007

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

SUBJECT: EPA Review Comments of the Federal Environmental Assessment for  
R-0623, NC 24/27, Troy Bypass, Montgomery County

Dear Dr. Thorpe:

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 Department of Transportation (NCDOT) and the Federal Highway Administration (FHWA) are proposing to construct a new four-lane, divided highway south of downtown Troy, in Montgomery County for an approximate distance of 6.0 miles.

The proposed project has been in the Section 404/NEPA Merger 01 process and EPA notes the following concurrence point (CP) milestones: CP 1 Purpose and Need signed 3/8/01, CP 2 Alternatives to be Carried Forward for Detailed Study signed 8/19/04, and CP 2A Bridging and Alignment Review signed 3/22/05.

There are four new location alternatives that are under consideration, including Alternatives B, C, D and E. All of the alignments share a common western and eastern terminus with existing NC 24/27.

Alternatives B, C, D and E share a similar magnitude of impacts to the human and natural environment. EPA has reviewed the potential impacts to the key environmental indicators, including jurisdiction waters of the U.S. and offers the following specific comments for some of these indicators:

Wetlands and Streams

Alternatives B, C, D and E have relatively very small and negligible impacts to wetlands and the impacts range between 0.5 and 0.8 acres. These impacts were calculated using the construction limits plus 10 feet. However, jurisdictional stream

impacts are substantial including 3,092 linear feet for Alternative B, 4,021 linear feet for Alternative C, 3,920 linear feet for Alternative D, and 3,948 linear feet for Alternative E. These impacts were calculated based upon construction limits. EPA supports North Carolina's Division of Water Quality (DWQ) recommendation that NCDOT consider the use of a double barrel culvert in lieu of a single larger culvert at stream crossing B5, C5, D5 and E5, in order to accommodate flood flows and maintain natural stream dimensions. The primary stream systems within the project area that are impacted include the Little River, Warner Creek and Turkey Creek. The DWQ classification for these streams is Class C waters.

### Residential and Business Relocations

Total relocations for all categories (residential, business and non-profit) range between 20 and 24 for the four new location Alternatives, with Alternative B with 24, Alternative C with 23 and Alternatives D and E with 20 each.

### Noise Receptors

Receptors impacted by noise include 29 each for Alternatives B and C, and 18 and 17 receptors for Alternatives D and E, respectively. It should be noted that 16 of the 29 impacted receptors for Alternatives B and C would experience a substantial noise increase compared to existing noise levels and 4 and 3 receptors would experience a substantial noise increase for Alternatives D and E. NCDOT evaluated the use of noise walls at two locations, including one for Alternative B by Roslyn Road and one for Alternative C by Roslyn Road. Neither of these locations and the 8 impacted receptors met the NCDOT Noise Abatement Criteria for cost effectiveness of a noise wall barrier. However, EPA believes that the possible use of earthen berms to minimize potential noise increases from the project were prematurely dismissed (Page 4-53), and where cost-effective, they can be possibly worked into the final grading and roadway design without diminishing property access. Also, proper landscaping and vegetative screening along the right of way can have a profound psychological effect on impacted receptors and their perception of increased highway noise. Considering the very rural setting of this project, EPA recommends that NCDOT consider more 'context-sensitive, yet practicable' minimization measures for noise abatement. NCDOT has recognized the general nature of perceived truck traffic noise increases in its discussion on Environmental Justice and its efforts to minimize impacts to the communities in and around Troy (Sections 2.8.3 and 4.3.4 and Pages 4-26 and 4-27).

### Prime Farmlands

EPA has reviewed the information presented in Section 4.2 of the EA regarding Prime, Unique and Statewide Important Farmlands ("Prime Farmlands"). The total Prime Farmland soil acres for Alternatives B, C, D and E are 79, 78, 92 and 94 acres, respectively. The Farmland Conversion Impact Rating Forms were completed for the different Alternative impacts and none of the sites received a score above 160 points (Scores of 113 to 119). The avoidance and minimization requirements under the

Farmland Protection Policy Act (FPPA) are not required for the alternatives for the proposed project and the actual impact to Prime Farmlands appears to EPA to be 0 acres for the 4 alternatives based upon the NRCS Land Evaluation and Site Assessment (LESA) criteria set forth in 7CFR Section 658.4(c)(2). Tables in the Finding of No Significant Impact (FONSI) and for later Merger 01 meetings need to reflect this information.

#### Terrestrial Forests

EPA notes that the specific impacts to terrestrial forests are not broken out in the summary impact tables (i.e., Table S.1 and Table 4.19.1). However, EPA identified the upland natural community impacts in Table 4.9.1, which includes the terrestrial forests types. The impacts for Alternatives B, C, D, and E are 79, 83, 87 and 104 acres, respectively. Alternative E has substantially more impacts to Mesic mixed hardwood forest than Alternative B (almost 24 acres). Because wildlife fragmentation is a documented issue for this project (FWS letter, 2/26/07), EPA least prefers Alternative E due to the substantial increase in upland forest impacts.

In summary, EPA does not have any environmental objections to any of the proposed Alternatives. However, EPA believes that from a natural resource standpoint, Alternative B represents the least environmentally damaging alternative. The human impacts including relocations and noise receptors are not above the per mile average for a new location project in this part of North Carolina. EPA will continue to stay active in the Merger 01 process for this proposed project. Thank you for the opportunity to comment.

Sincerely,

Christopher A. Militscher, REM, CHMM  
Merger Team Representative  
NEPA Program Office

For: Heinz J. Mueller, Chief  
EPA Region 4 NEPA Program Office



North Carolina Department of Crime Control and Public Safety  
 Division of Emergency Management  
 Office of Geospatial & Technology Management

Michael F. Easley  
 Governor

Bryan E. Beatty  
 Secretary

March 13, 2007



Division of Emergency Management  
 National Flood Insurance Program

STATE NUMBER: 07-E-4220-0267  
 APPLICANT: North Carolina Department of Transportation

DESC: Proposed NC 24-27 Troy Bypass from SR 1138 to East of the Little River;  
 Montgomery County; TIP #%-0623

Section 4.11 (Floodplains) of the Environmental Assessment identifies mapped Special Flood Hazard Areas on Warner Creek (Zone A) and Little Creek (Zone AE with BFEs and regulatory floodway). A preliminary digital Flood Insurance Rate Map (FIRM) for Montgomery County was issued by the North Carolina Floodplain Mapping Program on January 31, 2007. The Warner Creek floodplain and the Zone A floodplains on Little Creek and Densons Creek upstream of the existing NC 24-27 bridge are now shown as a Zone AE with BFEs and non-encroachment areas. The new FIRM will not become effective until January 2008, but the new BFE and non-encroachment area data for Warner Creek, Little Creek, and Densons Creek will be enforced by Montgomery County as best available data for floodplain management purposes. The proposed NC 24-27 Troy Bypass project will require issuance of a floodplain development permit by the Montgomery County. If the project encroaches on the regulatory floodways or non-encroachment areas of Warner Creek, Little Creek, and Densons Creek either a valid no-impact certification by a North Carolina licensed professional engineer or an approved Conditional Letter of Map Revision will be required before the permit is issued.

Please let me know if you have any questions about this.

Edward M. Curtis, P.E., CFM  
 Division of Emergency Management – NFIP  
 919-715-8000 extension 369  
 ecurtis@ncem.org

**MAILING ADDRESS:**  
 4713 Mail Service Center  
 Raleigh, NC 27699-4713

Fax: (919) 715-5408



www.ncem.org

**OFFICE LOCATION:**  
 Disaster Recovery Operations Center  
 1830-B Tillery Place  
 Raleigh, NC 27604  
 Telephone: (919)715-8000





Michael F. Easley, Governor  
William G. Ross Jr., Secretary  
North Carolina Department of Environment and Natural Resources  
Alan W. Klimek, P.E. Director  
Division of Water Quality

February 23, 2007

**MEMORANDUM**

**To:** Melba McGee  
**From:** Polly Lespinasse, Division of Water Quality, Mooresville Regional Office  
**Subject:** **Comments on the Environmental Assessment Related to the NC 24/27 Troy Bypass from NC 24/27 Just West of SR 1138 (Dairy Road) to Just East of the Little River, Montgomery County, Federal Aid Project No. STP-24(6), State Project No. 8.T551001, TIP R-623, DENR Project Number 07-0267, Due Date 03/02/2007**

This office has reviewed the referenced document dated December, 2006. The Division of Water Quality (DWQ) is responsible for the issuance of the Section 401 Water Quality Certification for activities that impact Waters of the U.S., including wetlands. It is our understanding that the project as presented will result in impacts to jurisdictional wetlands, streams, and other surface waters. The DWQ offers the following comments based on review of the aforementioned document:

**Project Specific Comments:**

- A) This project is being planned as part of the 404/NEPA Merger Process. As a participating team member, the NCDWQ will continue to work with the team.

**General Comments:**

- B) 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.
- C) Environmental assessment alternatives should consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. These alternatives should include road designs that allow for treatment of the storm water runoff through best management practices as detailed in the most recent version of NC DWQ *Stormwater Best Management Practices*, such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.
- D) After the selection of the preferred alternative and prior to an issuance of the 401 Water Quality Certification, the NCDOT 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 should be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as wetland mitigation.

*The  
North Carolina  
Naturally*

- E) 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 perennial stream. In the event that mitigation is required, the mitigation plan should be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as stream mitigation.
- F) Future documentation, including the 401 Water Quality Certification Application, should continue to include an itemized listing of the proposed wetland and stream impacts with corresponding mapping.
- G) DWQ is very concerned with sediment and erosion impacts that could result from this project. NCDOT should address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.
- H) An analysis of cumulative and secondary impacts anticipated as a result of this project is required. The type and detail of analysis should conform to the NC Division of Water Quality Policy on the assessment of secondary and cumulative impacts dated April 10, 2004.
- I) NCDOT is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, 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.
- J) Where streams must be crossed, the DWQ 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, DOT should not install the bridge bents in the creek, to the maximum extent practicable. DWQ recommends that bridging locations be as agreed upon in the NEPA/404 Merger Team Meeting (Concurrence Point 2A) held on March 22, 2005. In addition, DWQ would also recommend the use of a double barrel culvert (in lieu of a single larger culvert) at stream crossing B5, C5, D5, and E5 to accommodate flood flows and maintain natural stream dimensions.
- K) Sediment and erosion control measures should not be placed in wetlands or streams.
- L) 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.
- M) The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater should not be permitted to discharge directly into streams or surface waters.
- N) 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 NCDOT and written concurrence from the 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.
- O) Bridge supports (bents) should not be placed in the stream when possible.

- P) Whenever possible, the DWQ 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 allow for human and wildlife passage beneath the structure, do not block fish passage and do not block navigation by canoeists and boaters.
- Q) Bridge deck drains should not discharge directly into the stream. Stormwater should be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of NC DWQ *Stormwater Best Management Practices*.
- R) If concrete is used during construction, a dry work area should be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete should not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
- S) If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas should be seeded or mulched to stabilize the soil and appropriate native woody species should be planted. When using temporary structures the area should 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.
- T) 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 disequilibrium 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 DWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NC DWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.
- U) If multiple pipes or barrels are required, they should be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation and/or sills 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.
- V) If foundation test borings are necessary; it should be noted in the document. Geotechnical work is approved under General 401 Certification Number 3494/Nationwide Permit No. 6 for Survey Activities.
- W) 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.
- X) All work in or adjacent to stream waters should 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 should be used to prevent excavation in flowing water.
- Y) 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.

- Z) 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 should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.
- AA) Riprap should 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.
- BB) Riparian vegetation (native trees and shrubs) should 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.

The 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: Richard Spencer, US Army Corps of Engineers, Wilmington Field Office  
Ron Lucas, Federal Highway Administration  
Chris Militscher, Environmental Protection Agency  
Travis Wilson, NC Wildlife Resources Commission  
Gary Jordan, US Fish and Wildlife Service  
Sonia Gregory, DWQ Central Regional Office  
File Copy

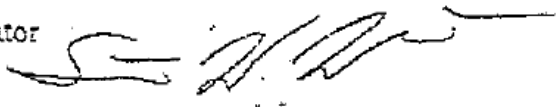


 North Carolina Wildlife Resources Commission 

Richard B. Hamilton, Executive Director

MEMORANDUM

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

FROM: Travis Wilson, Highway Project Coordinator  
Habitat Conservation Program 

DATE: March 2, 2007

SUBJECT: North Carolina Department of Transportation (NCDOT) Environmental Assessment (EA) for the proposed NC 24/27 Troy Bypass, Montgomery County, North Carolina. TIP No. R-623. SCH Project No. 07-0267

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

NCDOT proposes to construct a new location four-lane roadway from NC 24/27 just west of SR 1138 to just east of the Little River. Four alternatives are presented in the EA ranging in length from 5.8 to 6.3 miles. Impacts to streams vary with alternatives, and are expected to total approximately 3,092.3 to 4,020.6 linear feet of stream impact. Impacts to wetlands vary from 0.5 to 0.8 acres.

At this time we do not have any specific comments, we concur with the EA for this project. We will continue to assess the impacts associated with the remaining alternatives in preparation for the selection of the LEDPA and for further avoidance and minimization measures. Thank you for the opportunity to comment on this EA. If we can be of any further assistance please call me at (919) 528-9886.

cc: Gary Jordan, U.S. Fish and Wildlife Service, Raleigh

Memo

2

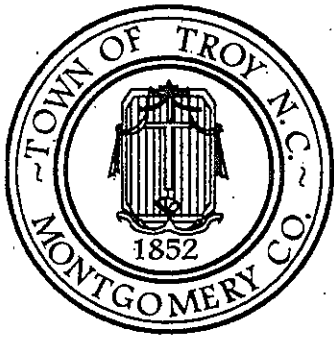
March 2, 2007

Folly Lespinasse, DWQ, Raleigh  
Richard Spencer, U.S. Army Corps of Engineers, Wilmington  
Chris Militscher, EPA

# APPENDIX D

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TOWN OF TROY RESOLUTION



# TOWN OF TROY

ROY MANESS  
MAYOR

JAMES HURLEY  
MAYOR PRO-TEM

COMMISSIONERS:  
ANGELA ELKINS  
BRUCE HAMILTON  
WALLACE JONES  
CHRIS WATKINS

GREG ZEPHIR  
TOWN MANAGER

CATHY M. MANESS  
TOWN CLERK

## RESOLUTION of Support for the NC 24/27 By-Pass

*WHEREAS*, North Carolina Route 24/27 is a major thoroughfare for the Town of Troy; and,

*WHEREAS*, North Carolina Route 24/27 is a critical component for the Town of Troy with regards to transportation and economic development; and,

*WHEREAS*, The proposed construction of the Troy By-Pass will enhance the town's opportunities to grow both residentially and economically in the future; and

*WHEREAS*, Congestion on NC 24/27 has increased and according to studies will increase in the future; and,

*WHEREAS*, the Town of Troy realizes that any highway project involves land and right-of-way acquisitions; and,

*WHEREAS*, the Town of Troy prefers an option that puts the least amount of burden on citizens, displaces the least amount of homeowners, and affects the least amount of businesses.

**NOW, THEREFORE, LET IT BE RESOLVED**, that the Town of Troy Board of Commissioners hereby request that the North Carolina Department of Transportation proceed forward with their plans to construct the NC 24/27 By-Pass, opting for Alternative "E", in that it will involve displacing fewer homeowners and will allow for a greater opportunity for the Town of Troy to grow in the future.

Adopted this the 17<sup>th</sup> day of September, 2007

By: 

Roy Maness, Mayor

ATTEST:



Cathy Maness, Town Clerk

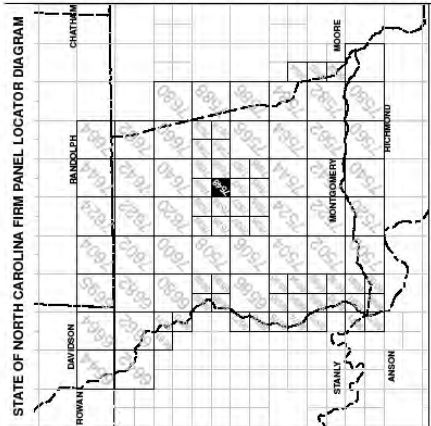


# APPENDIX E

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## FEMA FLOOD INSURANCE RATE MAP (FIRM) PANELS





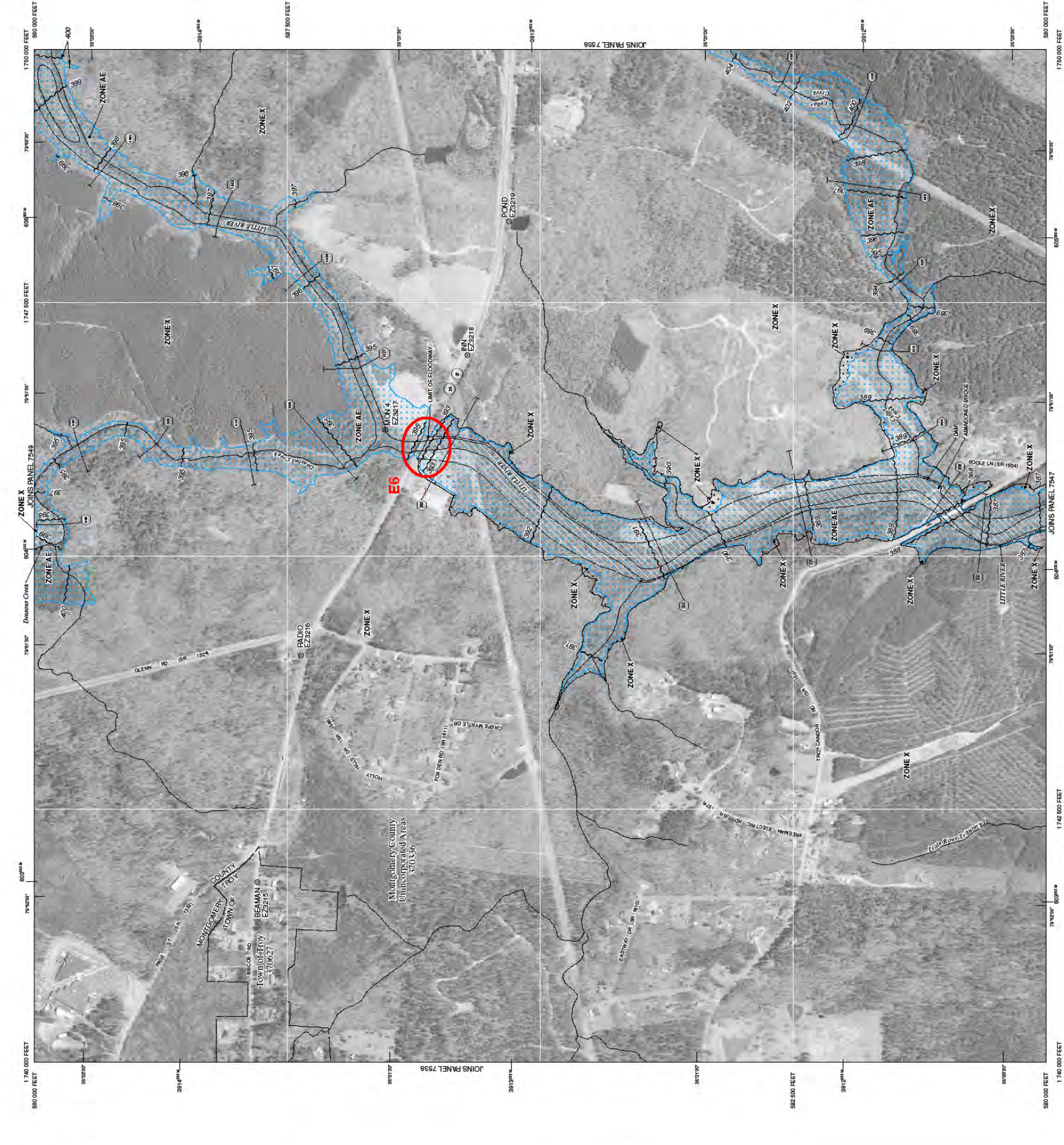
**DATUM INFORMATION**

The projection used in the preparation of this map was the North Carolina State Plane (NAD 83). The horizontal datum was the North American Datum of 1983 (NAD 83). The vertical datum was the North American Vertical Datum of 1988 (NAVD 88). The map was prepared using the following information:

- Horizontal Datum: North American Datum of 1983 (NAD 83)
- Vertical Datum: North American Vertical Datum of 1988 (NAVD 88)
- Projection: Universal Transverse Mercator (UTM), Zone 18N
- Units: Feet

**FLOOD HAZARD DATA TABLE**

Flow-way Width (feet)	Flow-way Depth (feet)	Flow-way Velocity (feet per second)
100	2.0	2.0
200	2.0	2.0
300	2.0	2.0
400	2.0	2.0
500	2.0	2.0
600	2.0	2.0
700	2.0	2.0
800	2.0	2.0
900	2.0	2.0
1000	2.0	2.0



**NOTES TO USERS**

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small flood hazard information.

The map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were shown on the previous FIRM have been updated to reflect the more detailed stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report which contain authoritative hydraulic data may reflect stream channel distances that differ from what is shown on this map.

Please refer to the separately printed Map Index for an overview map of the county showing the location of this map. The Flood Insurance Study report for this jurisdiction contains the Flood Profiles and Floodway Data tables for each community as well as a listing of the communities for which the Flood Insurance Study report was prepared.

If you have questions about this map, or questions concerning the National Flood Insurance Program, in general, please call 1-877-FEMA-MAP (1-877-362-6227) or visit the FEMA website at [www.fema.gov](http://www.fema.gov).

An accompanying Flood Insurance Study report, Letter of Map Revision (LOMR) or Letter of Map Amendment (LOMA) may be available for this map. The Flood Insurance Study report, Letter of Map Revision (LOMR) or Letter of Map Amendment (LOMA) may be obtained from the Federal Emergency Management Agency (FEMA) at <http://www.fema.gov> or contact the FEMA Map Service Center at 1-800-558-8882 for more information. Visit the North Carolina Flood Insurance Program website at <http://www.ncfloodmaps.com> or contact the FEMA Map Service Center at 1-800-558-8882 for more information.

**LEGEND**

**SPECIAL FLOOD HAZARD AREAS (SFHAs)** SUBJECT TO SPECIAL FLOOD INSURANCE PREMIUMS (SFIP)

**ZONE AE** Special Flood Hazard Area (SFHA) subject to special flood insurance premiums. This zone is the area of land that is subject to flooding from the 1% annual chance flood. The Special Flood Hazard Area (SFHA) is the area of land that is subject to flooding from the 1% annual chance flood. The Special Flood Hazard Area (SFHA) is the area of land that is subject to flooding from the 1% annual chance flood.

**ZONE X** Flood Hazard Area (FHA) subject to special flood insurance premiums. This zone is the area of land that is subject to flooding from the 1% annual chance flood. The Flood Hazard Area (FHA) is the area of land that is subject to flooding from the 1% annual chance flood. The Flood Hazard Area (FHA) is the area of land that is subject to flooding from the 1% annual chance flood.

**ZONE AR** Flood Hazard Area (FHA) subject to special flood insurance premiums. This zone is the area of land that is subject to flooding from the 1% annual chance flood. The Flood Hazard Area (FHA) is the area of land that is subject to flooding from the 1% annual chance flood. The Flood Hazard Area (FHA) is the area of land that is subject to flooding from the 1% annual chance flood.

**ZONE AH** Flood Hazard Area (FHA) subject to special flood insurance premiums. This zone is the area of land that is subject to flooding from the 1% annual chance flood. The Flood Hazard Area (FHA) is the area of land that is subject to flooding from the 1% annual chance flood. The Flood Hazard Area (FHA) is the area of land that is subject to flooding from the 1% annual chance flood.

**ZONE AV** Flood Hazard Area (FHA) subject to special flood insurance premiums. This zone is the area of land that is subject to flooding from the 1% annual chance flood. The Flood Hazard Area (FHA) is the area of land that is subject to flooding from the 1% annual chance flood. The Flood Hazard Area (FHA) is the area of land that is subject to flooding from the 1% annual chance flood.

**FLOODWAY AREAS IN ZONE AE**

The boundary of a stream and any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

**OTHER FLOOD AREAS**

Areas of 0.2% annual chance flood areas of 1% annual chance flood with average depths of less than 1 foot or with average areas less than 1 square foot. Areas of 0.2% annual chance flood areas of 1% annual chance flood with average depths of less than 1 foot or with average areas less than 1 square foot.

**OTHER AREAS**

Areas in which flood hazards are undetermined, but possible.

**COSTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**

Areas in which flood hazards are undetermined, but possible.

**OTHERWISE PROTECTED AREAS (OPAs)**

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

**FIRM FLOOD INSURANCE RATE MAP NORTH CAROLINA**

PANEL 7548

**DATE OF ORIGINAL OR MAP FILE FOR FIRM PANEL:** 3/27/2008

**DATE OF MAP REVISION:** 3/27/2008

**COMMUNITY:** MONTGOMERY COUNTY

**STATE:** NORTH CAROLINA

**COUNTY:** MONTGOMERY COUNTY

**TOWNSHIP:** TOWN OF

**SECTION:** 36

**EFFECTIVE DATE:** JANUARY 2, 2008

**MAP NUMBER:** 3710754800J

**MAP REPOSITORY:** Refer to listing of Map Repositories on Map Index or visit [www.floodmaps.com](http://www.floodmaps.com)

**EFFECTIVE DATE OF FLOOD INSURANCE RATE MAP PANEL:** JANUARY 2, 2008

**EFFECTIVE DATES OF REVISIONS TO THIS PANEL:**

For community map updates, please refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent, the North Carolina Division of Emergency Management, or the National Flood Insurance Program at 1-800-558-8882 or visit the website at <http://www.floodmaps.com>.

NC Division of Emergency Management  
1400 S. Salisbury Street  
Raleigh, NC 27601  
[www.ncfloodmaps.com](http://www.ncfloodmaps.com)