

**I-40 PAVEMENT REHABILITATION
AND CONSTRUCT ADDITIONAL LANES**

From West of NC 801 in Davie County to
East of SR 1101 (Harper Road) in Forsyth County
Davie and Forsyth Counties, North Carolina

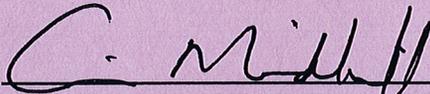
WBS ELEMENT – 34147.1.2
FEDERAL AID PROJECT NO. NHMF-40-3(112)180
TIP PROJECT NO. I-0911 A

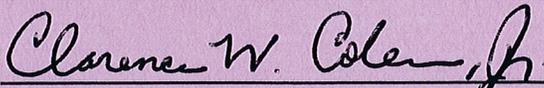
ADMINISTRATIVE ACTION
FINDING OF NO SIGNIFICANT IMPACT

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
AND
N.C. DEPARTMENT OF TRANSPORTATION

submitted pursuant to the National Environmental Policy Act
42 USC 4332(2)(c)

APPROVED:

6/26/14 
Date *FOR* Richard W. Hancock, P.E., Manager
Project Development and Environmental Analysis Unit

6/30/14 
Date *for* John F. Sullivan, III, P.E., Division Administrator
Federal Highway Administration

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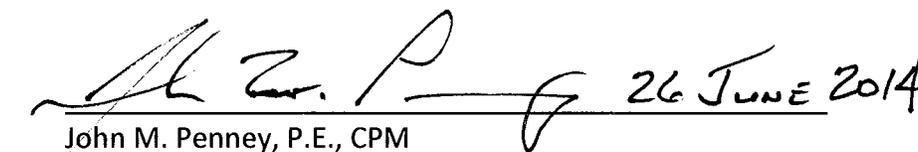
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JUNE 2014

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PROJECT COMMITMENTS

I-40 PAVEMENT REHABILITATION AND CONSTRUCT ADDITIONAL LANES

From West of NC 801 in Davie County to
East of SR 1101 (Harper Road) in Forsyth County
Davie and Forsyth Counties, North Carolina

Federal Aid No. NHIMF-40-3(112)180

State Project No. 8.1610401

WBS No. 34147.1.2

TIP PROJECT NO. I-0911 A

Current status, changes, or additions to the project commitments as shown in the environmental document for the project are printed in italics.

Commitments Developed through Project Development and Design

Project Development & Environmental Analysis Unit, Roadway Design Unit

- ~~• NCDOT will use a steeper slope 1.5:1 with rock plating to stabilize soil at the historic Win-Mock Farm to further minimize impact to the historic property. Additional design is needed prior to final design.~~

NCDOT will use a retaining wall alternative with variable slopes of 2:1 to 1.5:1 at the historic Win-Mock Farm to further minimize impacts to the historic property. Additional design is needed prior to completion of final design.

This commitment will be implemented during final design of the project.

Project Development & Environmental Analysis Unit, Roadway Design Unit

- The proposed preliminary design for the project currently requires a permanent construction easement at the Win-Mock Farm Property. A no adverse effect determination was rendered for this impact. A de minimis conclusion was rendered for this impact.

The proposed retaining wall tieback system will require a permanent construction easement at the Win-Mock Farm Property. NCDOT will minimize the amount of easement required for the retaining wall tieback system, by moving the retaining wall

PROJECT COMMITMENTS

closer to the travel lanes/shoulder of the proposed improvements, i.e. away from the Win-Mock Farm historic property.

This commitment will be implemented during final design of the project.

Project Development & Environmental Analysis Unit- Human Environmental Section- Traffic Noise & Air Quality Group /Roadway Design Unit

- Preliminary consideration for noise abatement measures was given to all impacted receptors. Based upon the presently unavailable project design, the recommendation of this Traffic Noise Analysis is that a detailed study of potential mitigation measures for three noise sensitive areas (NSAs) that meet preliminary feasibility and reasonableness criteria shall be conducted during project Final Design.

Based on the refined preliminary design completed after the EA was signed, NCDOT has completed a Design Noise Report for the project. The Design Noise Report proposes four (4) noise barriers. Upon completion of the final design NCDOT will review the findings of the Design Noise Report to determine if any modifications and/or revisions to the recommended noise barrier locations or lengths.

This commitment will be implemented prior to construction of the project.

Division 9 Construction

- The I-40 bridge across the Yadkin River is approximately 4 miles above the City of Winston-Salem's primary water intake. Best Management Practices for sedimentation and erosion control (including devices such as silt fences, sediment basins, matting, etc.) will be implemented to keep sediment and other pollutants out of the Yadkin River during construction. This project involves construction activities on or adjacent to the Federal Emergency Management Agency (FEMA) regulated stream. 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.

This commitment will be implemented during construction of the project.

PROJECT COMMITMENTS

Hydraulics

- The Hydraulics Unit will coordinate with the Floodplain Mapping Program (FMP), the delegated state agency for administering FEMA's National Flood Insurance Program, to determine the status of the project with regard to applicability of NCDOT'S Memorandum of Agreement with FMP, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR).

This commitment will be implemented during final design prior to construction of the project.

Geotechnical Unit

- A soil and groundwater assessment of the three identified properties will be provided before right of way acquisition.

This commitment will be implemented prior to Right-of-Way acquisition for the project.

Project Development & Environmental Analysis Unit/Roadway Design Unit/Hydraulics

- Measures to avoid and minimize impacts of the project will include steeper side slopes (2:1) in jurisdictional areas and no impacts to the Yadkin River.

This commitment will be implemented during final design of the project.

Project Development & Environmental Analysis Unit/Division 9

- NCDOT will replace the existing structure with a standard pedestrian bridge at the same location as the existing Bert's Way Bridge. On April 22, 2014, the Town of Bermuda Run passed a resolution in support of the replacement of the Bert's Way Bridge with a pedestrian bridge and to seek funding to enhance the new bridge. Any betterment/enhancement to a standard pedestrian bridge will be the responsibility of the Town of Bermuda Run per a municipal agreement prior to construction.

Division 9 Construction

- Prior to and during construction a minimum of four (4) week advance notice of construction activities, including anticipated construction phasing, in each direction of I-40 will be provided to the following entities:
 - Davie County Schools Transportation Department in order to re-route buses.

PROJECT COMMITMENTS

- *Winston-Salem/Forsyth County Schools Transportation Department in order to re-route buses.*
- *Davie County Sheriff, Fire and EMS Departments;*
- *Smith Grove Fire Department;*
- *Forsyth County EMS Department;*
- *Forsyth County Sheriff Department;*
- *Clemmons Fire Department;*
- *NCDOT-IMAP, and;*
- *State Highway Patrol.*

This commitment is being implemented during construction of the project.

Roadway Design Unit /Geotechnical Unit /Division 9 Construction

- *A project special provision will be included in the let package to instruct the contractor in the event contaminated soil or ground water is encountered.*

This commitment is being implemented prior to construction of the project.

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**WBS ELEMENT – 34147.1.2
FEDERAL AID PROJECT NO. NHIMF-40-3(112)180
TIP PROJECT NO. I-0911 A**

I. TYPE OF ACTION

This document is a Finding of No Significant Impact (FONSI) for the proposed improvement of I-40 in Davie and Forsyth Counties, North Carolina. The location of the project is shown on Figure 1.

This FONSI has been prepared by the North Carolina Department of Transportation (NCDOT) in coordination with the Federal Highway Administration (FHWA). It is intended to satisfy the requirements of both the National Environmental Policy Act (NEPA) and the North Carolina Environmental Policy Act. The document conforms to the Council on Environmental Quality (CEQ) guidelines [40 CFR 1508.13], which implement the procedural provisions of NEPA, and the FHWA Guidance for Preparing and Processing Environmental and Section 4(f) Documents (Technical Advisory T6640.8A, 1987). The proposed project meets the criteria for a FONSI as denoted in 23 CFR 771.121.

II. DESCRIPTION OF PROPOSED ACTION

A. General Project Description

The North Carolina Department of Transportation (NCDOT), in accordance with the Federal Highway Administration (FHWA), proposes to widen I-40 from west of NC 801 in Davie County to east of SR 1101 (Harper Road) in Forsyth County, see Vicinity Map, Figure 1.

I-40 is recommended to be widened to a six-lane divided facility with a 36-foot wide median, and 14-foot shoulders for the entire length of the project. The project will include replacing the existing bridges over the Yadkin River to improve safety and increase capacity along I-40. The Bert's Way Bridge is recommended for replacement with a pedestrian bridge to accommodate a future greenway.

The original project study area utilized in the EA was 500 feet each direction of the centerline of I-40 and NC 801. Based on a refined preliminary design the project study area was reduced to 50 foot beyond the existing Right-of-Way. To better facilitate lane drops and ramp tapers associated with the I-40/NC 801 interchange the project limits were lengthened approximately 4,600 feet westward. The current project limits are approximately 4,450 feet west of NC 801 in Davie County to approximately 650 feet east of SR 1101 (Harper Road) in Forsyth County. The total project length is approximately 3.3 miles long and is shown in Figures 1 and 2A through 2F.

B. Project Costs

The cost estimate for the proposed project as shown in the approved 2012-2020 State Transportation Improvement Program (STIP) is \$76,073,000, which includes \$ 650,000 for right of way acquisition, \$48,200,000 for construction and \$27,223,000 for prior years cost. The cost estimate for the proposed project as shown in the Draft 2013-2023 State Transportation Improvement Program (STIP) is \$76,103,000, which includes \$650,000 for right of way acquisition, \$48,200,000 for construction and \$27,253,000 prior years cost for TIP Projects I-0911B and I-0911C which are completed.

The current estimated cost for the proposed improvements is as follows:

Table 1: Project Cost Estimate

	Preferred Alternative
Right of Way Cost	\$ 125,000
Utilities Relocation	\$ 195,838
Construction	\$ 58,000,000
Total Cost	\$ 58,320,838

C. Project Schedule

The project is currently scheduled for Right-of-Way acquisitions to begin in fiscal year (FY) 2015, according to the Draft 2013-2023 STIP.

III. PREFERRED ALTERNATIVE

Based on the initial results and findings of comprehensive studies of the natural and human environments impacted by the project, NCDOT selected the 1.5:1 slope with rock plating alternative at the Win-Mock Farm as the preferred design option to avoid or minimize impacts to the historic property as stated in the Environmental Assessment (EA). Based on a refinement of the preliminary design, comments received and coordination with the North Carolina Historic Preservation Office (HPO) and FHWA, NCDOT has revised the preferred alternative to the retaining wall alternative with variable slopes of 2:1 to 1.5:1 to avoid or minimize impacts to the historic property and address bicycle and pedestrian access over I-40 via Bert’s Way Bridge. The revised

preferred alternative is addressed in this document as a revision to the Environmental Assessment in Section VI.I, see Table 4 in Appendix B of this document for impacts.

IV. SUMMARY OF ENVIRONMENTAL EFFECTS

The comparison of environmental impacts associated with the revised preferred alternative and other alternatives studied are listed in Appendix B, Tables S2 and 4 of this document. A summary of the impacts for the proposed project are shown below in Table 2.

Table 2. Impacts Summary

Impact Category	Impacts
	Preferred Alternative
Natural Resources Impacts	
Federal Listed Species Habitat	Yes
100-Year Flood Plain or Floodway Impacts	Yes
Wetlands (number of crossings/acres)	5/ 0.23 ac
Stream Crossings (number/linear feet)	10/ 1,293 LF
Water Supply Critical Areas	None
Human Environment Impacts	
Residential Relocations (number) Total	0
Residential Relocations (number) Minority	0
Business Relocations (number)	0
Low Income/Minority Populations	0
Schools (number)	0
Cemeteries/Gravesites (number)	0
Historic Sites/Districts (number)	1 (Historic Property)
Section 4(f) Impacts	1 (de minimis)
Section 6(f) Impacts	0
Traffic Noise Impacts (total receptors)	305
Traffic Noise Impacts (receptors impacted)	126
Traffic Noise Impacts - Noise Sensitive Areas	12
Air Quality	Maintenance for carbon monoxide (CO)
Physical Environmental Impacts	
Farmland (acres)	0
Underground Storage Tanks (number)	0
Preliminary Cost Estimates	
Right-of-Way	\$ 125,000
Utilities Relocation	\$ 195,838
Construction	\$ 58,000,000
Total Cost	\$ 58,320,838

V. COORDINATION AND COMMENTS

A. **Circulation of the Environmental Assessment**

The Environmental Assessment (EA) was approved by NCDOT and FHWA on June 21, 2011. Copies of the approved EA were circulated to the following federal, state and local agencies for review and comment:

Federal Agencies

U.S. Army Corps of Engineers (Raleigh Regulatory Field Office)

*U.S. Environmental Protection Agency

U.S. Fish and Wildlife Service (Asheville)

State Agencies

N.C. Department of Administration – State Environmental Clearinghouse

*N.C. Department of Environment and Natural Resources – Division of
Water Resources - Public Water Supply Section

*N.C. Department of Agriculture and Consumer Services, Agricultural
Services

*N.C. Department of Environment and Natural Resources – Division of Water
Quality

N.C. Department of Cultural Resources – Division of Archives and History

*N.C. Wildlife Resources Commission

Local Agencies

*Winston-Salem Urban Area Metropolitan Planning Organization

City of Winston-Salem – Department of Transportation

City of Winston-Salem and Forsyth County – City-County Planning Board

*Town of Bermuda Run

Village of Clemmons

Forsyth County Board of Commission

Davie County Board of Commission

Written comments were received from agencies noted with an asterisk (*).

The EA was available for public review at the following locations:

NCDOT – Division 9 Office

City of Winston-Salem – Department of Transportation Office

Town of Bermuda Run – Town Offices

Village of Clemmons – Village Offices

Clemmons Branch Library

Comments and responses are listed in Section V.B and copies of the correspondence received are included in Appendix E.

B. Comments Received on the Environmental Assessment

1. Agency Comments Received on the Environmental Assessment

United States Environmental Protection Agency, (August 1, 2011)

Comment (1): “The proposed widening project was placed into the Merger process at Concurrence Points (CP) 2A and 4A by the primary agencies. EPA concurred on the CP 2A and 4A forms on April 20, 2010. The NCDOT agreed to steeper side slopes (2:1) in jurisdictional areas no impacts to the Yadkin River from the replacement of the existing bridges.”

Response: Comment Noted.

Comment (2): “The EA identifies impacts from the proposed project as follows: 0.2 acres of wetland impacts, 821 linear feet of stream impacts, 100-year floodplain and floodway impacts, and a *de minimus* impact to 1 historic property/Section 4(f).”

Response: Based on the refined preliminary design completed after the EA was signed, revised impacts for the proposed project are as follows: 0.23 acres of wetland impacts, 1,293 linear feet of stream impacts, 100-year floodplain and floodway impacts, and a *de minimus* impact to 1 historic property/Section 4(f), see Section VI of this document.

Comment (3): “The EA also identifies 3 potential noise barriers under consideration on pages 30-31. The summary impact table does not identify the total number of impacted noise receptors per FHWA criteria. Based upon the three noise sensitive areas (NSAs), there are at least 105 impacted noise receptors that meet or exceed FHWA criteria. Referring to Appendix E, there appears to be at least 117 impacted receptors per 23 CFR 772. The Noise Barrier Reasonableness Assessment is also contained in Appendix E.”

Response: Based on the refined preliminary design completed after the EA was signed, NCDOT has performed a Design Noise Report for the project, see Section VI.R of this document. The Design Noise Report denotes 126 impacted noise receptors. Table S2 and Table 4 of the EA are deleted and are replaced Table S2 and Table 4 in this document, see Appendix B.

Comment (4): “According to Table E-3, potential noise barriers would be 1,597 feet, 3,381 feet and 1,867 feet in length and benefit approximately

143 receptors along existing 1-40. EPA notes the 'Green sheet' commitment of conducting an updated traffic noise analysis and assessment of the potential noise barriers."

Response: Based on the refined preliminary design completed after the EA was signed, NCDOT has performed a Design Noise Report for the project, see Section VI.R of this document. The Design Noise Report proposes four (4) noise barriers at the same areas noted in the EA with lengths of 1,500 feet, 705 feet, 3,135 feet and 1,110 feet benefiting 174 receptors. This comment is addressed in this document as a revision to the Environmental Assessment in Section VI.R. Upon completion of the final design NCDOT will review the findings of the Design Noise Report to determine if any modifications and/or revisions to the recommended noise barrier locations or lengths.

Comment (5): "EPA notes that Table 11 does not match the impacts to Federally-listed species habitat as shown in Table S2. Table 11 indicates that there is habitat for Michaux's sumac (*Rhus michauxii*) and Table S2 indicates there is no habitat for Federal listed species."

Response: Suitable habitat for Michaux's sumac exists within the project study area as noted in Table 13 of this document. Systematic plant-by-plant surveys were conducted in all areas of suitable habitat on June 12, 13, 20, and 25, 2013 and no individuals of Michaux's sumac were identified. Table S2 and Table 4 of the EA are deleted and are replaced Table S2 and Table 4 in this document, see Appendix B, and is addressed in this document as a revision to the Environmental Assessment in Section VI.N.

Comment (6): "On pages 15 to 16 of the EA, biotic resources for the project study area are described and terrestrial community impacts identified in Table 8. According to direct field observations, numerous clumps of Japanese knotweed (*Fallopia japonica*, *Polygonum cuspidatum*, or *Reynoutria japonica*) have been seen near the project study area along the I-40 right of way in Forsyth County. EPA requests that FHWA and NCDOT consider the recommendations under Executive Order 13112 and implement best management practices to potentially minimize the spread of this damaging invasive plant during construction should it become identified during further studies."

Response: Comment Noted.

Comment (7): "Page 37 of the EA describes 3 potential hazardous materials sites and Appendix G provides additional details concerning

possible soil contamination from these underground storage tank (UST) sites. EPA also notes the geotechnical commitment for the three identified properties that will be potentially impacted. Table S2 indicates there are no UST sites for the preferred alternative. EPA requests that this error be amended in the Finding of No Significant Impact (FONSI). Because of the proximity of the project to the Yadkin River and numerous tributaries and the primary water supply intake for the City of Winston-Salem, additional measures to minimize runoff from these potentially contaminated sites might need to be considered during final design efforts for the project.”

Response: NCDOT has conducted additional research in the area around the I-40 & NC 801 interchange regarding potential hazardous materials sites with the following results:

Former Quality Oil Shell Station - Eastern quadrant of I-40 & NC 801 interchange

- Currently undeveloped
- Tanks removed and buildings razed for B-3637
- Minor soil contamination remains under the NC 801 turn lane for I-40 Eastbound
- Contaminated ground water was documented in 2005 with a water table at ~20 feet below land surface
- No Further Action letter from DENR in 2010
- No contaminated soil is anticipated in the I-0911A work area

Former Quick-Pix Food Mart #3 - Southern quadrant of I-40 and NC 801 interchange

- Currently Wendy’s Restaurant
- No Further Action letter from DENR in 2002
- Very minor soil contamination on site
- No contaminated soil is anticipated in the I-0911A work area

Former Vacant Property - Northern quadrant of I-40 and NC 801 interchange

- Currently a Lowes Food Retail Gas Station
- Three fuel tanks installed in 2010
- No investigations have been performed on this facility
- No contaminated soil is anticipated in the I-0911A work area

Based on this information, though contaminated soil and ground water are likely still present in the study area, it is unlikely that contaminated soil or ground water will be encountered during construction. Mapping denoting the areas of known and potential contamination will be provided to Roadway Design to be included with the plans. A project

special provision will be included in the let package to instruct the contractor in the event contaminated soil or ground water is encountered. In the event that additional right of way is needed on any of these properties, it is requested that the Right of Way office contact the GeoEnvironmental Section before making an offer to purchase.

North Carolina Department of Environment and Natural Resources, Division of Water Resources - Public Water Supply Section, (July 25, 2011)

Comment (1): "I-40 bridge crossing Yadkin River is ~ 4 miles above drinking water intake for the Winston-Salem/Forsyth Co. Neilson Water Treatment Plant (WTP). Extreme care should be taken to ensure water quality is maintained. Any mishaps or deviations should be reported immediately to the Neilson WTP so that proper precautions can be taken at the water plant."

Response: Comment Noted, NCDOT will follow the *Best Management Practices for Protection of Surface Waters*.

North Carolina Wildlife Resources Commission, (August 17, 2011)

Comment (1): "The EA provided little detail and had some discrepancies that left a number of questions. The document indicated that ordinances and local regulations have been passed in the study area to address land use and growth, but details that would reveal the level of protection were lacking. The overall result of the indirect and cumulative effects screening tool was mentioned, but neither a discussion of how that result was determined nor the table resulting from the screening tool were provided."

Response: Additional information detailing the "ordinances and local regulations" of the Town of Bermuda Run and Village of Clemmons are located in Section VI.H of this document. Additional information regarding potential indirect and cumulative effects of the project resulting from the screening tool are located in Section VI.Q. of this document.

Comment (2): "Page 16 indicated that no 303(d) listed impaired waters exist within a mile radius of the study area, while on page 28 the principal natural feature in the study area, the Yadkin River, is identified as a 303(d) listed stream."

Response: There are no waters within 1.0 mile of the study area listed on the North Carolina 2012 Final 303(d) list of impaired waters. Additional information can be found in this document as a revision to the Environmental Assessment in Section VI.N.b.

Comment (3): “On page 6, two different population figures are given for the Village of Clemmons.”

Response: The population of the Village of Clemmons is 18, 627. Additional information can be found in this document as a revision to the Environmental Assessment in Section VI.H.

Comment (4): “Also there was no explanation of why only one of the two Yadkin River bridges will be constructed with a wider typical section. We believe additional details and clarifications are appropriate for this EA.”

Response: The proposed eastbound structure will accommodate three (3) 12 foot travel lanes and one (1) 10 foot inside shoulder and a 30 foot wide outside shoulder to accommodate detoured traffic during construction. Additional information can be found in this document as a revision to the Environmental Assessment in Section VI.K.

North Carolina Department of Environment and Natural Resources, Division of Water Quality, (August 12, 2011)

Comment (1): “The Yadkin River are class WS-IV; 303(d) waters of the State. The Yadkin River is on the 303(d) list for impaired use for aquatic life due to turbidity. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDWQ recommends that the most protective sediment and erosion control BMPs be implemented in accordance with *Design Standards in Sensitive Watersheds* to reduce the risk of nutrient runoff to the Yadkin River. NCDWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NCDWQ's *Stormwater Best Management Practices*.”

Response: The portion of the Yadkin River affected by this project is not included on the 2012 Final or 2014 Draft 303(d) lists for turbidity impairments. The Design Standards in Sensitive Watersheds are not warranted. Standard sediment and erosion control BMPs should apply.

Comment (2): “General Comments” provided by NCDWQ in their August 12, 2011 letter pertain to general water quality design, permit and/or construction requirements for projects.

Response: These comments pertain to standards that will be addressed or adhered to during final design and project permitting or during construction.

North Carolina Department of Agriculture and Consumer Services, Agricultural Services, (August 15, 2011)

Comment (1): “There is insufficient information to determine whether appropriate consideration has been given to potential impacts to farms and farmland in the project area. Other than the discussion of the Win-Mock Farm as being on the National Register for Historic Places, it is unclear whether any other sites within the project area are in farms or farmland. Please provide additional information in the final document to clarify this issue and ensure that proper consideration has been given to farmland impacts.”

Response: This project is not subject to Farmland Protection Policy Act (FPPA) requirements due to its location, within an urbanized area per the US Census. Additional information can be found in this document as a revision to the Environmental Assessment in Section VI.T. Please note that the farming operations at Win-Mock Farm began declining in 1949 and ceased in 1996. The majority of the proposed improvements are located within the existing Right-of-Way of this section of I-40. NCDOT is proposing to acquire five (5) minor stripes of additional Right-of-Way with the widest being approximately 30 feet. All of the five (5) stripes are forested and either zoned Yadkin River Conservation, single-family residential, multi-family residential, residential mix use or commercial mixed use. No farming operations were observed on any of the properties proposed to be acquired.

Winston-Salem Urban Area Metropolitan Planning Organization, (September 15, 2011)

Comment (1): “Future phases of the Yadkin River Greenway plan call for a bridge crossing of the Yadkin River just north of the I-40 corridor exclusively for bicycle and pedestrian use. The MPO would like to request that consideration of this bicycle and pedestrian bridge crossing, either through joint use of existing Right-of-Way or accommodation with I-40 bridge replacements, be included as a part of the I-0911A project planning, design and right-of-way acquisition.”

Response: Bicycle and pedestrian facilities/greenways are not encouraged on Interstate facilities in North Carolina by NCDOT due to safety concerns. Due to the current and projected traffic volumes on this portion of I-40, the height of the proposed replacement bridges on I-40 over the Yadkin River, and bridge maintenance needs NCDOT does not favor a “joint use of existing Right-of-Way or accommodation with I-40 bridge replacements” for the proposed Yadkin River crossing for the Yadkin River Greenway.

Comment (2): “The Yadkin River Feasibility Study more broadly looked at pedestrian and bicycle connections to the Yadkin River Greenway throughout the planning area from residential and commercial developments. The Town of Bermuda Run is bisected by I-40 and severely impacted by losing the proposed connectivity that exists with both the Bert's Way bridge and the culvert under I-40 that connects the Kinderton community on the north to the commercial and municipal services on the south. Both these connections need to be retained and enhanced as a part of the I-0911A project to provide a safe alternative for bicycle and pedestrian movements across I-40.”

Response: Since the EA was approved the Town of Bermuda Run adopted a Comprehensive Plan on April 10, 2012. In the Comprehensive Plan; Section 2.4 is devoted to Transportation which includes sidewalks and shared use paths. Recommended sidewalk/shared use path improvements are proposed utilizing the box culvert under I-40 and Bert's Way Bridge as a means to cross I-40. NCDOT will extend the box culvert and replace Bert's Way Bridge, see Town of Bermuda Run, (August 29, 2011) Response to Comment (2) on page 15 of this document, with a standard pedestrian bridge at the same location as the existing Bert's Way Bridge to provide the requested connections. On April 22, 2014, the Town of Bermuda Run passed a second resolution, see Appendix E, in support of the replacement of the Bert's Way Bridge with a pedestrian bridge and to seek funding to enhance the new bridge. Any betterment/enhancement to a standard pedestrian bridge will be the responsibility of the Town of Bermuda Run per a municipal agreement prior to construction.

Comment (3): “Page 3, Bicycle and Pedestrian Facilities/Greenways Sidewalks exist on the bridges on NC 801, US 158 and Harper Road and along the west side of Harper Road to US 158. Future sidewalk connections are planned along each of these facilities and required through zoning and development of adjacent properties.”

Response: See Section VI.L of this document for the revision to the Environmental Assessment (EA) regarding existing sidewalks and proposed bicycle and pedestrian facilities/greenways improvements within the Village of Clemmons. Since the EA was approved the following changes to Bicycle and Pedestrian Facilities/Greenways are noted:

- The Village of Clemmons has installed sidewalks along the southbound side of SR 1101 (Harper Road) from north of SR 1100 (Fair Oaks Drive) to US 158 (Clemmons Road), and;

- The Town of Bermuda Run adopted a Comprehensive Plan on April 10, 2012. In the Comprehensive Plan; Section 2.4 is devoted to Transportation which includes sidewalks and shared use paths. Recommended sidewalk/shared use path improvements are proposed for US 158 and NC 801.

Comment (4): “Page 4, School Bus Usage

The new Frank Morgan Elementary School has been constructed and opened August 25, 2011 along Harper Road north of I-40. Buses may now be crossing I-40 on Harper Road.”

Response: Comment noted, see Project Commitments regarding project coordination prior to and during construction.

Comment (5): “Page 6, Village of Clemmons

The adopted Clemmons Village Transportation Plan (VTP) also includes the recommendation for the Yadkin River Greenway trail along the river.”

Response: Comment Noted.

Comment (6): “Page 7, 2. Transportation Plans, b. Winston-Salem Urban Area Comprehensive Transportation Plan 2009 (CTP)

The Winston-Salem Urban Area MPO adopted the Pedestrian Element of the CTP on July 21, 2011. The CTP Pedestrian Plan incorporates the pedestrian and greenway recommendations adopted through the Clemmons Village Transportation Plan including Yadkin River Greenway.”

Response: Comment Noted.

Comment (7): “Page 28, F. Land Use

On the northeast side of I-40 at Harper Road, Novant Health is developing Village Point which includes a medical facility, additional mixed use parcels, a new school, and an internal public greenway system that will connect to the sidewalk on Harper Road. The Win-Mock at Kinderton, adjacent to Bert's Way bridge, is a special events and conference facility that opened in the spring of 2011.”

Response: Comment Noted.

Comment (8): “Pages 30 and 31, Noise Barriers

Location and design of the noise barriers should take into consideration the Yadkin River Greenway and adjacent connections to prevent creating barriers to the trail along the river or access to adjacent pedestrian connections.”

Response: Comment Noted.

Town of Bermuda Run, (September 9, 2011)

Comment (1): “The Bermuda Run Town Council has asked that I send you the attached resolution supporting the replacement of Bert's Way Bridge. The Federal Environmental Assessment does not recommend replacement of the bridge.

Due to it's unique, historic connection to WinMock Barn and for its necessity as part of a comprehensive green way and multi-model transportation plan, the Town of Bermuda Run respectfully requests replacement of the bridge when I-40 is widened.”

Response: NCDOT will replace the Bert's Way Bridge with a standard pedestrian bridge at the same location as the existing Bert's Way Bridge to provide the requested connections. Additional information can be found in this document as a revision to the Environmental Assessment in Section VI.K.

Town of Bermuda Run, (August 29, 2011)

Comment (1): “On pages 23 and 24 of the report it is noted that the WinMock barn is eligible for National Register designation. Appendix C also documents this with letters from the Department of Cultural Resources. In the letter from Vanessa Patrick dated August 6, 2007, a recommendation is made that the National Register Boundary be reduced from its original 2002 location. Neither the 2002 boundary nor 2007 boundary include the Bert's Way bridge as part of the potential National Register site. The Town of Bermuda Run feels that the bridge, while not original to the property, has its own historic significance in that it is more than 50 years old and it was built as a means of keeping the barn connected with its farm land when I-40 was constructed. This farm bridge was used for decades to travel from one part of the historic farm to another.”

Response: Comment noted, however the Bert's Way Bridge is not considered a contributing resource in the 2010 nomination of the “Win-Mock Farm Dairy” to the National Register of Historic Places and thus is not included within the boundary of the property as formally listed on the National Register in that same year. While undoubtedly an important feature of the dairy operation in its later years, the bridge post-dates the circa-1930 period of significance defining the farm resources selected for National Register listing. The 2007 boundary reduction of the property, developed by the North Carolina Department of Transportation (NCDOT)

in consultation with and approved by the North Carolina State Historic Preservation Office (NCHPO), addresses only the southern and eastern lines and retains the northern line (near the bridge and I-40) established by the NCHPO in 2002 when it initially determined the farm eligible for the National Register. Like the 2010 boundary, the 2002 boundary also encompasses those resources comprising the property during the years in and around 1930, representing the establishment and principal architectural development of the farm. The 1959 bridge (classified as an NCDOT overpass structure) also does not meet the criteria for individual National Register eligibility.

Comment (2): “Aside from any potential historic merit, the bridge is integral to the Town's future multi-modal connectivity. A draft Yadkin River Greenway Feasibility Study shows the Berts' Way bridge providing a multi-use trail between the north side and south side of the interstate connecting the residential and commercial of the Kinderton development. This study involved the Town of Bermuda Run, Village of Clemmons, Town of Lewisville, Winston-Salem Metropolitan Planning Organization, Forsyth County, Davie County, and the Northwest Piedmont Council of Governments led by project consultants Susan Hatchell Landscape Architecture, PLLC in conjunction with Ward Consulting Engineers, PC and the Catena Group, Inc. This connection is crucial to the successful implementation of the plan.

Additionally, the Town of Bermuda Run is engaged in its first Comprehensive Plan. Preliminary recommendations carry out the same strategy to integrate the Bert's Way bridge into the multi-modal transportation network that will connect the Town to different parts of itself as well as to the adjacent community of Clemmons and Tanglewood Park. Furthermore, the Town has completed annexation proceedings to bring the Kinderton Village area into the Town limits. This annexation is to become effective July 1, 2012.

The Bert's Way bridge will help connect the different residential areas of town despite the large obstacle of I-40. Without the bridge, the community will remain fractured, vehicular transportation will remain heavily relied upon, and valuable parks and recreation assets will lack necessary accessibility to serve the surrounding community. If the scope of the I-40 widening project precludes saving the original, potentially historic Bert's Way Bridge, the Town urges NCDOT to reconstruct the bridge to maintain a vital connection that is integral to transportation strategies of the Town and immediately surrounding areas. Please see the attached resolution passed by the Town Council.”

Response: The Vertical Clearance of the Bert's Way Bridge is deficient by 1'-6" and is to be removed. NCDOT will replace the existing structure with a standard pedestrian bridge at the same location as the existing Bert's Way Bridge. On April 22, 2014, the Town of Bermuda Run passed a second resolution, see Appendix E, in support of the replacement of the Bert's Way Bridge with a pedestrian bridge and to seek funding to enhance the new bridge. Any betterment/enhancement to a standard pedestrian bridge will be the responsibility of the Town of Bermuda Run per a municipal agreement prior to construction.

2. Public Comments Received on the Environmental Assessment

Kathy Baumgaertner, (December 29, 2013)

Comment (1): "My husband and I purchased 3904 Westridge Meadow Circle in 2006 as a home for my elderly mother, who still lives there today. About two years after the purchase, NCDOT added an eastbound exit ramp from I-40 to Harper Road. As a consequence, the distance between the I-40 edge of pavement and the Tanglewood Farm neighborhood was decreased and all of the vegetation between Thoroughbred Road and I-40 was removed. There was a noticeable increase in traffic noise as a result of this project. It is impossible to use the outside patio as a consequence. However, NCDOT did nothing to mitigate the noise impact.

As you know, NEPA requires the Federal agency (or DOT as the recipient of federal funds) to take into consideration the cumulative impacts of the action when combined with other past, present, or reasonably foreseeable future actions regardless of who takes the action or how the action is funded. I have reviewed the proposed project EA and all appendices and find no place where cumulative impacts are adequately addressed with the exception of Land Use. The noise analysis should have taken into account the cumulative impact of the proposed action in conjunction with the previous ramp project. Since NCDOT is currently conducting a detailed study of potential mitigation measures, I suggest that the analysis and subsequent decision-making take into consideration the cumulative impacts of the two projects.

I believe without mitigation, and specifically a noise wall, the noise impacts from the combination of the two projects will not only impact the livability of the home, but will also negatively impact the value of my property and make it very difficult to sell when we decide to do so. The economic impact of noise on property value was not addressed at all in the EA, which is an oversight on the part of the preparers.

I strongly urge you to provide a noise wall adjacent to the Tanglewood Farm and neighboring communities and to take into consideration that this is not the first project to have a noise impact on these homes.

Response: Pages 29 – 32 of the Environmental Assessment (EA) address the Traffic Noise Analysis that was conducted for the project. The analysis determined three (3) of the seven (7) noise sensitive areas (NSAs) warranted noise barriers. The location and approximate length of the proposed noise barriers was discussed on pages 30 and 31 and shown in Figures 14a-e of the EA. Traffic Noise Barrier #2 is proposed on the eastbound side of I-40, adjacent to River Oaks and Tanglewood Farm subdivisions, extending from the Yadkin River Bridge eastward to the eastbound off ramp at SR 1101 (Harper Road).

Since the public hearing, based on the refined preliminary design, NCDOT has performed a Design Noise Report for the project, see Section VI.R. of this document. The Design Noise Report proposes four (4) noise barriers, three of which are the same ones noted in the EA.

C. Public Hearing Comments

Following the circulation of the Environmental Assessment, a Combined Public Hearing with an informal open house format was held for the project. The hearing was held on November 18, 2013, at the Village of Clemmons Town Hall which is located south of the project study area. The Public Notice and handout from the hearing are located in Appendix D.

Approximately, thirty-nine (39) citizens, two (2) local government officials, and fourteen (14) NCDOT representatives attended the hearing. Citizens were asked to comment on the preferred alternative for the project. The public hearing officer and NCDOT planning and design engineers addressed questions during the hearing. Five (5) written comments from citizens were submitted. A post hearing meeting was conducted involving NCDOT professional staff and management. All public hearing comments were reviewed at this meeting to ensure full consideration of these comments. The post hearing meeting minutes addressing the comments are included in Appendix D.

D. Additional Project Coordination

On July 25, 2013, NCDOT staff met with the Town of Bermuda Run and Winston-Salem MPO staffs to discuss replacement of the existing Bert's Way Bridge over I-40 at Win Mock with a pedestrian bridge. NCDOT clarified that it would replace the existing Bert's Way Bridge with a standard pedestrian bridge at the same location to provide the requested greenway connection. On April 22, 2014, the Town of Bermuda Run passed a resolution, see Appendix E, in support of the replacement of the Bert's Way Bridge with a pedestrian bridge and to seek funding to enhance the new bridge. Any

betterment/enhancement to a standard pedestrian bridge will be the responsibility of the Town of Bermuda Run per a municipal agreement prior to construction.

VI. REVISIONS TO THE ENVIRONMENTAL ASSESSMENT

The following are revisions to the Environmental Assessment (EA):

A. Project Title

Signature pages, Project Commitments, page 1, SUMMARY, page i, first page of the EA, page 1 - Based on a review of the project study since the EA was signed it was noted that SR 1101 is only known as Harper Road. Delete the following portion of the Project Title “widen I-40 from west of NC 801 in Davie County to east of SR 1101 (Harper Road/Tanglewood Business Park Road) in Forsyth County” of the EA replace with “widen I-40 from west of NC 801 in Davie County to east of SR 1101 (Harper Road) in Forsyth County”.

B. Description of Action

SUMMARY B., page i, first paragraph – Based on a review of the project study since the EA was signed it was noted that SR 1101 is only known as Harper Road. Delete the following portion of the first sentence “widen I-40 from west of NC 801 in Davie County to east of SR 1101 (Harper Road/Tanglewood Business Park Road) in Forsyth County” of the EA and replace with “widen I-40 from west of NC 801 in Davie County to east of SR 1101 (Harper Road) in Forsyth County”.

SUMMARY B., page i, - Based on a refined preliminary design the project limits were revised to beginning approximately 4,450 feet west of NC 801 in Davie County to approximately 650 feet east of SR 1101 (Harper Road) in Forsyth County. Delete Figure 1 in the EA and replaced with Figure 1 of this document which reflects this change, see Appendix B.

SUMMARY B., page i, Section I.A., page 1, and Section IV., page 11 - The total project length “approximately 2.6 miles long” is to be replaced with “approximately 3.3 miles long”.

SUMMARY B., page i, second paragraph and Section I.A., page 1, second paragraph – Figures 2a and 2b of the EA are deleted and replaced with Figures 2A through 2F of this document, see Appendix B.

C. General Description

Section I.A., page 1, first paragraph – Based on a review of the project study since the EA was signed it was noted that SR 1101 is only known as Harper Road. Delete the following portion of the first sentence “widen I-40 from west of NC 801 in Davie County to east of SR 1101 (Harper Road/Tanglewood Business Park Road) in Forsyth County” of

the EA and replace with “widen I-40 from west of NC 801 in Davie County to east of SR 1101 (Harper Road) in Forsyth County”.

Section I.A., page 1 – “The existing structures over the Yadkin River will be replaced by two 1121 feet long bridges (See Figures 2a and 2b).” is to be replaced with “The existing structures over the Yadkin River will be replaced by two 1121 feet long bridges (See Figure 2G).”

D. Project Cost Estimate

Project costs were discussed in SUMMARY B., page ii, Section I.C., page 1 and Section IV., page 11 of the EA. New project cost estimates were requested due to the refined preliminary design. Delete Tables S1, 1 and 5 in the EA and replace with Tables S1, 1 and 5 in Appendix B of this document.

E. Alternatives Considered

SUMMARY B., page ii - a. Alternative Design Options paragraph is deleted and replace with the following:

“A retaining wall, 1.5:1 slopes with rock plating, and 2:1 slopes were studied as design options in the vicinity of the historic Win-Mock farm to reduce impacts to this property. These options were reviewed by the Historic Preservation Office and the retaining wall with variable slopes of 2:1 to 1.5:1 was chosen as the preferred design option in the vicinity of Win-Mock Farm to reduce impacts to the property.”

F. Project Length

Based on a refined preliminary design the project limits were revised to beginning approximately 4,450 feet west of NC 801 in Davie County to approximately 650 feet east of SR 1101 (Harper Road) in Forsyth County. SUMMARY E., page iii, and Section III., page 10 – The project length of “2.6 miles” of the EA is deleted and replace with “3.3 miles”. Delete Tables S2 and 4 of the EA and replace with Tables S2 and 4 of this document, see Appendix B.

G. Impacts

Based on the refined preliminary design completed after the EA was signed, revised impacts for the proposed project are as follows: 0.23 acres of wetland impacts, 1,293 linear feet of stream impacts, 100-year floodplain and floodway impacts, and a de minimus impact to 1 historic property/Section 4(f), see Section VI of this document. SUMMARY E., page iii, and Section III., page 10 – Delete Tables S2 and 4 of the EA and replace with Tables S2 and 4 of this document, see Appendix B.

H. Purpose And Need For The Project

Section II.E.1 Town of Bermuda Run, page 5, first paragraph – Since the EA was signed new census population numbers have been released. Delete “a population of 1420” in

the EA and replace with “a population of 1725 (2010 Census)” add the following.

Section II.E.1 Town of Bermuda Run, page 6, delete the third paragraph and replace with the following:

“The Town of Bermuda Run is located in the northeastern portion of Davie County. As of the 2010 Census the Town’s population was 1,725. Bermuda Run has adopted various land use ordinances and regulations, which include but are not limited to the following:

- Zoning Ordinance – adopted September 13, 2005, amended through October 8, 2013;
- Extra Territorial Jurisdiction (ETJ) Map – adopted July 1, 2012 (extends the Town’s jurisdiction north and west of the Town Limits);
- Subdivision Ordinance – revised March 10, 2010, and;
- Comprehensive Plan - adopted April 10, 2012.”

Section II.E.1, page 6 ***Village of Clemmons*** paragraphs are deleted and replace with the following:

“The Village of Clemmons is located in the southwestern portion of Forsyth County. The Village has a population of 18,627 and is bisected by I-40. The Village has adopted a multitude of local regulation and ordinances addressing land use and growth including zoning regulations and a subdivision ordinance. The Village has Unified Development Ordinances which is the compilation of regulations that affect land use, including the Definitions Ordinance, the Zoning Ordinance, the Environmental Ordinance, and the Subdivision Ordinance, last amended November 13, 2012. The Village Point Small Area Plan adopted in 2003 by the Village of Clemmons, last amended July 13, 2009, recommends an office campus along the east side of Harper Road and north of I-40 with a “substantial, undisturbed tree buffer of at least fifty (50) feet for noise mitigation.” The area is anticipated to be built over a 15-year period. Village Point is considered new urbanism design with mixed-use areas. Land to the west of the Harper Road interchange is planned and zoned for single family residential and open space.

In 2008 Clemmons adopted the Village Transportation Plan (VTP) and the 2030 Comprehensive Plan, a 20 year plan, in 2010 both of which discuss congestion on I-40 and needed improvements.”

I. NCDOT Preferred Alternative

Section III.B, page 11 - NCDOT Preferred Alternative paragraph is deleted and replace with the following:

“Based on results and findings of comprehensive studies of the natural

and human environments impacted by the project and a refined preliminary design it was determined that the retaining wall alternative with variable slopes of 2:1 to 1.5:1 in the vicinity of Win-Mock Farm would better meet the widening needs of the project and maintenance of traffic during constriction. The revised retaining wall alternative was presented to the Historic Preservation Office and was approved as the less intrusive alternative to Win-Mock Farm. The revised retaining wall alternative is selected as the Preferred Alternative.”

J. Proposed Improvements

Page 11, first paragraph – Based on a review of the project study since the EA was signed it was noted that SR 1101 is only know as Harper Road. Delete the following portion of the first sentence “widen I-40 from west of NC 801 in Davie County to east of SR 1101 (Harper Road/Tanglewood Business Park Road) in Forsyth County” of the EA and replace with “widen I-40 from west of NC 801 in Davie County to east of SR 1101 (Harper Road) in Forsyth County”.

K. Structures

Section IV.G, page 12 – **Structures** paragraph is deleted and replace with the following:

“There are six (6) existing structures within the project study area, as noted in Table 6 of Appendix B. Of the six (6); two (2) are major hydraulic structures (Bridge Numbers 85 and 86) for the Yadkin River crossings associated with the proposed project. Both structures are proposed to be replaced with structures of the same length but wider to accommodate three (3) 12 foot travel lanes and two (2) 14 foot shoulders, the proposed eastbound structure will have a 30 foot wide outside shoulder to accommodate detoured traffic during construction. Two (2) are minor hydraulic structures (Small Pipe #29-2017 and Bridge Numbers 82) both of which are reinforced concrete box culverts for Smith Creek. These culverts will be retained and extended to accommodate the proposed widening.

The Bert’s Way Bridge (Bridge Numbers 84) is functionally obsolete and is deficient for vertical clearance in the westbound direction. This structure is recommended for replacement with a pedestrian bridge to accommodate a future greenway.

The underpass box culvert (Structure Numbers 127) originally served as a cattle crossing in the project area. This culvert will be retained and extended to accommodate a future greenway. The locations of the six (6) existing structures within the project study area are shown in Figure 2G.”

Section IV.G, page 12 - Table 6 in the EA is to be replaced with Table 6 of this document, Appendix B.

L. Bicycle And Pedestrian Facilities/Greenways

Section II.C.9, page 4 - “No sidewalks were observed on US 158, NC 801 or on Harper Road.” is to be replaced with

“Sidewalks currently exist on the following bridges:

- US 158 over the Yadkin River (eastbound side);
- NC 801 over I-40 (north and southbound sides), and;
- SR 1101 (Harper Road) over I-40 (southbound side).

The 2008 Clemmons Village Transportation Plan proposes adding sidewalks along SR 1101 (Harper Road) and a multi-use path along US 158.”

M. ENVIRONMENTAL EFFECTS OF PROPOSED ACTION

Section V., page 13 – Based on the change to the project study area this section is amended by the addition of the following paragraph before Section V.A. Natural Resources:

“The project study area utilized in the EA was 500 feet each direction of the centerline of I-40 and NC 801. Based on a refined preliminary design the project study area was reduced to 50 foot beyond the existing Right-of-Way, beginning 4,450 feet west of NC 801 in Davie County to 700 feet east of SR 1101 (Harper Road) in Forsyth County, see Figures 2A through 2F.”

N. Natural Resources

Section V.A, pages 13 – 23 are deleted and replaced with the following:

“A. Natural Resources

1. PHYSICAL RESOURCES

The study area lies in the Southern Outer Piedmont physiographic region of North Carolina. Topography in the project vicinity is comprised of dissected irregular plains, some low rounded hills and ridges, and low- to moderate-gradient streams with mostly cobble, gravel, and sandy substrates. Elevations in the study area range from 680 to 820 feet above sea level. Land use in the project vicinity consists primarily of agriculture, interspersed with residential and business development along roadways and fragmented areas of forested land along stream corridors.

a. Soils

The Web Soil Survey identifies thirteen soil types in Davie County and four soil types in Forsyth County within the study area, see Table 7 in Appendix B of the FONSI.

b. Water Resources

Water resources in the study area are part of the Yadkin-Pee Dee River basin [U.S. Geological Survey (USGS) Hydrologic Unit 03040101]. Thirteen streams were identified in the study area, see Table 8 in Appendix B of the FONSI. The location of each water resource is shown on Figures 2A through 2F. The physical characteristics of these streams are provided in Table 9 of Appendix B of the FONSI.

There are no designated anadromous fish waters or Primary Nursery Areas (PNA) present in the study area. There are no designated Outstanding Resource Waters (ORW), High Quality Waters (HQW), or water supply watersheds (WS-I or WS-II) within 1.0 mile downstream of the study area. The Yadkin River and Smith Creek are not listed on the North Carolina 2012 Final 303(d) list of impaired waters. No other waters within 1.0 mile of the study area are listed on the North Carolina 2012 Final 303(d) list of impaired waters.

No benthic sampling or fish surveys have been conducted within 1.0 mile downstream of the study area.

In addition to streams, parts of two open water ponds are located within the study area. Pond PA is located in the southwest portion of the study area and occupies approximately 0.01 acre. Pond PB is located in the northeast portion of the study area, and occupies approximately 0.02 acre. Pond PA drains to Smith Creek via a channel with ephemeral and intermittent reaches, and Pond PB is fed and drained by a jurisdictional stream located outside of the study area.

2. BIOTIC RESOURCES

a. Terrestrial Communities

Three terrestrial communities were identified in the study area: Maintained/Disturbed, Mixed Hardwood Forest, and Piedmont Levee Forest. Figures 6A through 6C show the location and extent of these terrestrial communities in the study area. A brief description of each community type follows.

1) Maintained/Disturbed

Maintained/Disturbed areas include maintained road shoulders and utility easements, agricultural fields, and residential and commercial lots. Vegetation within roadside shoulders, residential lawns, and commercial lots is generally comprised of low growing grasses and herbs, including fescue, dandelion, goldenrod, horse nettle, field violet, Carolina cranes-bill, perfoliate bellwort, and wild onion. Vegetation along utility easements is primarily composed of weedy hardwoods such as red maple, sweetgum, and yellow poplar, and shrubs of redbud, blackberry, and multiflora rose. False nettle, Japanese grass, and orange jewelweed tend to occur in and adjacent to wetland areas. Herbs include fescue, goldenrod, pokeweed, common black-cohosh, and white clover, as well as areas

dominated by Japanese grass.

2) Mixed Hardwood Forest

The Mixed Hardwood Forest community occurs throughout the project area. Within dry, upland areas, dominant species in the canopy include white oak, scarlet oak, southern red oak, northern red oak, and pignut hickory, with red maple, sweetgum, and loblolly pine in disturbed forest areas. Understory species include red maple, sweetgum, yellow poplar, Eastern red cedar, redbud, sourwood, flowering dogwood, Chinese privet, and multiflora rose. Herbs are generally sparse and include common carrion-flower, common black-cohosh, and may-apple. Within floodplains and wet areas, dominant species in the canopy tend to include mesic species including red maple, yellow poplar, willow oak, sycamore, and American elm. Understory species include canopy species along with green ash, box elder, and Chinese privet. Vines are common throughout this community, and are particularly prolific in open, sunny areas and along forest edges, and include poison ivy, Japanese honeysuckle, common greenbrier, trumpet creeper, common periwinkle, and Virginia creeper.

3) Piedmont Levee Forest

The Piedmont Levee Forest community is located along the banks of the Yadkin River. Dominant species in the canopy include red maple, yellow poplar, sweetgum, river birch, and sycamore. Understory species include a dense shrub layer composed of downy arrowwood, box elder, Chinese privet, and winged elm, vines such as common greenbrier, poison ivy, Japanese honeysuckle, and muscadine, and herbs including Japanese grass, Japanese honeysuckle, giant cane, and false nettle.

4) Terrestrial Community Impacts

Terrestrial communities in the study area may be impacted by project construction as a result of grading and paving of portions of the study area. At this time, decisions regarding the final design of the proposed road improvements have not been made. Therefore, community data are presented in the context of total coverage of each type within the study area, see Table 10 in Appendix B of the FONSI. Once a final design has been determined, impacts to each community type will be calculated.

b. Terrestrial Wildlife

Terrestrial communities in the study area are comprised of both natural and disturbed habitats that may support a diversity of wildlife species (those species actually observed are indicated with *). Mammal species that commonly exploit open areas as well as forested habitats and stream corridors found within the study area include raccoon*, Virginia opossum, eastern cottontail, striped skunk, muskrat, gray squirrel*, eastern harvest mouse, eastern chipmunk, groundhog*, and white-tailed deer*. Birds that commonly use these habitats include the

northern mockingbird, song sparrow, American goldfinch, tufted titmouse*, Carolina chickadee*, eastern towhee*, northern cardinal, golden-crowned kinglet, American robin, Carolina wren*, blue jay, red-tailed hawk*, and turkey vulture*. Reptile and amphibian species that may use terrestrial communities located in the study area include the American toad, upland chorus frog, spring peeper, rat snake, copperhead, redbelly snake, eastern fence lizard*, eastern box turtle, spotted salamander, and Carolina anole.

c. Aquatic Communities

Aquatic communities in the study area consist of both perennial and intermittent piedmont streams, open-water ponds, and jurisdictional wetlands. The Yadkin River in the study area could support redbreast sunfish, green sunfish, bluegill, flathead catfish, and channel catfish. Streams and wetlands within the study area may support upland chorus frog, spring peeper, green frog, pickerel frog, northern dusky salamander, two-lined salamander, marbled salamander, spotted salamander, and a variety of benthic macroinvertebrates. Open-water ponds may contain species such as common carp, grass carp, yellow bullhead, pumpkinseed, bluegill, redbreast sunfish, bullfrog, and eastern mosquitofish. Aquatic-dependent wildlife expected to utilize these communities include painted turtle, yellow-bellied slider, northern water snake, beaver, great blue heron, green heron, and belted kingfisher.

d. Invasive Species

Five species from the NCDOT Invasive Exotic Plant List for North Carolina were found to occur in the study area. The species identified were Chinese privet (Threat), Multi-flora rose (Threat), Japanese grass (Threat), Japanese honeysuckle (Moderate Threat), and common periwinkle (Watch List). NCDOT will manage invasive plant species as appropriate.

3. JURISDICTIONAL ISSUES

a. Clean Water Act Waters of the U.S.

Thirteen jurisdictional streams were identified in the study area, see Table 11 in Appendix B of the FONSI. The locations of these streams are shown on Figures 2A through 2F. The physical characteristics and water quality designations of each jurisdictional stream are detailed in Section V.A.1.b of this document. All jurisdictional streams in the study area have been designated as warm water streams for the purposes of stream mitigation.

Ten jurisdictional wetlands were identified within the study area. Wetland classification and quality rating data are presented in Table 12 in Appendix B of the FONSI. All wetlands in the study area are within the Yadkin River basin (USGS Hydrologic Unit 03040101). Descriptions of the terrestrial communities at each wetland site are presented in Section VI.N.2.a of this document. Wetlands BS and SP are included within the Maintained/Disturbed community, and the

remainder are located within the Mixed Hardwood Forest community.

b. Clean Water Act Permits

Impacts to Section 404 jurisdictional areas are anticipated and will likely be authorized under nationwide permitting. Nationwide Permits (NWPs) that may apply include NWP No. 14 for linear transportation projects. If greater than 0.5 acre of jurisdictional wetlands or 300 linear feet of stream impacts occur, a Section 404 Individual Permit will be required from the USACE. The USACE holds final discretion as to what permits will be required to authorize project construction. In addition to the Section 404 permit, a Section 401 Water Quality Certification from the NCDWQ will be required.

c. Coastal Area Management Act Areas of Environmental Concern

No Coastal Area Management Act (CAMA) Areas of Environmental Concern (AEC) were identified in the study area.

d. Construction Moratoria

There are no trout waters within the study area, and neither Davie nor Forsyth Counties are designated trout counties. Therefore, no moratoria are anticipated for this project.

e. N.C. River Basin Buffer Rules

No streams within the study area are subject to any N.C. River Basin Buffer Rules.

f. Rivers and Harbors Act Section 10 Navigable Waters

No streams within the study area are subject to Section 10 of the Rivers and Harbors Act.

g. Wetland and Stream Mitigation

1) Avoidance and Minimization of Impacts

The NCDOT has attempted to avoid and minimize impacts to streams and wetlands to the greatest extent practicable in choosing the preferred alternative and will continue to do so during project design.

2) Compensatory Mitigation of Impacts

The NCDOT will investigate potential on-site stream and wetland mitigation opportunities once a final decision has been rendered on the location of the preferred alternative. If on-site mitigation is not feasible, mitigation will be provided by North Carolina Department of Environment and Natural Resources Ecosystem Enhancement Program (EEP).

h. Endangered Species Act Protected Species

As of December 26, 2012 the United States Fish and Wildlife (USFWS) lists one federally protected species for Davie County and three federally protected

species for Forsyth County (Table 13 of the FONSI). A brief description of the species' habitat requirements follows, along with the Biological Conclusion rendered based on survey results in the study area. Habitat requirements for this species are based on the current best available information from referenced literature and/or USFWS.

Michaux's sumac

USFWS Optimal Survey Window: May-October

Habitat Description: Michaux's sumac, endemic to the inner Coastal Plain and lower Piedmont, grows in sandy or rocky, open, upland woods on acidic or circumneutral, well-drained sands or sandy loam soils with low cation exchange capacities. The species is also found on sandy or submesic loamy swales and depressions in the fall line Sandhills region as well as in openings along the rim of Carolina bays; maintained railroad, roadside, power line, and utility rights-of-way; areas where forest canopies have been opened by blowdowns and/or storm damage; small wildlife food plots; abandoned building sites; under sparse to moderately dense pine or pine/hardwood canopies; and in and along edges of other artificially maintained clearings undergoing natural succession. In the central Piedmont, it occurs on clayey soils derived from mafic rocks. The plant is shade intolerant and, therefore, grows best where disturbance (e.g., mowing, clearing, grazing, periodic fire) maintains its open habitat.

Biological Conclusion: **No Effect.**

Suitable habitat for this species exists along roadside margins, forest edges, and utility line corridors. Systematic plant-by-plant surveys were conducted in all areas of suitable habitat on June 12, 13, 20, and 25, 2013 and no individuals of Michaux's sumac were identified. A review of NCNHP Map Viewer on June 4, 2013, indicates no known Michaux's sumac occurrences within 1.0 mile of the study area.

Bog turtle

USFWS optimal survey window: April 1 – October 1 (visual surveys); April 1-June 15 (optimal for breeding/nesting); May 1-June 30 (trapping surveys)

Habitat Description: Bog turtle habitat consists of open, groundwater supplied (springfed), graminoid dominated wetlands along riparian corridors or on seepage slopes. These habitats are designated as mountain bogs by the NCNHP, but they are technically poor, moderate, or rich fens that may be associated with wet pastures and old drainage ditches that have saturated muddy substrates with open canopies. Plants found in bog turtle habitat include sedges, rushes, marsh ferns, herbs, shrubs (tag alder, hardhack, blueberry, etc.), and wetland tree species (red maple and silky willow).

These habitats often support sphagnum moss and may contain carnivorous plants (sundews and pitcherplants) and rare orchids. Potential habitats may be found in western Piedmont and Mountain counties from 700 to 4500 feet elevation in North Carolina. Soil types (poorly drained silt loams) from which bog turtle habitats have been found include Arkaqua, Chewacla, Dellwood, Codorus complex, Hatboro, Nikwasi, Potomac – lotla complex, Reddies, Rosman, Tate – Cullowhee complex, Toxaway, Tuckasegee – Cullasaja complex, Tusquitee, Watauga, and Wehadkee.

Biological Conclusion: Not Required

Species listed as threatened due to similarity of appearance do not require Section 7 consultation with the USFWS. However, this project is not expected to affect the bog turtle because no suitable habitat is present within the study area. Freshwater wetlands within the study area are forested riparian systems. A review of NCNHP records on June 4, 2013, indicates no known bog turtle occurrences within 1.0 mile of the study area.

Red-cockaded woodpecker

USFWS Recommended Survey Window: year round; November-early March (optimal)

Habitat Description: The red-cockaded woodpecker (RCW) typically occupies open, mature stands of southern pines, particularly longleaf pine for foraging and nesting/roosting habitat. The RCW excavates cavities for nesting and roosting in living pine trees, aged 60 years or older, which are contiguous with pine stands at least 30 years of age to provide foraging habitat. The foraging range of the RCW is normally no more than 0.5 mile.

Biological Conclusion: No Effect.

Suitable habitat for the RCW does not exist in the study area. Forests in the study area are comprised of a closed hardwood canopy and sub-canopy; therefore, a 0.5-mile survey was not conducted. A review of NCNHP records on June 4, 2013, indicates no known red-cockaded woodpecker occurrences within 1.0 mile of the study area.

Small-anthered bittercress

USFWS Optimal Survey Window: April-May

Habitat Description: Small-anthered bittercress is endemic to the Dan River drainage of Roanoke River sub basin 03-02-01. This biennial or perennial herb occurs in moist, wet woods along small to intermittent sized streams, stream bank edges and seepages above the actual stream channel, wet rock crevices, and sand and gravel bars of small streams. This species prefers areas that are fully or partially shaded by shrubs and trees, but can

occasionally be found in full sun. Soil series that it occurs on include Rion, Pacolet, and Wateree. Poorly viable occurrences may be found in disturbed areas subject to livestock trampling, silviculture, or encroachment by exotic, invasive species such as Japanese honeysuckle.

Biological Conclusion: No Effect.

The study area is located within the Yadkin-Pee Dee River Basin and while limited amounts of favorable habitat are present in the study area, the study area is located outside of the range of this species. The majority of known sites are located in upper central Stokes County, with one historic site from Forsyth County recorded in 1955. The Forsyth County population was extirpated in the 1960s when the site was converted to pasture. A review of NCNHP Map Viewer on June 4, 2013, indicates no known small-anthered bittercress occurrence within 1.0 mile of the study area and no individuals were observed during field investigations. Based on the species' range and available information, it is anticipated that this project will have No Effect on this species.

h. Bald Eagle and Golden Eagle Protection Act

Habitat for the bald eagle primarily consists of mature forest in proximity to large bodies of open water for foraging. Large dominant trees are utilized for nesting sites, typically within 1.0 mile of open water.

A desktop-GIS assessment of the project study area, as well as the area within a 1.13 mile radius (1.0 mile plus 660 feet) of the project limits, was performed on June 17, 2013 using 2010 color aerials. The Yadkin River provides an open water body large enough and sufficiently open to be considered as a potential feeding source; however, suitable nesting sites in the form of large, dominant trees or snags extending from the canopy are not present within or adjacent to the study area. Lasater Lake, located approximately 0.4 mile north of the project area, provides a 35 to 40-acre foraging area; however, the area surrounding the lake is heavily developed and lacking large, dominant trees or snags for nesting. A review of the NCNHP Map Viewer on June 4, 2013, revealed no known occurrences of this species within 1.0 mile of the project study area.

i. Endangered Species Act Candidate Species

As of December 26, 2012 the USFWS lists no Candidate species for Davie and Forsyth Counties.

j. Essential Fish Habitat

No areas of Essential Fish Habitat (EFH) were identified within the study area.

4. FLOOD HAZARD EVALUATION

The Yadkin River, at this location, is the boundary between Davie and Forsyth Counties. Both counties are participants in the National Flood Insurance Regular Program, which is administered by the Federal Emergency Management Agency (FEMA). Based on the most current information available from the NC Floodplain Mapping Program (FMP), this river crossing is in a designated flood hazard zone which is within a detailed flood study reach, having a regulated 100-year floodway.

The proposed bridge replacement will provide equivalent or greater conveyance than that of the existing bridges. Figure 13a and 13b depict the Flood Insurance Rate Map (FIRM) in the vicinity of this crossing, the limits of the 100-year floodplain and floodway in the project vicinity. It is anticipated that the proposed roadway and associated drainage accommodations will not have any significant adverse impact on the affected existing floodplain areas.

The eastern crossing of I-40 over Smith Creek, west of the interchange with NC 801, is in a designated flood hazard zone, which is within a detailed flood study reach having a regulated 100-year floodway. The proposed culvert extension (or possible vertical headwall extension to eliminate the culvert extension) will provide equivalent or greater conveyance than that of the existing culvert. Figures 13c and 13d, in Appendix A of the FONSI, depicts the Flood Insurance Rate Map (FIRM) in the vicinity of this crossing, and the limits of the 100-year floodplain and floodway in the vicinity of the crossing. It is anticipated that the proposed project and will not have any significant adverse impact on the existing floodplain areas.

The NCDOT Hydraulics Unit will coordinate with the FMP, the delegated state agency for administering FEMA's National Flood Insurance Program, to determine the status of the project with regard to applicability of NCDOT'S Memorandum of Agreement with FMP, or approval of a Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR). This project involves construction activities on or adjacent to a FEMA regulated stream. 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."

Section V.A., pages 14, 16, 17, 18, 19 and 22 - Tables 7, 8, 9, 10, 11 and 12 in the EA are deleted and are replaced with the Tables 7, 8, 9, 10, 11, 12 and 13 in Appendix B of this document.

Section V.A., Figures 2a, 2b, 6a and 6b in the EA are deleted and are replaced with the Figures 2A – 2F and 6A – 6C in Appendix A of this document.

O. Cultural Resources

Section V.B.1, page 23 – Based on the change to the project study area this section is

amended by the addition of the following paragraph:

“In September 2013, NCDOT staff conducted surveys by automobile and on foot, covering the extension of the APE, to identify those properties over fifty years of age. No additional historic architectural resources were present in the extension of the project area that are listed on or eligible for the National Register of Historic Places (NR).”

Section V.B.1 Win-Mock Farm, page 23 – Is amended by the addition of the following paragraphs:

“On April 14, 2014 HPO and FHWA met with NCDOT staff to determine the effects of the revised retaining wall alternative to avoid or minimize impacts of the I-40 Improvements on the Win-Mock Farm. It was agreed that the proposed revised retaining wall alternative would have No Adverse Effect upon the property provided that the following condition is met: minimize the amount of easement required for the retaining wall tieback system, by moving the retaining wall closer to the travel lanes/shoulder of the proposed improvements, i.e. away from the Win-Mock Farm historic property.

A copy of the signed concurrence form from the May 3, 2011 and April 14, 2014 meetings is included in Appendix F.”

Section V.B.2 Archaeology, page 24 – After the section in the EA add the following paragraph regarding the amended study area:

“In April 2013, NCDOT archaeological staff met with the Deputy State Archaeologist to discuss what effects the extension of the project would have on potential archaeological or cultural resources. Environmental mapping, engineering design plans, previous archaeological and NRHP mapping/information, NRCS soil data, and aerial imagery were presented for the reasonable prediction/ evaluation of archaeological site potential within the newly expanded APE section. Because of numerous factors, including, but not limited to, an absence of documented NRHP eligible archaeological sites, properties, and cemeteries within the expanded or existing APE, mostly eroded soils, impacts related to the existing I-40 right-of-way, and the relatively diminutive scope of the proposed construction impacts on prevailing disturbed ground areas, it was determined that significant archaeological resources are unlikely to be affected by the project.”

P. Social Effects

Sections V.D.2.a, pages 25 – 26 is deleted and replaced with the following:

“a. Racial Makeup

Census data reveals that between 2000 and 2010, the population of the demographic study area (DSA) increased by 22.2%, to 13,079. The growth rate was faster than that of either Davie County, whose population increased by 18.4%, to 41,240, or Forsyth County, whose population increased by 14.6%, to 350,670. Population growth, however, was not consistent across the study area. Between 2000 and 2010, the fastest growing areas within the demographic study area were the Town of Bermuda Run (Census Tract 803 Block Group 2) which grew by 78.5% and the Village of Clemmons (Census Tract 40.13 Block Group 2) which grew by 15.1%, see Table 14 in Appendix B of the FONSI.

The slowest growing areas within the demographic study area were the area north of I-40 and west of NC 801 (Census Tract 802 Block Group 2) which declined by 3.1% and the Kinderton area (Census Tract 803 Block Group 1) which grew by 0.1%, see Table 14 in Appendix B of the FONSI. According to the 2010 Census, 93.1% of the residents in the demographic study area identified themselves as White and 3.1% identified themselves as Black or African American. Davie County as a whole had a somewhat lower percentage of White residents (85.5%) and a somewhat higher percentage of Black/African-American residents (6.2%). Forsyth County as a whole had a much lower percentage of White residents (58.7%) and a much higher percentage of Black/African-American residents (25.5%), see Table 15 in Appendix B of the FONSI.

Within the demographic study area, one area had a notably high percentage of Black/African-American residents: the area north of I-40 and west of NC 801 (Census Tract 802 Block Group 1) had 4.4% of residents who identified themselves as Black/African-American. For Block Group details, see Table 15 in Appendix B of the FONSI.

Sections V.D.2.b, page 26, first and second paragraphs are deleted and replaced with the following:

“According to the 2010 Census, 2.2% of the residents in the demographic study area identified themselves as Hispanic or Latino (can be of any race). This was somewhat less than the 6.1% reported in Davie County as a whole and the 11.9% reported in Forsyth County as a whole. The highest percentage of Hispanic or Latino residents was found in the Tanglewood Park area (Census Tract 40.13 Block Group 2) with 3.8%, see Table 16 in Appendix B of the FONSI.

Executive Order 13166 "Improving Access to Services for Persons with Limited English Proficiency" requires all recipients of federal funds to provide meaningful access to persons who are limited in their English proficiency (LEP). The US Department of Justice defines LEP individuals as those "who do not speak English

as their primary language and who have a limited ability to read, write, speak, or understand English" (67 FR 41459). Data about LEP populations was gathered in the 2010 Census."

Q. Indirect and Cumulative Effects

Section V.G, pages 28 - 29, is deleted and replaced with the following:

"The Future Land Use Study Area (FLUSA) for this project includes the Town of Bermuda Run and adjacent portions of unincorporated Davie County. The total amount of available land (undeveloped parcels less stream and road buffers) in the FLUSA is about 1,400 acres. Population is expected to grow by about 2.0% annually. Employment is expected to grow by about 1.5% annually. The time horizon for this report is 2030: Davie County's Land Development Plan pertains to the period 2004-2024, and the Winston-Salem Urban Area MPO has issued its 2035 Long Range Transportation Plan.

Notable community features include two gated residential areas (Bermuda Run Country Club and Bermuda Run West), the Kinderton commercial and residential areas, and the Win-Mock farm site. The principal natural feature within the FLUSA is the Yadkin River. Most of the study area is located in a WS-IV Protected Area. There are no High Quality Waters or Outstanding Resource Waters in the study area.

The FLUSA is within the Town of Bermuda Run's planning and zoning jurisdiction. Land immediately surrounding the I-40 corridor is zoned commercial, residential, and open space. Local zoning regulations restrict the density and location of development and also include specific open space and pervious surface requirements. More specifically, the zoning regulations require 100-foot riparian buffers for all non-agricultural uses and limit development in floodplains/floodways. In addition, Bermuda Run's zoning regulations state that "all built-upon areas shall be designed and located to minimize stormwater runoff impact to the receiving waters and minimize concentrated stormwater flow" and "stormwater runoff shall be transported by landscaped, vegetated conveyances to the maximum extent possible."

Davie County is also a Phase II tipped county covered under the National Pollutant Discharge Elimination System (NPDES) Phase II permitting program. In 1972, the National Pollutant Discharge Elimination System (NPDES) program was established under authority of the federal Clean Water Act and delegated to the Division of Water Resources for implementation in North Carolina. Phase II of the program expanded permit requirements to construction disturbing an acre or more and smaller communities (< 100,000 population) and public entities that own or operate an MS4.

In regards to the existing development pressure and the continued market for development, the Bermuda Run town manager stated that the area around NC 801 north of I-40 is experiencing development pressure. The population growth in this portion of Davie County can be attributed to its proximity to the employment center of

Winston-Salem. Moreover, the population and job projections for the Winston-Salem area suggest that the pressure to construct new homes in this portion of Davie County will continue to be strong. As residential development continues, the demand for commercial development, especially on the north side of the I-40 and NC 801 interchange, may increase.

The categories listed in the ICE Screening Tool, see Table 17 in Appendix B of the FONSI, have been shown to influence land development decisions in numerous areas statewide and nationally. The measures used to rate the impacts from a high concern for indirect and cumulative effects potential to less concern for indirect and cumulative effects potential are also supported by documentation. Each characteristic is assessed individually and the results of the table are looked at comprehensively to determine the indirect and cumulative effects potential of the proposed project. The scope of the project, change in accessibility, public policy, and notable environmental features categories are given extra weight to determine if future growth in the area is related to the project modifications. Further examination of potential indirect and cumulative effects will be undertaken on projects that have more categories noted as moderate to high concern.

Based on the information gathered, the majority of the categories on the indirect and cumulative effects screening tool indicated lower (not low) to higher (not high) concern for indirect and cumulative effects potential. The overall result suggests that an “indirect scenario assessment is not likely.”

This project will likely result in minor travel time savings and minor changes in travel patterns. This project will not affect access to nearby parcels. Little or no exposure increase is expected. No new transportation/land use nodes will be created by this project. Consequently, the proposed project alone is unlikely to influence intraregional land development-location decisions. Instead, residential and commercial development is likely to continue in the FLUSA with or without the project.

Since indirect effects as a result of this proposed project alone are expected to be low or minimal, impacts on stormwater runoff, downstream water quality, and the historic Win-Mock farm are not expected as a result of this project. Direct natural environmental impacts by NCDOT projects would be addressed by avoidance, minimization, or mitigation and would be further evaluated by NCDOT Natural Environment Unit during project permitting. Because no indirect impacts are anticipated, the cumulative effects of this project, when considered in the context of other past, present, and future actions, and the resulting impact on notable human and natural features should be minimal. Therefore, any contribution of the project to cumulative impacts resulting from current and planned development patterns are expected to be minimal.”

R. Traffic Noise Analysis

Section V.H, pages 29 – 32 Based on the refined preliminary design, NCDOT has completed a Design Noise Report, June 2014, and a Design Noise Report Addendum, June 2014, for the project. Through completion of these two documents, the entire length of the project study area, from west of NC 801 to east of SR 1101 (Harper Road), has been evaluated for traffic noise impacts and abatement measures. Section V.H. Traffic Noise Analysis in the EA is deleted and replaced with the following:

“H. Traffic Noise Analysis

In accordance with Title 23 Code of Federal Regulations Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise (Title 23 CFR 772) and the North Carolina Department of Transportation Traffic Noise Abatement Policy, each Type I highway project must be analyzed for predicted traffic noise impacts. In general, Type I projects are proposed State or Federal highway projects for construction of a highway or interchange on new location, improvements of an existing highway which substantially changes the horizontal or vertical alignment or increases the vehicle capacity, or projects that involve new construction or substantial alteration of transportation facilities such as weigh stations, rest stops, ride-share lots or toll plazas.

Traffic noise impacts are determined through implementing the current Traffic Noise Model (TNM) approved by the Federal Highway Administration (FHWA) and following procedures detailed in Title 23 CFR 772, the NCDOT Traffic Noise Abatement Policy and the NCDOT Traffic Noise Analysis and Abatement Manual. When traffic noise impacts are predicted, examination and evaluation of alternative noise abatement measures must be considered for reducing or eliminating these impacts. Temporary and localized noise impacts will likely occur as a result of project construction activities. Construction noise control measures will be incorporated into the project plans and specifications.

A copy of the unabridged version of the full technical report entitled Final Design Noise Report - I-40 Widening From NC 801 in Davie County to SR 1101 (Harper Road) in Forsyth County and the Addendum entitled Design Noise Report Addendum - I-40 Widening from West of NC 801 in Davie County to SR 1101 (Harper Road) I-40 in Forsyth County can be viewed in the Project Development & Environmental Analysis Unit, Century Center Building A, 1000 Birch Ridge Drive, Raleigh.

1. Traffic Noise Impacts and Noise Contours

The maximum number of receptors, 126, for the project alternative predicted to become impacted by future traffic noise is shown in Table 18, see Appendix B of the FONSI. The table includes those receptors expected to experience traffic noise impacts by either approaching or exceeding the FHWA Noise Abatement Criteria or by a substantial increase in exterior noise levels.

The maximum extent of the 71- and 66- dB(A) noise level contours measured from the center of the proposed roadway is approximately 213 feet and 508 feet, respectively.

2. No Build Alternative

The Traffic Noise Analysis also considered traffic noise impacts for the “no-build” alternative. If the proposed project does not occur, 63 receptors are predicted to experience traffic noise impacts and the future traffic noise levels will increase by approximately 4 dBA. Based upon research, humans barely detect noise level changes of 2-3 dBA. A 5-dBA change is more readily noticeable. Therefore, most people working and living near the roadway will notice this predicted increase.

3. Traffic Noise Abatement Measures

Measures for reducing or eliminating the traffic noise impacts were considered for all impacted receptors in each alternative. The primary noise abatement measures evaluated for highway projects include highway alignment changes, traffic system management measures, establishment of buffer zones, noise barriers and noise insulation (NAC D only). For each of these measures, benefits versus costs (reasonableness), engineering feasibility, effectiveness and practicability and other factors were included in the noise abatement considerations.

Substantially changing the highway alignment to minimize noise impacts is not considered to be a viable option for this project due to engineering and/or environmental factors. Traffic system management measures are not considered viable for noise abatement due to the negative impact they would have on the capacity and level of service of the proposed roadway. Costs to acquire buffer zones for impacted receptors will exceed the NCDOT base dollar value of \$37,500 plus an incremental increase of \$525 (as defined in the NCDOT Policy) per benefited receptor, causing this abatement measure to be unreasonable.

4. Noise Barriers

Noise barriers include two basic types: earthen berms and noise walls. These structures act to diffract, absorb and reflect highway traffic noise. For this project, earthen berms are not found to be a viable abatement measure because the additional right of way, materials and construction costs are estimated to exceed the NCDOT maximum allowable base quantity of 7,000 cubic yards (cy), plus an incremental increase of 100 cy per benefited receptor, as defined in the NCDOT Policy.

A noise barrier evaluation was conducted for this project utilizing the Traffic Noise Model (TNM 2.5) software developed by the FHWA. Table 19, see Appendix B of the FONSI, summarizes the results of the evaluation. The first potential barrier location evaluated with TNM is adjacent to I-40 westbound (adjacent to Pinewood Lane), from east of SR 801 in Noise Study Area (NSA) 1. Based upon criteria defined in the

NCDOT Traffic Noise Abatement Policy, this barrier is preliminarily justified and recommended for construction, contingent upon completion of the project design and the public involvement process.

The second potential barrier location evaluated with TNM is adjacent to I-40 westbound, east of Yadkin River along Peony Way and Abelia Way, in NSA 5. Based upon criteria defined in the NCDOT Traffic Noise Abatement Policy, this barrier is preliminarily justified and recommended for construction, contingent upon completion of the project design and the public involvement process.

The third potential barrier location evaluated with TNM is adjacent to I-40 eastbound, from east of Yadkin River to west of Harper Road, in NSA 6. Based upon criteria defined in the NCDOT Traffic Noise Abatement Policy, this barrier is preliminarily justified and recommended for construction, contingent upon completion of the project design and the public involvement process.

The fourth potential barrier location evaluated with TNM is adjacent to I-40 westbound, along Fair Oaks Drive, west of Harper Road in NSA 7. Based upon criteria defined in the NCDOT Traffic Noise Abatement Policy, this barrier is preliminarily justified and recommended for construction, contingent upon completion of the project design and the public involvement process.

5. Summary

A preliminary noise evaluation was performed and a more detailed review will be completed during project final design. Noise barriers found to be feasible and reasonable during the preliminary noise analysis may not be found to be feasible and reasonable during the final design noise analysis due to changes in proposed project alignment and other design considerations, surrounding land use development, or utility conflicts, among other factors. Conversely, potential noise barriers that were not considered feasible and reasonable may meet the established criteria and be recommended for construction. This evaluation completes the highway traffic noise requirements of Title 23 CFR Part 772.

In accordance with NCDOT Traffic Noise Abatement Policy, the Federal/State governments are not responsible for providing noise abatement measures for new development for which building permits are issued after the Date of Public Knowledge. The Date of Public Knowledge of the proposed highway project will be the approval date of the Finding of No Significant Impact (FONSI). For development occurring after this date, local governing bodies are responsible to insure that noise compatible designs are utilized along the proposed facility.”

Section IV.H, support Figures 14A – 14N to Design Noise Report, June 2014, are found to Appendix A of the FONSI.

S. Air Quality Analysis

Section V.I, pages 32 – 37, At the time the EA was signed NCDOT utilized EPA's MOBILE6.2 to model air quality. Currently, NCDOT is utilizing EPA's MOVES2010b to model air quality. An updated air quality analysis for the project was run utilizing EPA's MOVES2010b model. Section V.I. Air Quality Analysis in the EA is deleted and replaced with the following:

"I. Air Quality Analysis

1. Introduction

Air pollution originates from various sources. Emissions from industry and internal combustion engines are the most prevalent sources. The impact resulting from highway construction ranges from intensifying existing air pollution problems to improving the ambient air quality. Changing traffic patterns are a primary concern when determining the impact of a new highway facility or the improvement of an existing highway facility.

The Federal Clean Air Act of 1970 established the National Ambient Air Quality Standards (NAAQS). These standards were established to protect the public from known or anticipated effects of air pollutants. The most recent amendments to the NAAQS contain criteria for sulfur dioxide (SO₂), particulate matter (PM), carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), and lead (Pb).

The primary pollutants from motor vehicles are unburned hydrocarbons, nitrous oxides, carbon monoxide, and particulates. Hydrocarbons and nitrogen oxides can combine in a complex series of reactions catalyzed by sunlight to produce photochemical oxidants such as ozone and NO₂. Because these reactions take place over a period of several hours, maximum concentrations of photochemical oxidants are often found far downwind of the precursor sources.

A project-level carbon monoxide (CO) quantitative air quality analysis was prepared for this project. A copy of the unabridged version of the full technical report entitled Revised Air Quality Analysis, dated June 5, 2014 can be viewed at the Project Development & Environmental Analysis Unit, Century Center Building A, 1010 Birch Ridge Drive, Raleigh.

2. Attainment Status

The project is located in Forsyth County, which is within the Winston Salem maintenance area for carbon monoxide (CO) as defined by the EPA. The Winston Salem area was redesignated by EPA for CO on September 18, 1995 and due improved monitoring data was placed under a limited maintenance plan (conformity is required without a regional emissions analysis) on July 22, 2013. Section 176(c) of

the CAAA requires that transportation plans, programs, and projects conform to the intent of the state air quality implementation plan (SIP). The current SIP does not contain any transportation control measures for Forsyth County. The Winston-Salem Metropolitan Planning Organization (MPO) 2035 Long Range Transportation Plan (LRTP), the High Point MPO 2035 LRTP and the 2012-2018 Transportation Improvement Programs (TIPs) conform to the intent of the SIP. The USDOT made a conformity determination on the Winston-Salem MPO LRTP on March 6, 2013, the High Point MPO LRTP on March 6, 2013 the Winston Salem MPO TIP on April 1, 2014 and the High Point MPO TIP on April 1, 2014. The current conformity determination is consistent with the final conformity rule found in 40 CFR Parts 51 and 93. There are no significant changes in the project's design concept or scope, as used in the conformity analyses.

An area of the proposed project is located in Davie County, which has been determined to comply with the National Ambient Air Quality Standards also, which is located in an attainment area; therefore, 40 CFR Parts 51 and 93 are not applicable. This area of the proposed project is not anticipated to create any adverse effects on the air quality of this attainment area.

3. Carbon Monoxide Microscale Analysis

Because the project is located within the Winston Salem maintenance area for carbon monoxide (CO), a microscale air quality analysis was performed to determine future CO concentrations resulting, from the proposed highway improvements. "CAL3QHC - A Modeling Methodology for Predicting Pollutant Concentrations near Roadway Intersections" was used to predict the CO concentration near sensitive receptors.

The worst-case air quality scenario was determined to be along I-40 and the new project alignment. The predicted 1-hour average CO concentrations for the evaluation years of 2015, 2020, and 2035 are 4.20, 4.20, and 4.40 ppm, respectively. Comparison of the predicted CO concentrations with the NAAQS (maximum permitted for 1-hour averaging period = 35 ppm; maximum permitted for 8-hour averaging period = 9 ppm) indicates no violation of these standards. Since the results of the worst-case 1-hour CO analysis for the build scenario is less than 9 ppm, it can be concluded that the 8-hour CO level does not exceed the standard.

4. Mobile Source Air Toxics

a. Background

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. Environmental Protection Agency (EPA) regulate 188 air toxics, also

known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (<http://www.epa.gov/iris/>). In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (<http://www.epa.gov/ttn/atw/nata1999/>). These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules. The 2007 EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if vehicle activity (vehicle-miles travelled, VMT) increases by 145 percent as assumed, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050, as shown in Figure 15.

b. Motor Vehicle Emissions Simulator (MOVES)

According to EPA, MOVES improves upon the previous MOBILE model in several key aspects: MOVES is based on a vast amount of in-use vehicle data collected and analyzed since the latest release of MOBILE, including millions of emissions measurements from light-duty vehicles. Analysis of this data enhanced EPA's understanding of how mobile sources contribute to emissions inventories and the relative effectiveness of various control strategies. In addition, MOVES accounts for the significant effects that vehicle speed and temperature have on PM emissions estimates, whereas MOBILE did not. MOVES2010b includes all air toxic pollutants in NATA that are emitted by mobile sources. EPA has incorporated more recent data into MOVES2010b to update and enhance the quality of MSAT emission estimates. These data reflect advanced emission control technology and modern fuels, plus additional data for older technology vehicles.

Based on an FHWA analysis using EPA's MOVES2010b model, as shown in Figure 15, even if vehicle-miles travelled (VMT) increases by 102 percent as assumed from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period.

The implications of MOVES on MSAT emissions estimates compared to MOBILE are: lower estimates of total MSAT emissions; significantly lower benzene emissions; significantly higher diesel PM emissions, especially for lower speeds.

Consequently, diesel PM is projected to be the dominant component of the emissions total.

c. MSAT Research

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how potential public health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA.

Nonetheless, air toxics concerns continue to be raised on highway projects during the NEPA process. Even as the science emerges, we are duly expected by the public and other agencies to address MSAT impacts in our environmental documents. The FHWA, EPA, the Health Effects Institute, and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this field.

d. NEPA CONTEXT

The NEPA requires, to the fullest extent possible, that the policies, regulations, and laws of the Federal Government be interpreted and administered in accordance with its environmental protection goals. The NEPA also requires Federal agencies to use an interdisciplinary approach in planning and decision-making for any action that adversely impacts the environment. The NEPA requires and FHWA is committed to the examination and avoidance of potential impacts to the natural and human environment when considering approval of proposed transportation projects. In addition to evaluating the potential environmental effects, we must also take into account the need for safe and efficient transportation in reaching a decision that is in the best overall public interest. The FHWA policies and procedures for implementing NEPA are contained in regulation at 23 CFR Part 771.

e. Consideration of MSAT in NEPA Documents

The FHWA developed a tiered approach for analyzing MSAT in NEPA documents, depending on specific project circumstances. The FHWA has identified three levels of analysis:

1. No analysis for projects with no potential for meaningful MSAT effects;

2. Qualitative analysis for projects with low potential MSAT effects; or
3. Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

(1) Exempt Projects or Projects with No Meaningful Potential MSAT Effects

This category includes projects that are qualified as categorical exclusion under 23 CFR 771.117(c), projects that are exempt under the Clean Air Act conformity rule under 40 CFR 93.126 and projects with no meaningful impacts on traffic volumes or vehicle mix. No analysis or discussion of MSATs is necessary for these projects and documentation sufficient to demonstrate that the project qualifies as a categorical exclusion and/or exempt project will suffice. The project record should document the basis for the determination of “no meaningful potential impacts” with a brief description of the factors considered.

(2) Projects with Low Potential MSAT Effects

These projects include those that improve operations of highway, transit or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase emissions. This category covers a broad range of projects, including minor widening projects and new interchanges, such as those that replace a signalized intersection or where design year traffic is not projected to meet the 140,000 to 150,000 AADT criterion. For these projects, a qualitative assessment of emissions projections should be conducted. Most highway projects are included in this category.

(3) Projects with Higher Potential MSAT Effects

This category includes highway projects that have the potential for meaningful differences among project alternatives through 1) the addition of significant capacity where the AADT is projected to be in the range of 140,000 to 150,000 or greater by the design year or 2) the significant alteration to a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location, and 3) their being located close to populated areas or concentrations of vulnerable populations (i.e., schools, nursing homes, hospitals). These projects require a quantitative analysis, and only a limited number of projects will fall into this category. Mitigation options should be identified and considered in the analysis when meaningful differences in levels of MSAT emissions are identified. All projects warranting a Quantitative MSAT Analysis should include the seven priority MSAT pollutants.

This project falls under Category (2) because it is intended to improve the operations of a highway, transit or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase emissions, and the Design Year traffic is not projected to meet or exceed the 140,000 to 150,000 AADT criterion.

f. Qualitative MSAT Analysis

A qualitative MSAT analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives, found at: www.fhwa.dot.gov/environment/airtoxic/msatcompare/msatemissions.htm

The amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for the alternative. The VMTs estimated for the Build alternatives are slightly higher than those for the No Build alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSAT emissions for the preferred action alternative along the highway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to EPA's MOVES2010b model, emissions of all of the priority MSAT decrease as speed increases.

Emissions will likely be lower than present levels in the design year 2035 as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent from 2010 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future for all Build Alternatives.

The additional travel lanes contemplated as part of the Build Alternative will have the effect of moving some traffic closer to nearby homes, schools, and businesses; therefore, there may be localized areas where ambient concentrations of MSAT could be higher under certain Build Alternatives than the No Build Alternative. The localized increases in MSAT concentrations would likely be approximately equal throughout the project since symmetrical widening is proposed. However, the magnitude and the duration of these potential

increases compared to the No-Build alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. In sum, when a highway is widened, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

In sum, under the Build Alternatives in the design year it is expected there would be higher MSAT emissions in the study area relative to the No Build Alternative due to increased VMT. There also could be increases in MSAT levels in a few localized areas where VMT increases. However, EPA's vehicle and fuel regulations will bring about lower MSAT levels for the area in the future than today.

g. Incomplete or Unavailable Information for Project Specific MSAT Health Impact Analysis

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The U.S. Environmental Protection Agency (EPA) is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, <http://www.epa.gov/iris/>). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI

studies are summarized in Appendix D of FHWA's Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are; cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, <http://pubs.healtheffects.org/view.php?id=282>) or in the future as vehicle emissions substantially decrease (HEI, <http://pubs.healtheffects.org/view.php?id=306>).

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts - each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable. There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (<http://pubs.healtheffects.org/view.php?id=282>). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of

people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

5. Conclusion

What we know about mobile source air toxics is still evolving. As the science progresses FHWA will continue to revise and update this guidance. FHWA is working with Stakeholders, EPA and others to better understand the strengths and weaknesses of developing analysis tools and the applicability on the project level decision documentation process.

6. Summary

Vehicles are a major contributor to decreased air quality because they emit a variety of pollutants into the air. Changing traffic patterns are a primary concern when determining the impact of a new roadway or the improvement of an existing roadway. New roadways or the widening of existing roadways increase localized levels of vehicle emissions, but these increases could be offset due to increases in speeds from reductions in congestion and because vehicle emissions will decrease in areas where traffic shifts to the new roadway. Significant progress has been made in reducing criteria pollutant emissions from motor vehicles and improving air quality, even as vehicle travel has increased rapidly.

After performing a microscale CO analysis, the proposed project has been found not to exceed the 1-hour or 8-hour standards for this pollutant. The I-40 Widening project is not anticipated to create any adverse effects on the air quality of this Forsyth County maintenance area, nor Davie County attainment area, thereby complying with the National Ambient Air Quality Standards. This evaluation completes the assessment requirements for air quality of the 1990 Clean Air Act

Amendments and the NEPA process, and no additional reports are necessary.”

Section V.I, Figure 15 added to Appendix B of the FONSI.

T. Prime And Important Farmland Impacts

Section V.J, page 37 of the EA – After this section add the following section:

“K. Farmland

The Farmland Protection Policy Act (FPPA) requires all federal agencies or their representatives to consider the potential impact to prime farmland of all land acquisition and construction projects. While there are soils classified as prime, unique, or having state or local importance in the vicinity of the project; this project is not subject to FPPA requirements due to its location, within an urbanized area per the US Census.”

U. Comments and Coordination

Section VI.C NEPA/404 Merger Process, page 40 – Is amended by the addition of the following paragraphs:

“Based on a refined preliminary design, completed after the EA was signed, the project limits were revised to beginning approximately 4,450 feet west of NC 801 in Davie County to approximately 650 feet east of SR 1101 (Harper Road) in Forsyth County. Based on the refined preliminary design, revised impacts for the proposed project are as follows: 0.23 acres of wetland impacts, 1,293 linear feet of stream impacts, 100-year floodplain and floodway impacts, and a *de minimus* impact to one (1) historic property/Section 4(f). On May 14, 2014, the members of the Merger Team met regarding the revised impacts - concurrence was reached on Concurrence Point 2A (Bridging Decisions and Alignment Review) and Concurrence Point 4A (Avoidance and Minimization of impacts) during the meeting.

A copy of the signed concurrence form from the May 14, 2014 meetings is included in Appendix G of the FONSI.”

VII. BASES FOR FINDING OF NO SIGNIFICANT IMPACT

The EA documents a study of the impacts of the proposed project. Based upon this study and on comments received from federal, state, local agencies and the general public, it is the finding of the FHWA that this project will not have a significant adverse impact upon the human or natural environment. No significant impacts to natural, social, ecological, cultural, economic, or scenic resources are expected. The proposed project is consistent with local plans. The project has been extensively coordinated with federal, state, and local agencies. In view of this evaluation, it has been determined that a Finding of No Significant Impact (FONSI) is applicable for this project. Therefore,

neither an Environmental Impact Statement nor further environmental analysis is required. The Summary of Findings for the project are listed in Table 20 below.

Table 20. Summary of Findings

Section of the EA	Significant Impact?
Impacts to Aquatic Communities	No. Prior to construction, an Erosion and Sedimentation Control Plan/Stormwater Pollution Prevention Plan will be developed for the preferred alternative in accordance with the NCDENR publication Erosion and Sediment Control Planning and Design and the NCDOT’s Best Management Practices for Protection of Surface Waters, to minimize any adverse impacts to aquatic communities. These Plans will be implemented and maintained throughout the construction period.
Water Resources	No. The construction activities associated with the project will follow NCDOT’s Best Management Practices for Construction and Maintenance Activities. The standard sedimentation and erosion control measures adopted by NCDOT for the installation of bridges and culverts will be followed.
Jurisdictional Areas	No. It is anticipated impacts to jurisdictional surface waters will total approximately 1,293 linear feet. 0.23 acres of wetlands will be impacted as a result of this project. The NCDOT will coordinate the project with the Ecological Enhancement Program (EEP) to mitigate the stream impacts identified above.
Federally Protected Species	No. Endangered species addressed in the study area include Michaux’s sumac, red-cockaded woodpecker and the small-anthered bittercress. Species threatened due to similarity of appearance include the Bog Turtle. None of these species were found in the study area, though there is suitable habitat present in the study area.
Historic Architecture	No. One historic property, Win-Mock Farm, is located within the project study area. During a meeting with HPO, FHWA and NCDOT staff it was agreed that the proposed revised retaining wall alternative would have No Adverse Effect upon the property provided that the following condition is met: minimize the amount of easement required for the retaining wall tieback system, by moving the retaining wall closer to the travel lanes/shoulder of the proposed improvements, i.e. away from the Win-Mock Farm historic property.
Flood Hazard Evaluation	No. The proposed project will impact areas designated as 100-year floodplain /floodway zones for Yadkin River and Smith Creek. The proposed new structures and replacement structures will provide equivalent or greater conveyance than that of the existing bridges.
Archaeology	No. It was determined that significant archaeological resources are unlikely to be affected by the project.
Section 4(f)	No. One 4(f) resource will be impacted – Win-Mock Farm. FHWA will use HPO’s call of “No Adverse Effect” as the basis of a “de minimis” finding for Win-Mock Farm, pursuant to Section 4(f), by the signing of the FONSI.

Table 20. Summary of Findings (Cont.)

Section of the EA	Significant Impact?
Social Effects	No. Right of way impacts will not require any relocation; therefore no low income, minority or any other communities will be impacted.
Community Facilities & Services	No. Right of way impacts will not require any relocation. One 4(f) resource will be impacted – Win-Mock Farm. FHWA will use HPO’s call of “No Adverse Effect” as the basis of a “ <i>de minimis</i> ” finding for Win-Mock Farm, pursuant to Section 4(f). Because no indirect impacts are anticipated, the cumulative effects of this project, when considered in the context of other past, present, and future actions, and the resulting impact on notable human and natural features should be minimal. Therefore, any contribution of the project to cumulative impacts resulting from current and planned development patterns are expected to be minimal.
Economic Impact	No. The I-40 Pavement Rehabilitation and Construct of Additional Lanes is expected to have an overall neutral economic impact on the Town of Bermuda Run and Village of Clemmons areas.
Noise	No. Based on the refined preliminary design completed after the EA was signed, NCDOT has performed a Design Noise Report for the project. The Design Noise Report denotes 126 impacted noise receptors. There are three identified noise study areas within the project study area as discussed in the EA. Based upon reasonableness criteria defined in the NCDOT Traffic Noise Abatement Policy, the barriers were preliminarily cost-effective and, therefore, were recommended for further detailed analysis during Final Project Design. The Noise Study Areas identified in the EA have been evaluated in detail, based upon available project design files. The resulting Design Noise Report dated April 11, 2014 includes detailed analyses of the noise walls and recommends they be incorporated into the project’s final design, pending the results of public balloting and Federal Highway Administration approval.
Air Quality	No. The microscale carbon monoxide analysis determined that the project is in conformity with air quality standards. The localized levels of Mobile Source Air Toxics (MSAT) emissions for the preferred alternative could be higher relative to the No-Build Alternative, but this could be offset due to increases in speeds and reductions in congestion.
Farmlands	No. The study area is located in an urbanized area of the Winston-Salem Urban Area Metropolitan Planning Organization; therefore, the project would have no impacts to farmlands. Farming operations at Win-Mock Farm began declining in 1949 and ceased in 1996. The majority of the proposed improvements are located within the existing Right-of-Way of this section of I-40. NCDOT is proposing to acquire five (5) minor stripes of additional Right-of-Way with the widest being approximately 30 feet. All of the five (5) stripes are forested and either zoned Yadkin River Conservation, single-family residential, multi-family residential, residential mix use or commercial mixed use; none of which are currently being farmed.

Table 20. Summary of Findings (Cont.)

Section of the EA	Significant Impact?
Hazardous Materials	No. NCDOT has conducted additional research in the area around the I-40 & NC 801 interchange regarding potential hazardous materials sites. Based on the information, though contaminated soil and ground water are likely still present in the study area, it is unlikely that contaminated soil or ground water will be encountered during construction. Mapping denoting the areas of known and potential contamination will be provided to Roadway Design to be included with the plans. A project special provision will be included in the let package to instruct the contractor in the event contaminated soil or ground water is encountered. In the event that additional right of way is needed on any of these properties, it is requested that the Right of Way office contact the GeoEnvironmental Section before making an offer to purchase.
Section of the EA	Findings
Permits	An individual permit may be required if impacts to Waters of the US exceed half and acre or impacts to an individual stream exceed 300 feet. If not, then a nationwide may be required. If a Section 404 permit is required, then a Section 401 Water Quality Certification from the NCDWR will be needed. The USACE holds the final discretion as to what permit will be required to authorize project construction.
Mitigation	Decisions regarding final mitigation plans for the project will be made in cooperation with the Ecological Enhancement Program, the USACE, and the NCDWQ.

The following people may be contacted for additional information concerning this proposal and statement:

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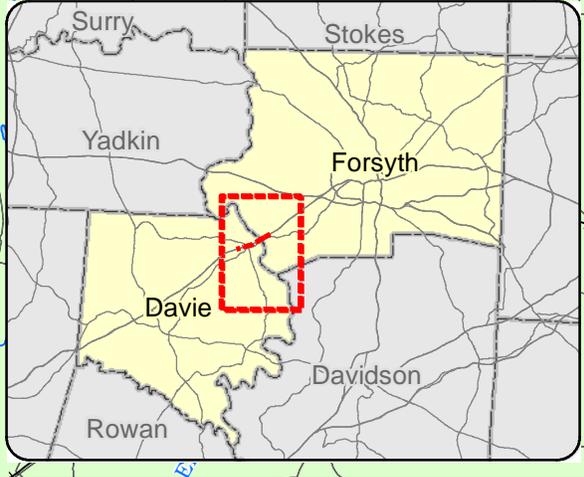
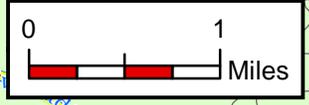
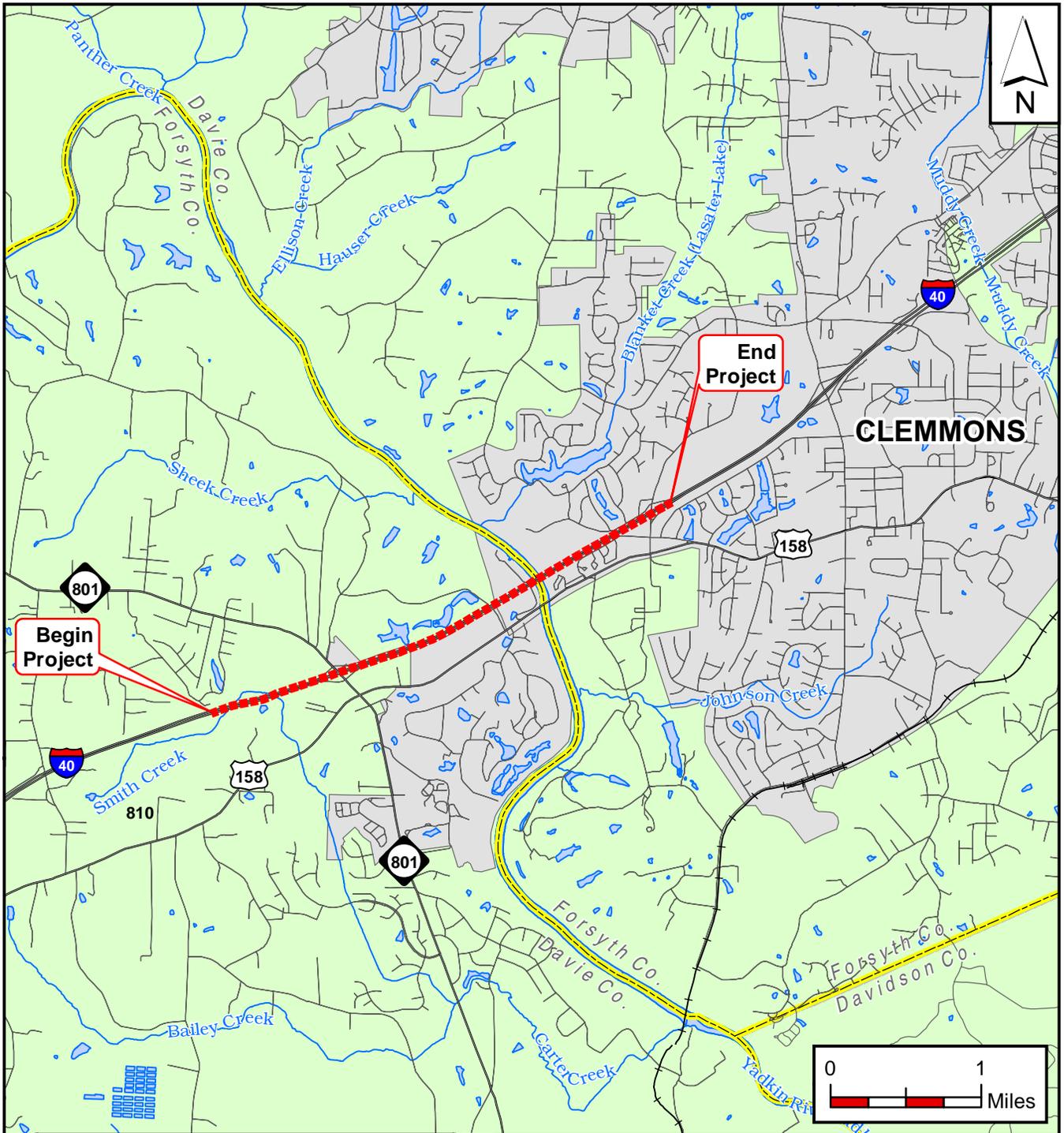
Richard W. Hancock, PE, Unit Manager
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APPENDIX A

FIGURES

Figure 1:	Vicinity Map
Figures 2A - 2F:	Environmental Features Map
Figure 2G:	Location of Structures
Figures 6A – 6C:	Natural Communities
Figures 13c and 13d:	Smith Creek Flood Insurance Rate Maps
Figures 14A – 14J:	Design Noise Report – June 2014
Figure 15:	Air Quality Analysis - FHWA analysis using EPA's MOVES2010b



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH

VICINITY MAP
I-40 PAVEMENT REHABILITATION AND CONSTRUCT ADDITIONAL LANES FROM WEST OF NC 801 TO EAST OF SR 1101 (HARPER ROAD / TANGLEWOOD BUSINESS PARK ROAD)

MARCH 2013 DAVIE-FORSYTH COUNTIES TIP PROJECT I-0911A **FIGURE 1**



Prepared for:



Project:

I-0911A

**INTERSTATE 40
REHABILITATION/
WIDENING**

Davie and
Forsythe Counties, NC

Title:

**JURISDICTIONAL
FEATURES
MAP**

Notes:

1. Background imagery source:
2010 aerial photography
provided by the NC OneMap
program (online, supported by
the NC Geographic Information
Coordination Council).

2. Culvert locations are
approximate and are depicted to
display continuity of jurisdictional
resources only. Not all culverts
are shown.

Location:



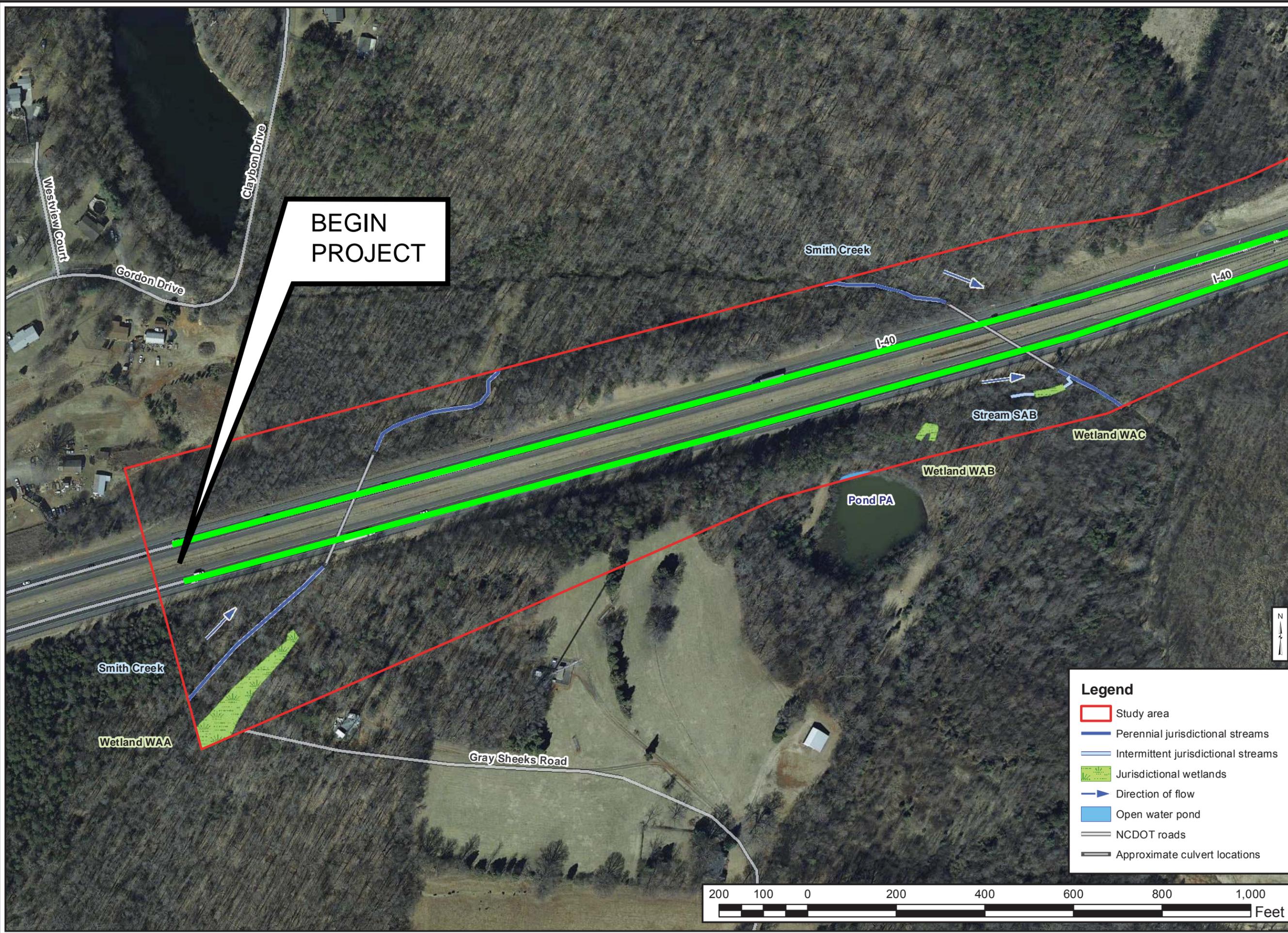
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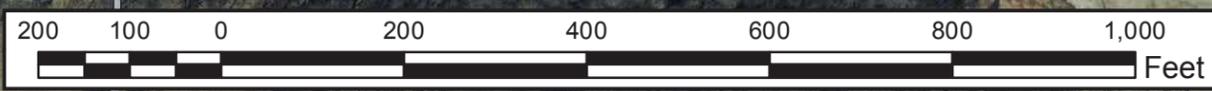
Project No.: 12-014.07

**FIGURE
2A**



Legend

- Study area
- Perennial jurisdictional streams
- Intermittent jurisdictional streams
- Jurisdictional wetlands
- Direction of flow
- Open water pond
- NCDOT roads
- Approximate culvert locations





Prepared for:



Project:

I-0911A

INTERSTATE 40 REHABILITATION/ WIDENING

Davie and
Forsythe Counties, NC

Title:

JURISDICTIONAL FEATURES MAP

Notes:

1. Background imagery source:
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Location:



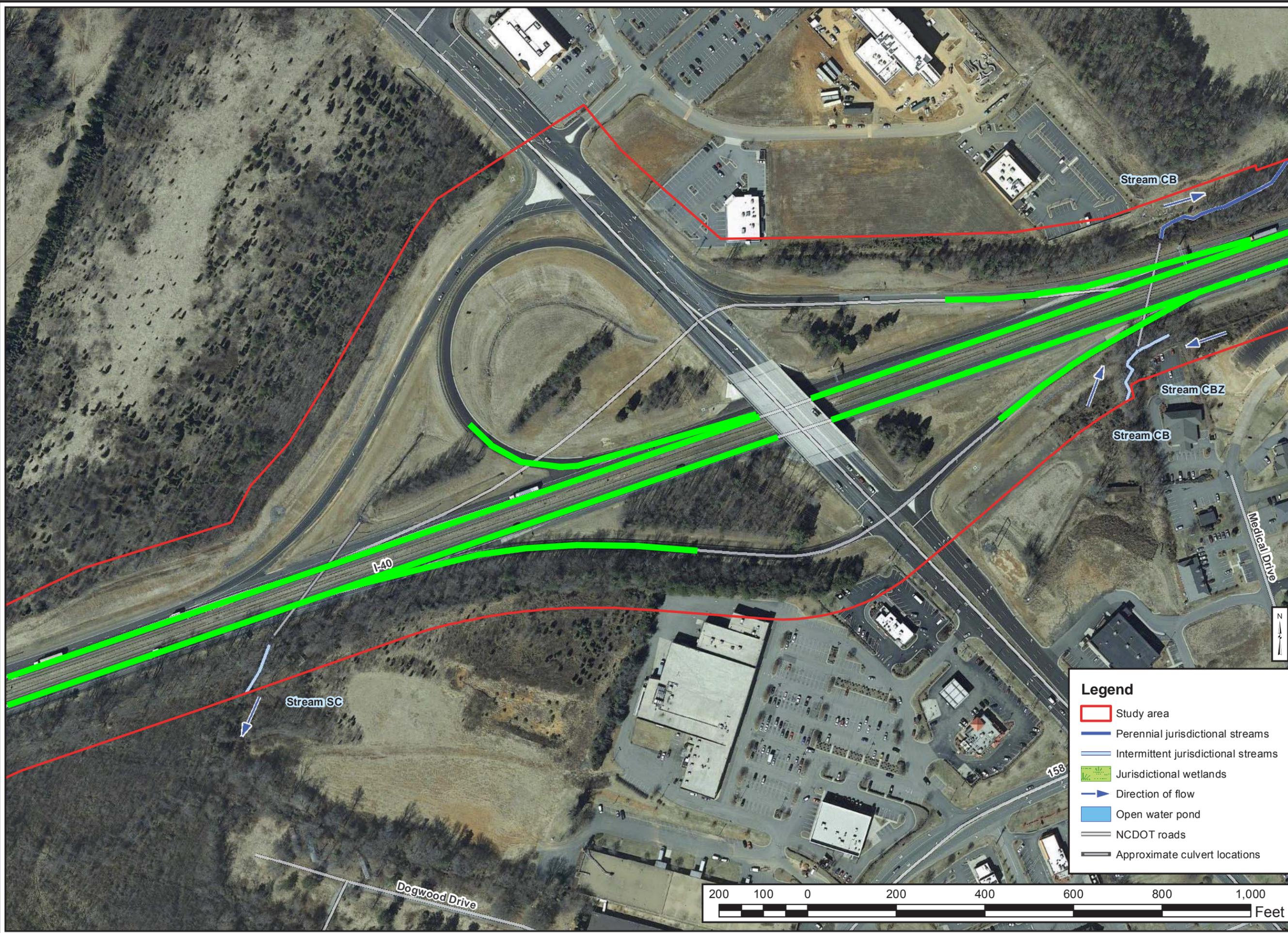
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Scale: 1:2400

Project No.: 12-014.07

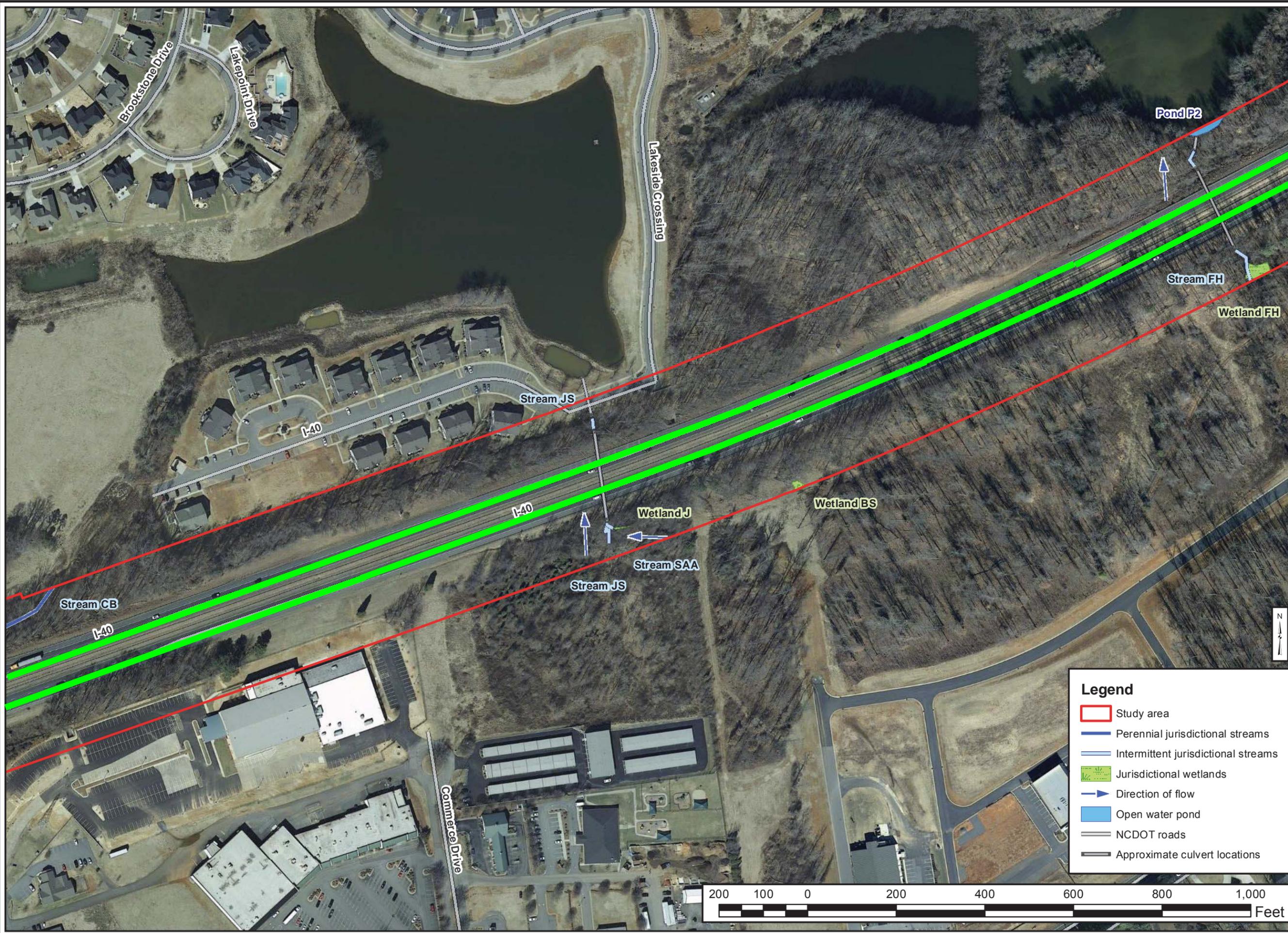
FIGURE 2B



Legend

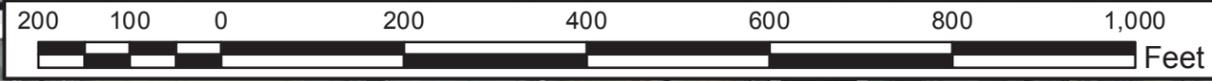
- Study area
- Perennial jurisdictional streams
- Intermittent jurisdictional streams
- Jurisdictional wetlands
- Direction of flow
- Open water pond
- NCDOT roads
- Approximate culvert locations





Legend

- Study area
- Perennial jurisdictional streams
- Intermittent jurisdictional streams
- Jurisdictional wetlands
- ▶ Direction of flow
- Open water pond
- NCDOT roads
- Approximate culvert locations



Prepared for:



Project:

I-0911A

**INTERSTATE 40
REHABILITATION/
WIDENING**

Davie and
Forsythe Counties, NC

Title:

**JURISDICTIONAL
FEATURES
MAP**

Notes:

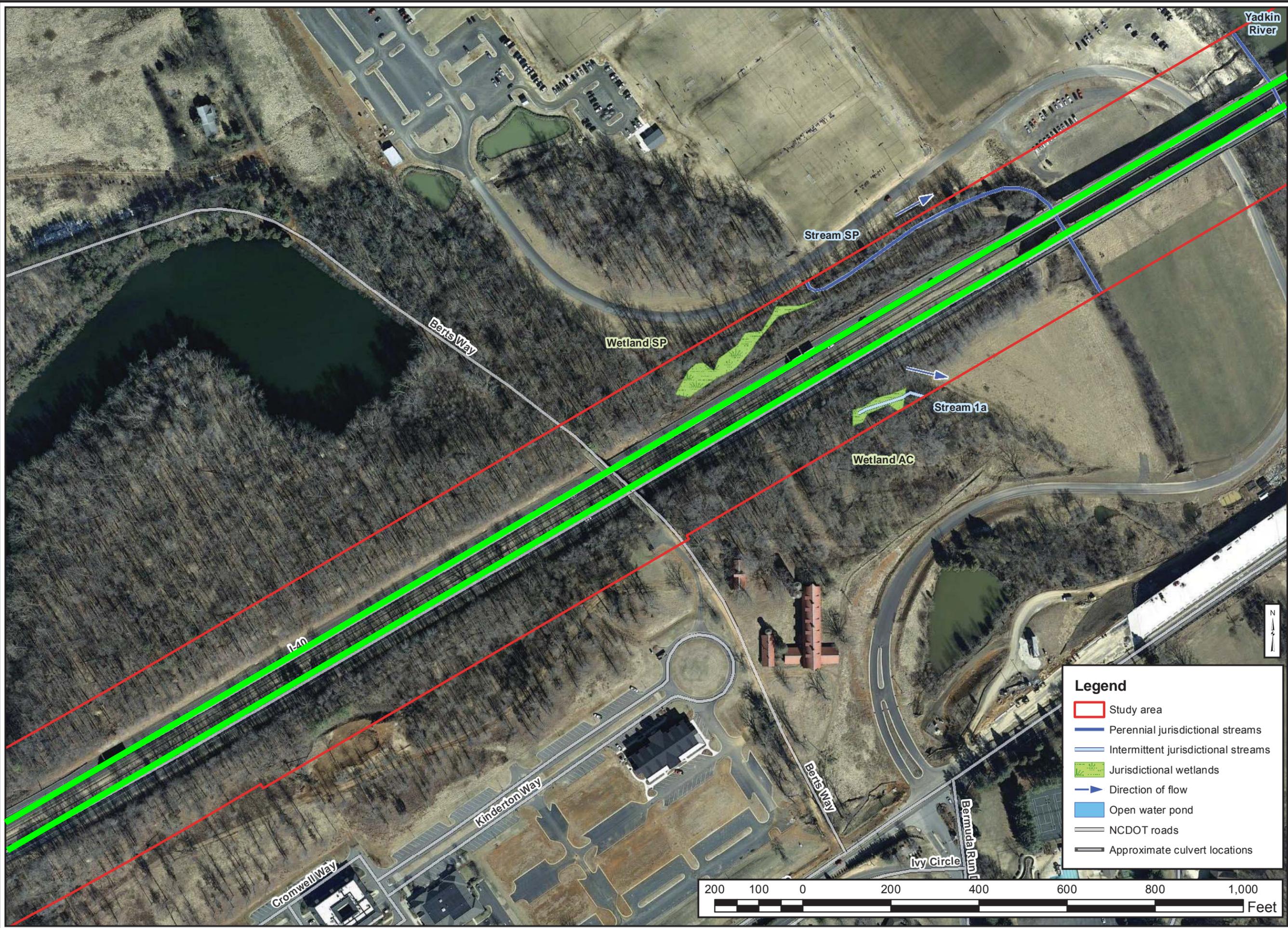
1. Background imagery source: 2010 aerial photography provided by the NC OneMap program (online, supported by the NC Geographic Information Coordination Council).
2. Culvert locations are approximate and are depicted to display continuity of jurisdictional resources only. Not all culverts are shown.

Location:



Drawn by:	SGD
Date:	JUNE 2013
Scale:	1:2400
Project No.:	12-014.07

**FIGURE
2C**



Legend

- Study area
- Perennial jurisdictional streams
- Intermittent jurisdictional streams
- Jurisdictional wetlands
- Direction of flow
- Open water pond
- NCDOT roads
- Approximate culvert locations



Prepared for:



Project:

I-0911A

**INTERSTATE 40
REHABILITATION/
WIDENING**

Davie and
Forsythe Counties, NC

Title:

**JURISDICTIONAL
FEATURES
MAP**

Notes:

1. Background imagery source: 2010 aerial photography provided by the NC OneMap program (online, supported by the NC Geographic Information Coordination Council).
2. Culvert locations are approximate and are depicted to display continuity of jurisdictional resources only. Not all culverts are shown.

Location:



Drawn by:	SGD
Date:	JUNE 2013
Scale:	1:2400
Project No.:	12-014.07

**FIGURE
2D**



Prepared for:



Project:

I-0911A

INTERSTATE 40 REHABILITATION/ WIDENING

Davie and
Forsythe Counties, NC

Title:

JURISDICTIONAL FEATURES MAP

Notes:

1. Background imagery source: 2010 aerial photography provided by the NC OneMap program (online, supported by the NC Geographic Information Coordination Council).

2. Culvert locations are approximate and are depicted to display continuity of jurisdictional resources only. Not all culverts are shown.

Location:



Drawn by: SGD

Date: JUNE 2013

Scale: 1:2400

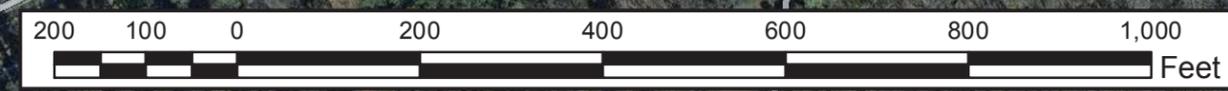
Project No.: 12-014.07

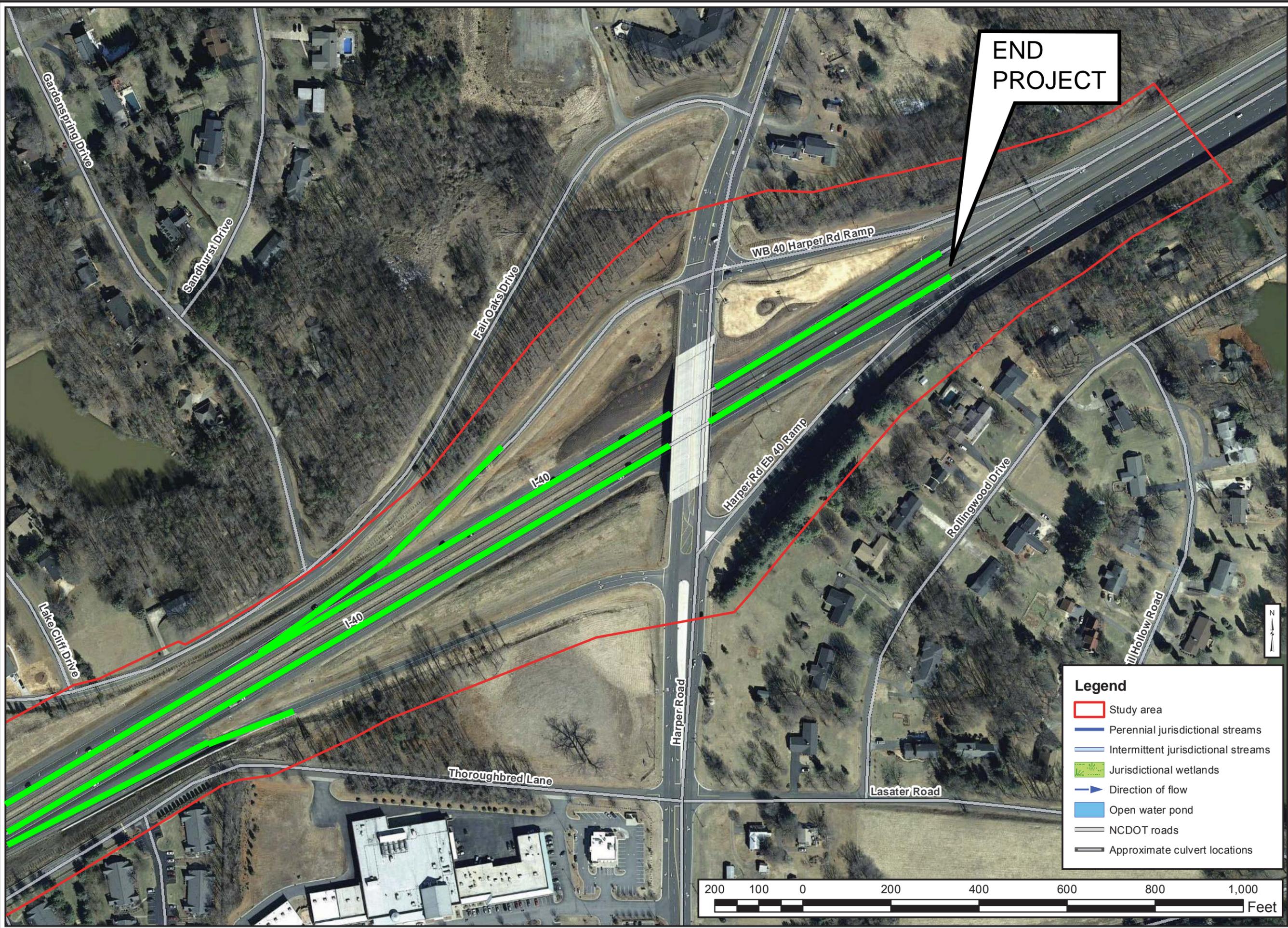
FIGURE 2E



Legend

- Study area
- Perennial jurisdictional streams
- Intermittent jurisdictional streams
- Jurisdictional wetlands
- Direction of flow
- Open water pond
- NCDOT roads
- Approximate culvert locations





END PROJECT



Prepared for:



Project:

I-0911A

**INTERSTATE 40
REHABILITATION/
WIDENING**

Davie and
Forsythe Counties, NC

Title:

**JURISDICTIONAL
FEATURES
MAP**

Notes:

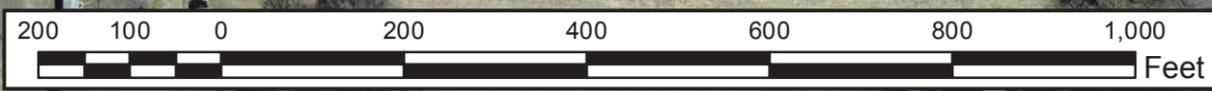
1. Background imagery source: 2010 aerial photography provided by the NC OneMap program (online, supported by the NC Geographic Information Coordination Council).
2. Culvert locations are approximate and are depicted to display continuity of jurisdictional resources only. Not all culverts are shown.

Location:



Legend

- Study area
- Perennial jurisdictional streams
- Intermittent jurisdictional streams
- Jurisdictional wetlands
- Direction of flow
- Open water pond
- NCDOT roads
- Approximate culvert locations



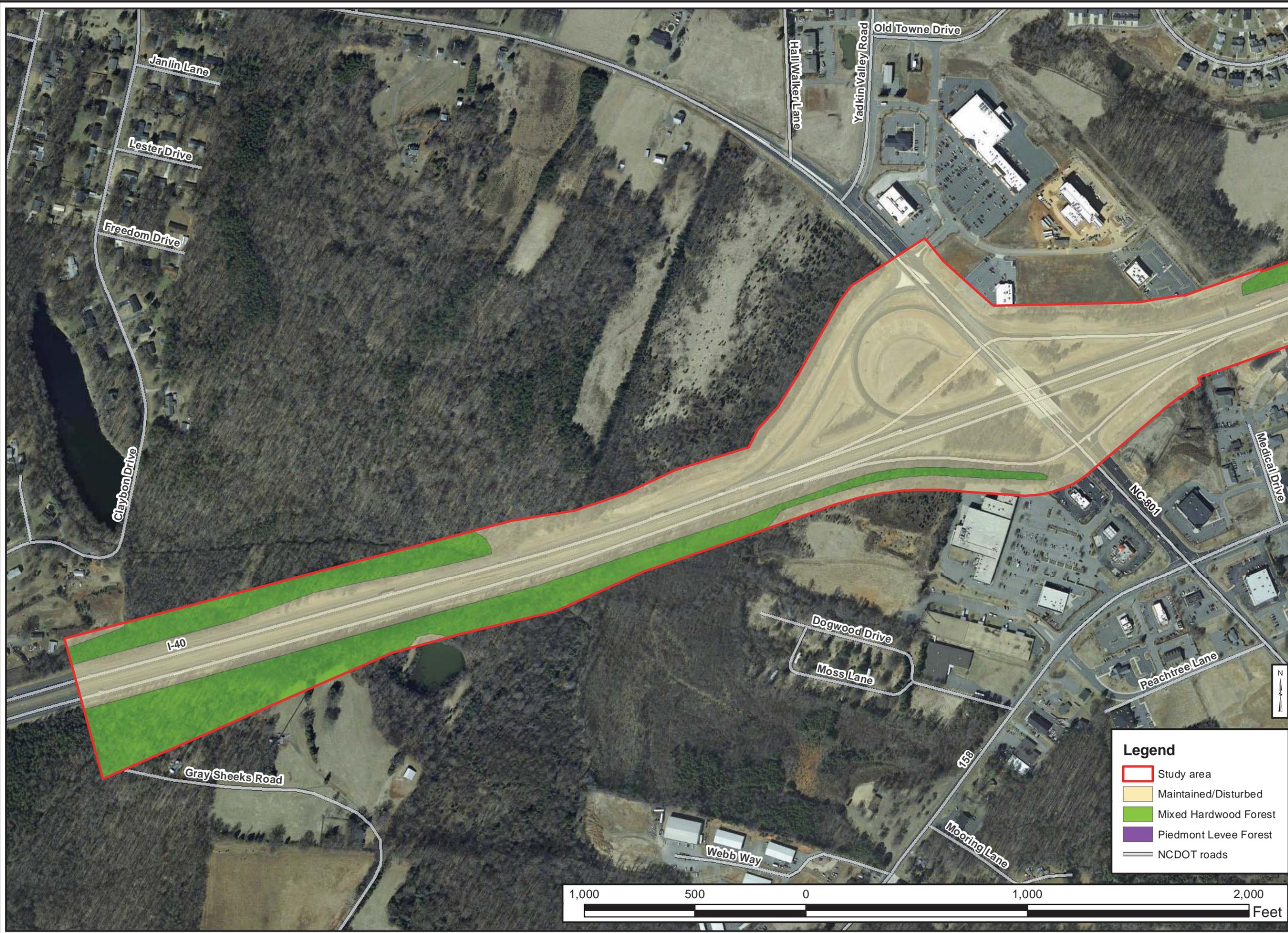
Drawn by:	SGD
Date:	JUNE 2013
Scale:	1:2400
Project No.:	12-014.07

**FIGURE
2F**



I-911A Location of Structures

FIGURE 2G



Legend

- Study area
- Maintained/Disturbed
- Mixed Hardwood Forest
- Piedmont Levee Forest
- NCDOT roads



Project:

I-40 PAVEMENT REHABILITATION AND CONSTRUCTION OF ADDITIONAL LANES

TIP I-0911A

Davie and Forsythe Counties, NC

Title:

NATURAL COMMUNITIES MAP

Notes:

Background imagery source: 2010 aerial photography provided by the NC OneMap program (online, supported by the NC Geographic Information Coordination Council).



Drawn by: SGD

Date: JULY 2013

Scale: 1:4800

Project No.: 12-014.07

FIGURE 6A



Legend

- Study area
- Maintained/Disturbed
- Mixed Hardwood Forest
- Piedmont Levee Forest
- NCDOT roads



Prepared for:


Project:
I-40 PAVEMENT REHABILITATION AND CONSTRUCTION OF ADDITIONAL LANES
TIP I-0911A
 Davie and Forsythe Counties, NC

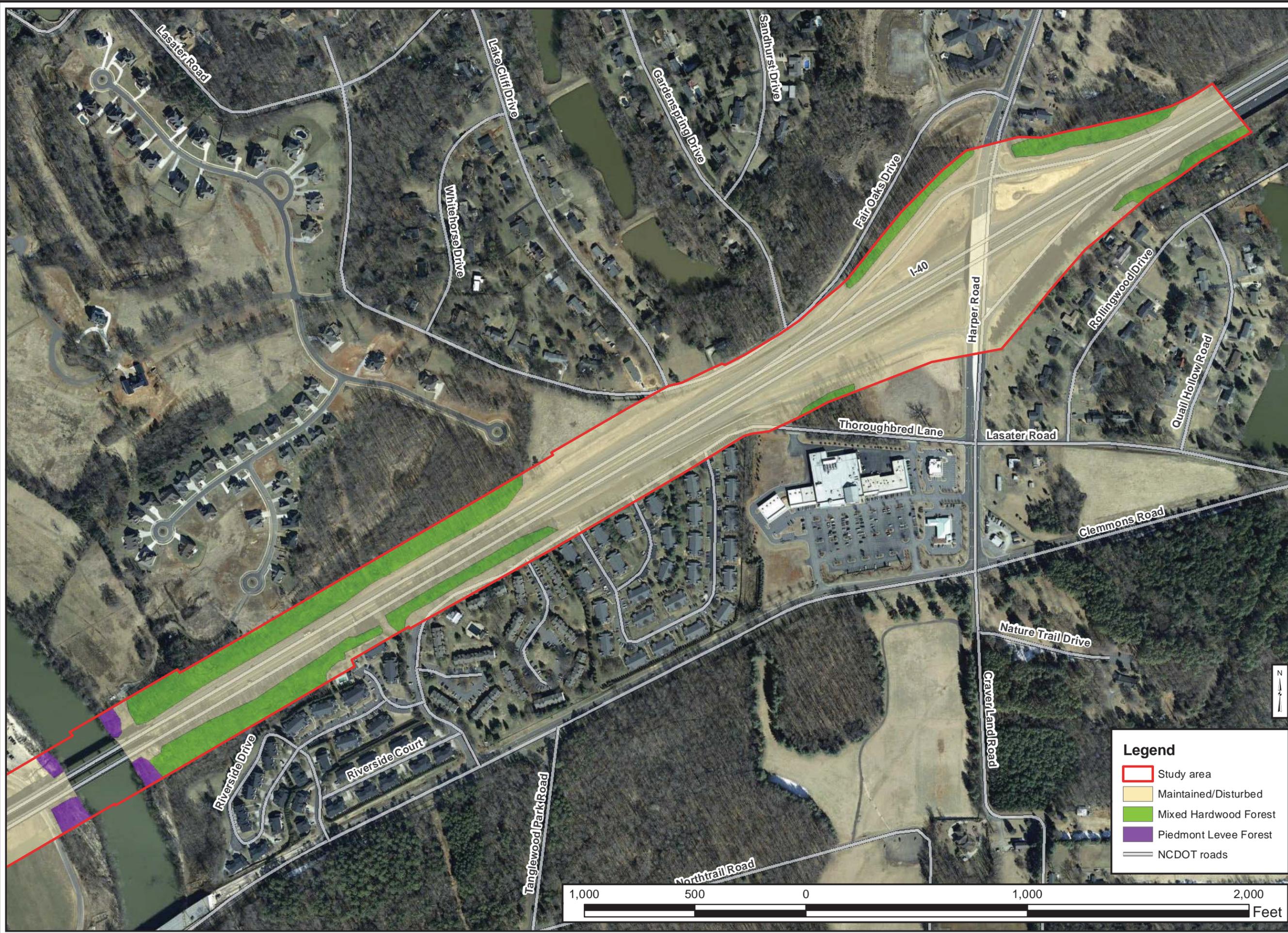
Title:
NATURAL COMMUNITIES MAP

Notes:
 Background imagery source: 2010 aerial photography provided by the NC OneMap program (online, supported by the NC Geographic Information Coordination Council).



Drawn by: SGD
 Date: JULY 2013
 Scale: 1:4800
 Project No.: 12-014.07

FIGURE 6B



Legend

- Study area
- Maintained/Disturbed
- Mixed Hardwood Forest
- Piedmont Levee Forest
- NCDOT roads



Prepared for:


Project:
I-40 PAVEMENT REHABILITATION AND CONSTRUCTION OF ADDITIONAL LANES
TIP I-0911A
 Davie and Forsythe Counties, NC

Title:
NATURAL COMMUNITIES MAP

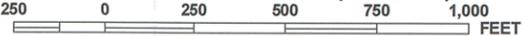
Notes:
 Background imagery source: 2010 aerial photography provided by the NC OneMap program (online, supported by the NC Geographic Information Coordination Council).



Drawn by: SGD
 Date: JULY 2013
 Scale: 1:4800
 Project No.: 12-014.07

FIGURE 6C




GRID NORTH
MAP SCALE 1" = 500' (1 : 6,000)


PANEL 5862J

FIRM
FLOOD INSURANCE RATE MAP
NORTH CAROLINA

PANEL 5862
(SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	CID No.	PANEL	SUFFIX
BERMUDA RUN, TOWN OF	370685	5862	J
DAVIE COUNTY	370308	5862	J

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

EFFECTIVE DATE MAP NUMBER
SEPTEMBER 17, 2008 3710586200J




State of North Carolina
 Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

FIGURE 13c
A-12



GRID NORTH
SCALE 1" = 500' (1 : 6,000)

250 500 750 1,000
 FEET
 METERS

PANEL 5872K

FIRM
FLOOD INSURANCE RATE MAP
NORTH CAROLINA

PANEL 5872
 (SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	CID No.	PANEL	SUFFIX
BERMUDA RUN, TOWN OF	370685	5872	K
CLEMMONS, VILLAGE OF	370531	5872	K
DAVIE COUNTY	370308	5872	K
FORSYTH COUNTY	375349	5872	K

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP REVISED **MAP NUMBER**
JANUARY 2, 2009 **3710587200K**



State of North Carolina
 Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

FIGURE 13d
A-13

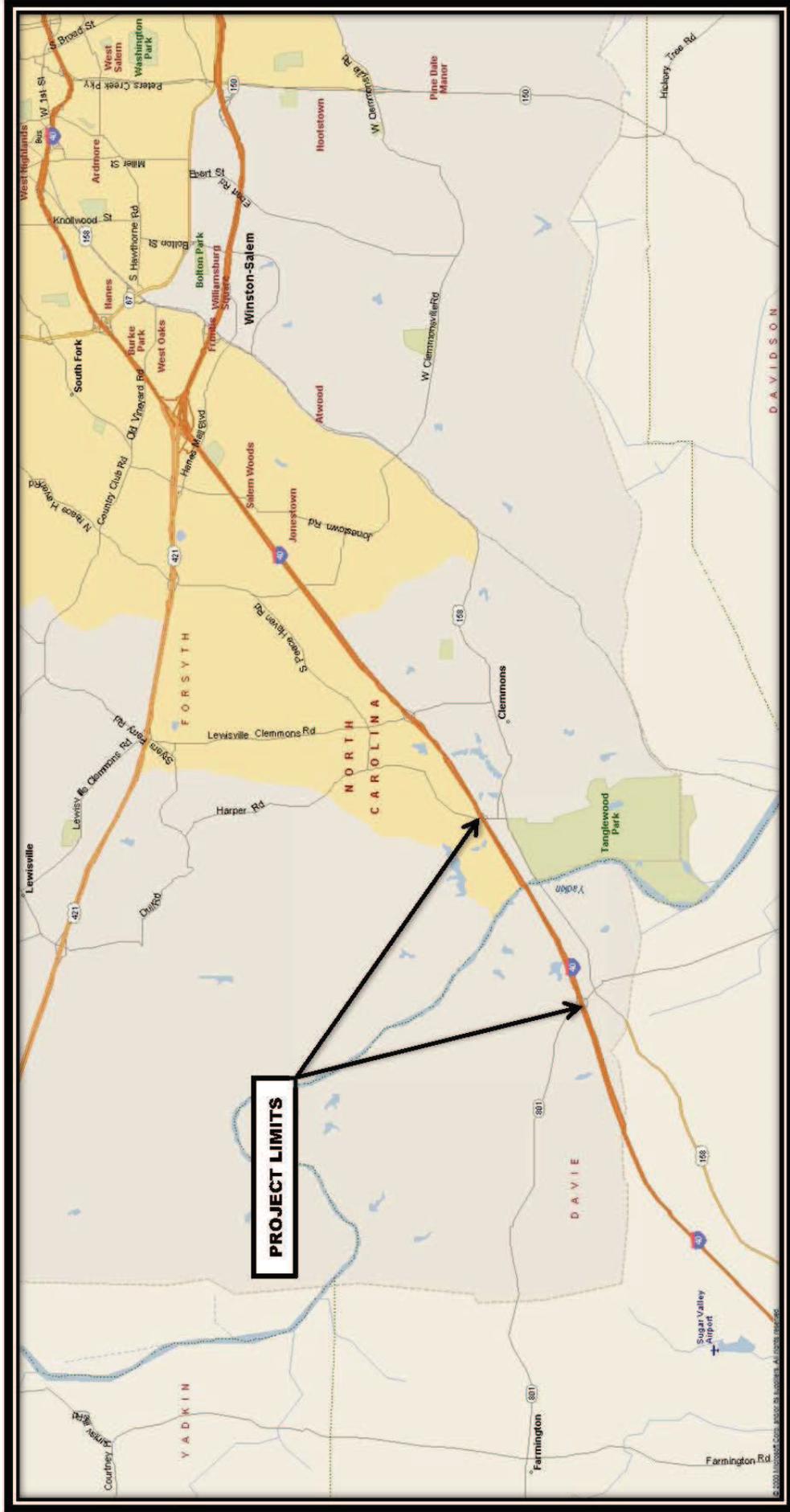
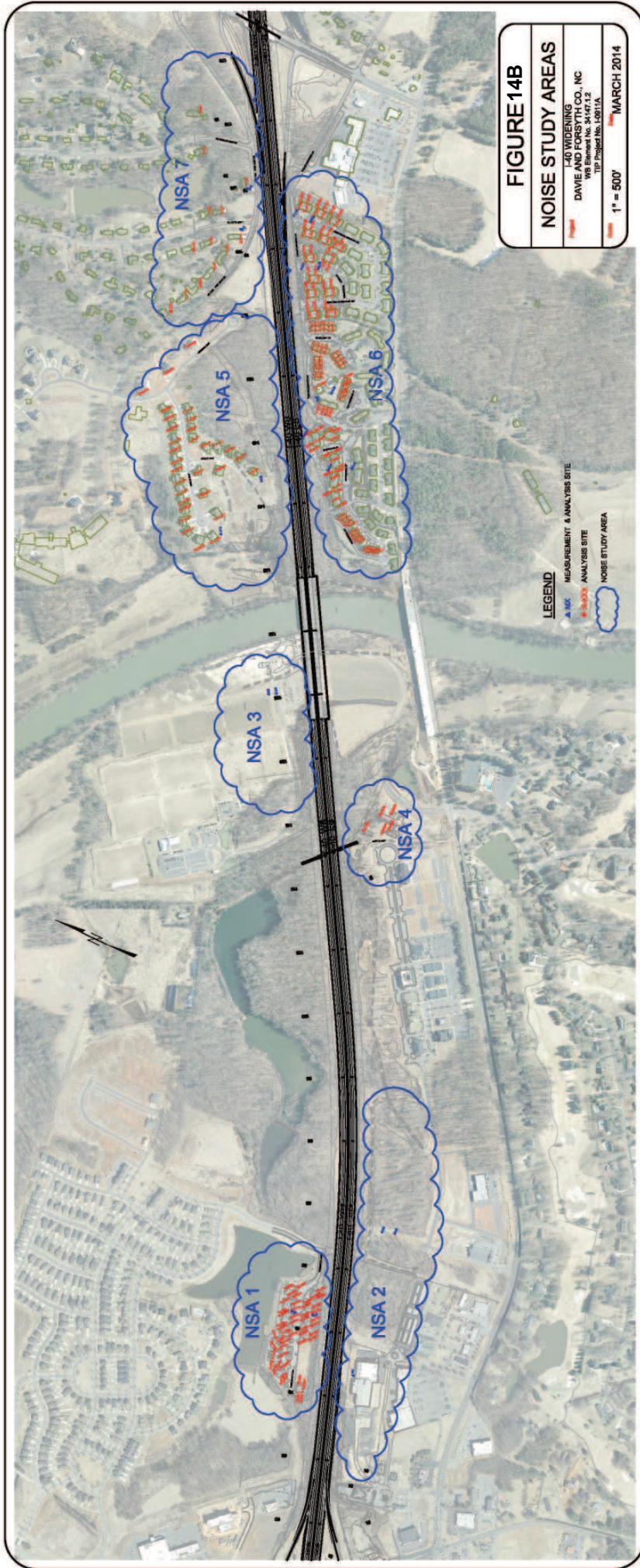


FIGURE 14A
PROJECT LOCATION MAP
I-40 WIDENING
DAVIE AND FORSYTH COUNTIES, NC



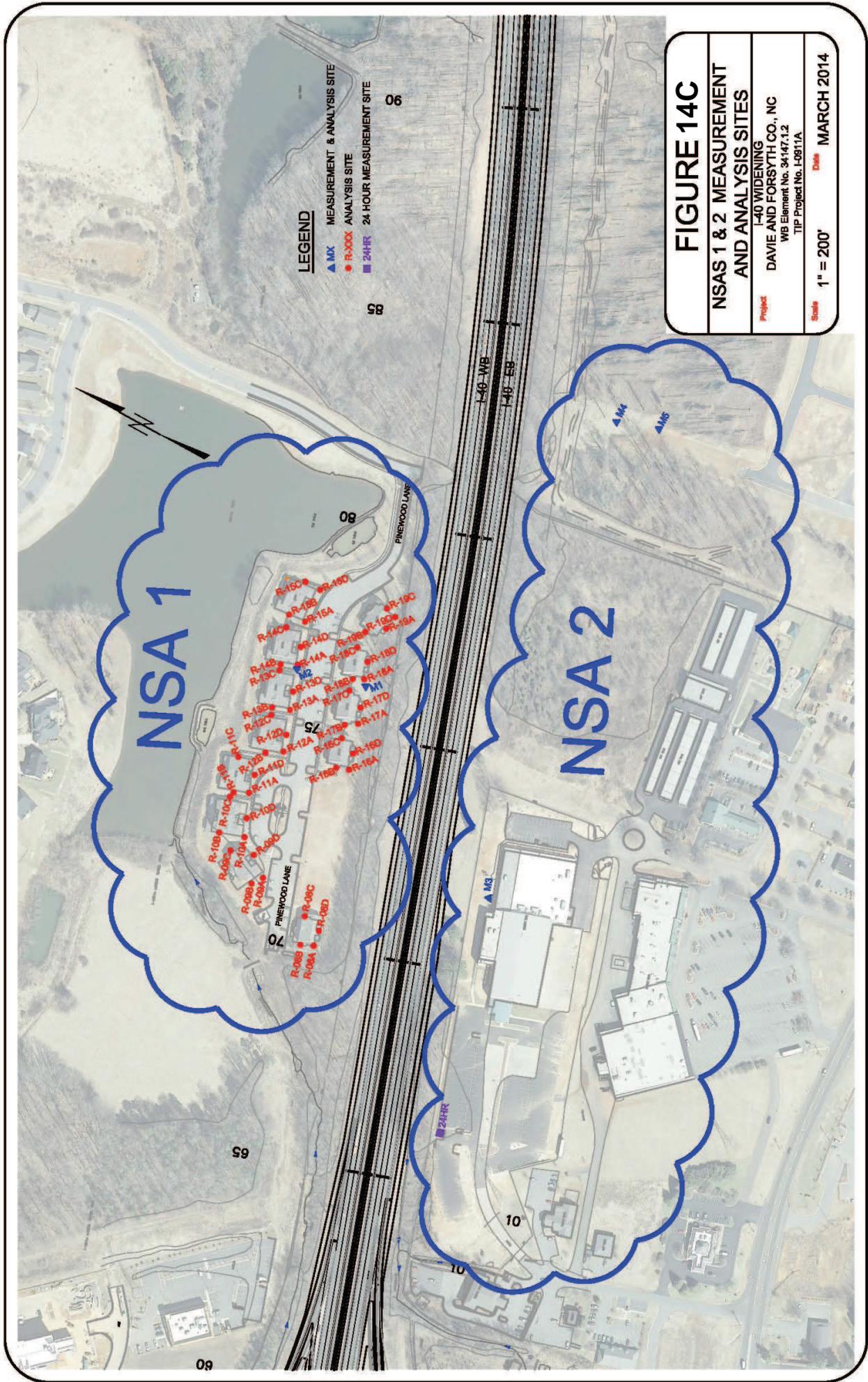


FIGURE 14C

NSAS 1 & 2 MEASUREMENT AND ANALYSIS SITES

Project I-40 WIDENING
DAVIE AND FORSYTH CO., NC
WB Element No. 34147.1.2
TIP Project No. I-0811A

Scale 1" = 200'

Date MARCH 2014

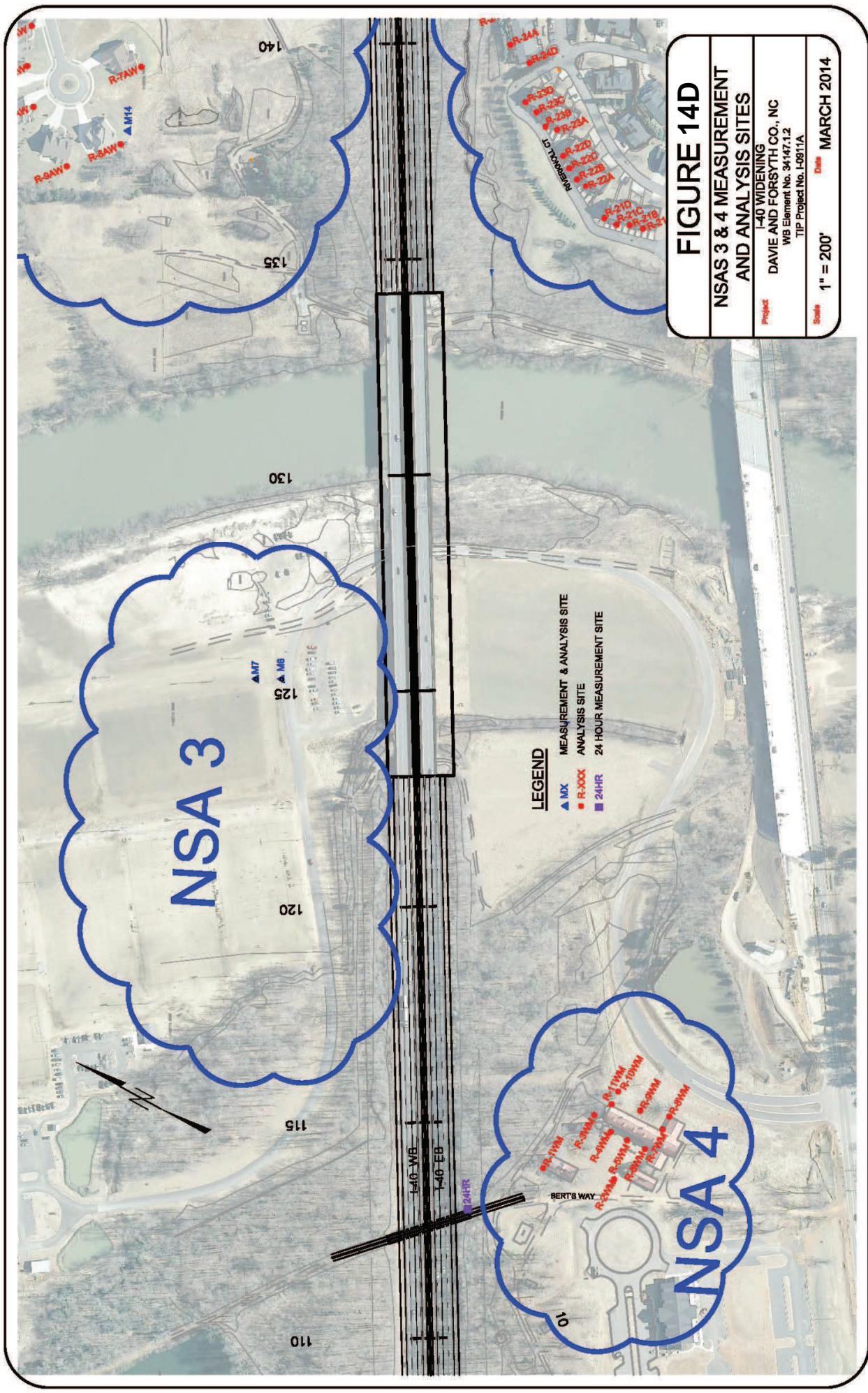
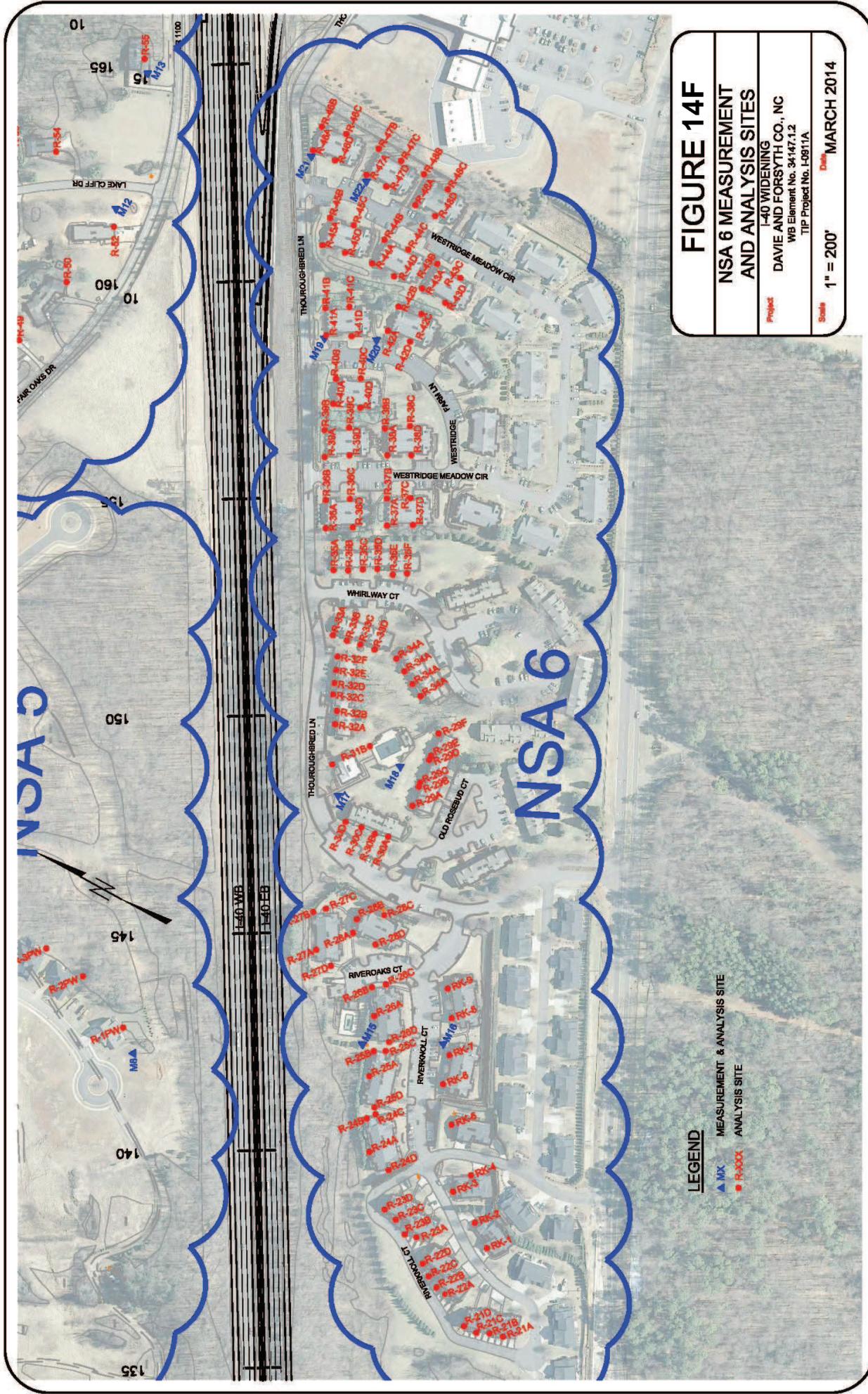
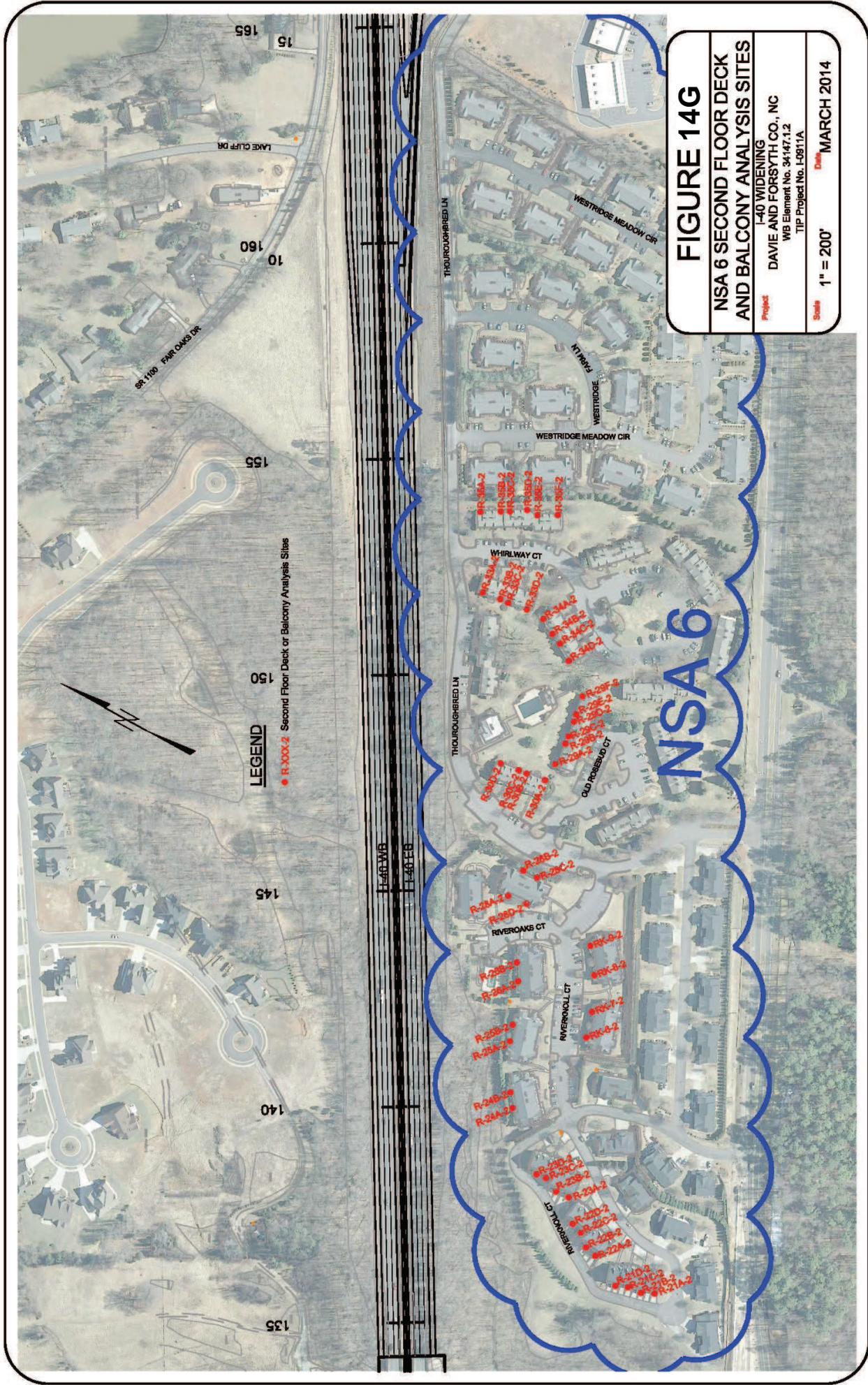
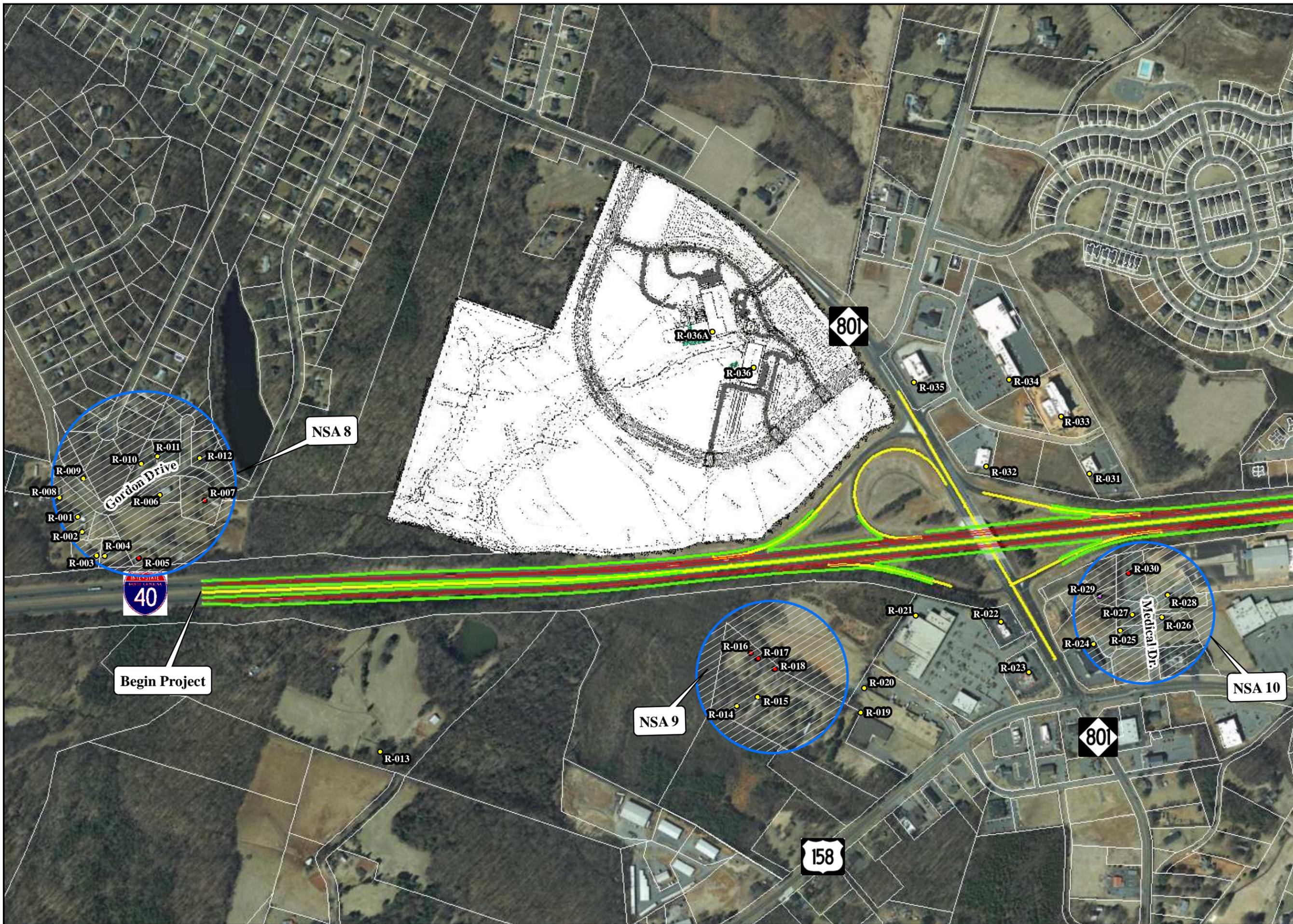


FIGURE 14D
NSAS 3 & 4 MEASUREMENT AND ANALYSIS SITES
 Project I-40 WIDENING
 DAVIE AND FORSYTH CO., NC
 WB Element No. 34147.1.2
 TIP Project No. I-0811A
 Scale 1" = 200'
 Date MARCH 2014



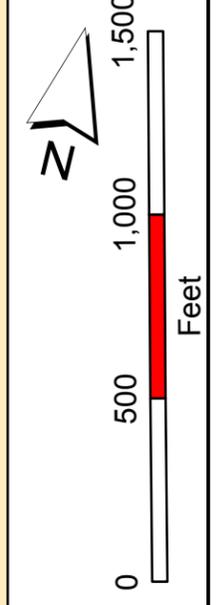




North Carolina Department
of Transportation
Division of Highways
Project Development &
Environmental Analysis Unit
Traffic Noise & Air Quality Group

I-40 From West of NC 801 in
Davie County to East of
SR 1101 (Harper Road) in
Forsyth County, TIP #I-0911A

FIGURE 141
Traffic Noise
West End Receptor Locations
(NSA's 8, 9, and 10)
Scale: 1" = 500' June 2014





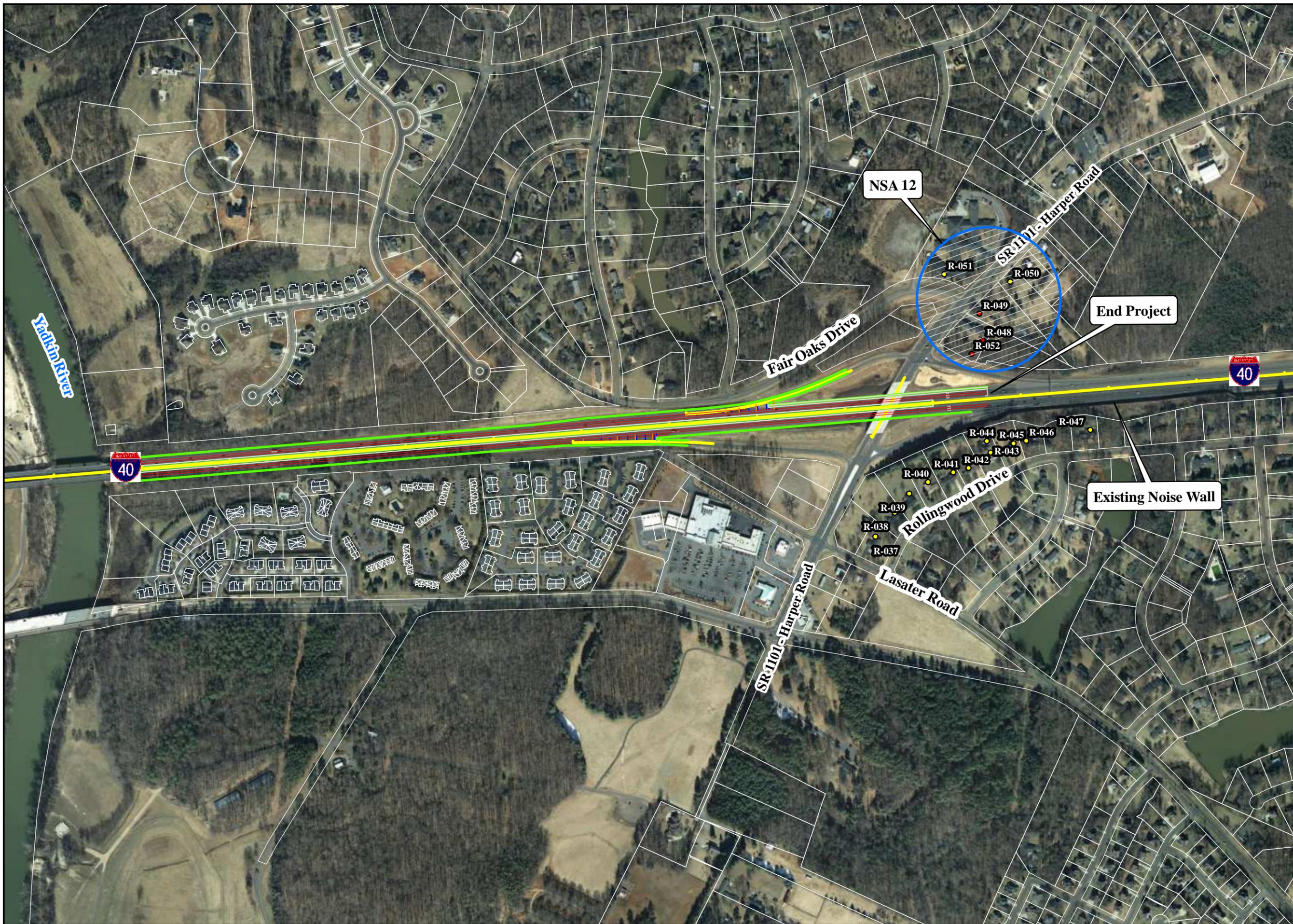
LEGEND: Traffic Noise Receptor (Yellow dot), Impacted Traffic Noise Receptor (Red dot), Ruins or Abandoned (Purple X)

FIGURE 14J
Traffic Noise
NSA 11 Receptor Locations
Scale: 1" = 500' June 2014

North Carolina Department of Transportation
Division of Highways
Project Development & Environmental Analysis Unit
Traffic Noise & Air Quality Group

I-40 From West of NC 801 in Davie County to East of SR 1101 (Harper Road) in Forsyth County, TIP #I-0911A

0 500 1,000 1,500 Feet



LEGEND: Traffic Noise Receptor (Yellow dot), Impacted Traffic Noise Receptor (Red dot), Ruins or Abandoned (Purple X)

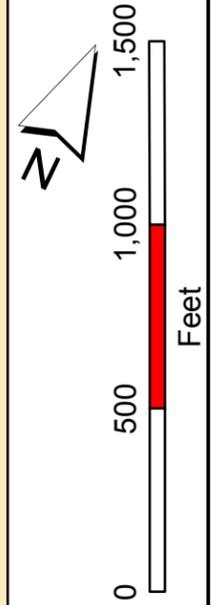
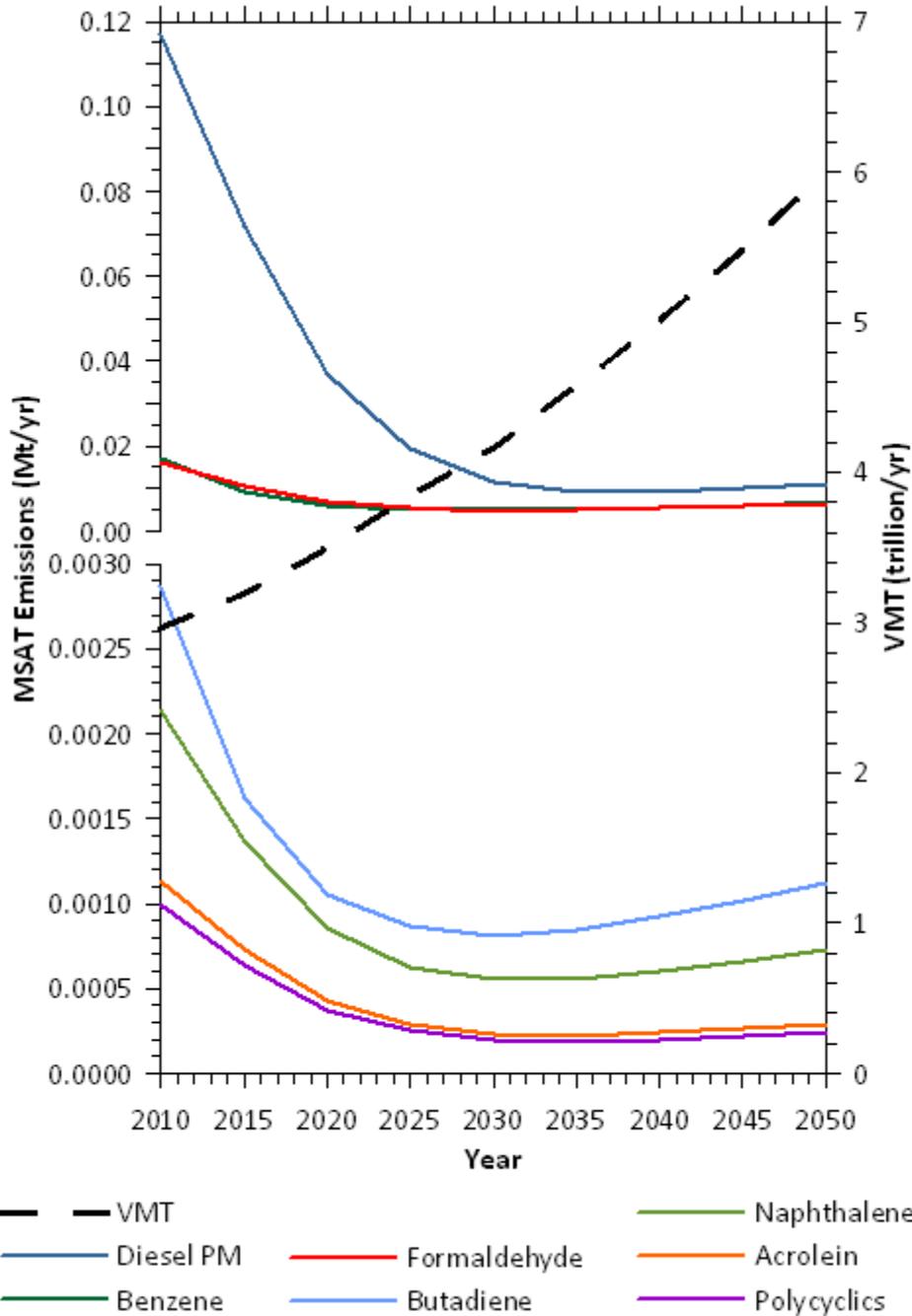


FIGURE 14K
Traffic Noise
East End Receptor Locations
(NSA 12)
Scale: 1" = 500' June 2014

I-40 From West of NC 801 in Davie County to East of SR 1101 (Harper Road) in Forsyth County, TIP #I-0911A

Figure 15

**National MSAT Emission Trends 1999 – 2050
For Vehicles Operating On Roadways Using EPA's MOVES2010b Model**



Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors

Source: EPA MOVES2010b model runs conducted during May - June 2012 by FHWA.

APPENDIX B
TABLES

Tables S1, 1 and 5. Project Cost Estimate

	Preferred Alternative
Right of Way Cost	\$ 125,000
Utilities Relocation	\$ 195,838
Construction	\$ 58,000,000
Total Cost	\$ 58,320,838

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Table S2. Summary of Environmental Impacts*

IMPACT CATEGORY	1.5:1 SLOPE	RETAINING WALL (PREFERRED ALTERNATIVE)	2:1 SLOPE
Project Description			
Project Length (miles)	3.3	3.3	3.3
Traffic Volume (vehicles/ day in thousands)	48.4 to 55.6 (2009) 86.3 to 91.2 (2035)	48.4 to 55.6 (2009) 86.3 to 91.2 (2035)	48.4 to 55.6 (2009) 86.3 to 91.2 (2035)
Natural Resources Impacts			
Federal Listed Species Habitat	Yes	Yes	Yes
100-Year Flood Plain and Floodway Impacts	Yes	Yes	Yes
Wetlands (number of crossings/acres)	5/ 0.23 ac	5/ 0.23 ac	5/ 0.23 ac
Stream Crossings (number/linear feet)	10/ 1,293 LF	10/ 1,293 LF	10/ 1,293 LF
Potential Riparian Buffers (acres)	0	0	0
Water Supply Critical Areas	0	0	0
Potential 4f Impacts	YES (de minimis)	YES (de minimis)	YES
Human Environment Impacts			
Residential Relocations (number)	0	0	0
Business Relocations (number)	0	0	0
Low Income/Minority Population	0	0	0
Churches/Church Office (number)	0	0	0
Cemeteries/Gravesites (number)	0	0	0
Recorded Historic Sites/Districts	1(Historic Property)	1(Historic Property)	1(Historic Property)
Traffic Noise Impacts (total receptors)	305	305	305
Traffic Noise Impacts (receptors impacted)	126	126	126
Traffic Noise Impacts - Noise Sensitive Areas	11	11	11
Physical Environment Impacts			
Railroad Crossings	0	0	0
Underground Storage Tanks (number)	0	0	0
Costs			
Right-of-Way Costs (\$ M 2010)	\$ 125,000	\$ 125,000	\$ 125,000
Utilities Relocation (\$ M 2014)	\$ 195,838	\$ 195,838	\$ 195,838
Construction Costs (\$ M 2014)	\$ 53,500,000	\$ 58,000,000	\$ 53,500,000
Total Construction Cost	\$ 53,820,838	\$ 58,320,838	\$ 53,820,838

* Impacts were calculated based on a 25-foot clearing limits outside slope stake lines

Table 4. Alternative Comparison Impacts *

IMPACT CATEGORY	1.5:1 SLOPE	RETAINING WALL (PREFERRED ALTERNATIVE)	2:1 SLOPE
Project Description			
Project Length (miles)	3.3	3.3	3.3
Traffic Volume (vehicles/ day in thousands)	48.4 to 55.6 (2009) 86.3 to 91.2 (2035)	48.4 to 55.6 (2009) 86.3 to 91.2 (2035)	48.4 to 55.6 (2009) 86.3 to 91.2 (2035)
Natural Resources Impacts			
Federal Listed Species Habitat	Yes	Yes	Yes
100-Year Flood Plain and Floodway Impacts	Yes	Yes	Yes
Wetlands (number of crossings/acres)	5/ 0.23 ac	5/ 0.23 ac	5/ 0.23 ac
Stream Crossings (number/linear feet)	10/ 1,293 LF	10/ 1,293 LF	10/ 1,293 LF
Potential Riparian Buffers (acres)	0	0	0
Water Supply Critical Areas	0	0	0
Potential 4f Impacts	YES (de minimis)	YES (de minimis)	YES
Human Environment Impacts			
Residential Relocations (number)	0	0	0
Business Relocations (number)	0	0	0
Low Income/Minority Population	0	0	0
Churches/Church Office (number)	0	0	0
Cemeteries/Gravesites (number)	0	0	0
Recorded Historic Sites/Districts	1(Historic Property)	1(Historic Property)	1(Historic Property)
Traffic Noise Impacts (total receptors)	305	305	305
Traffic Noise Impacts (receptors impacted)	126	126	126
Traffic Noise Impacts - Noise Sensitive Areas	11	11	11
Physical Environment Impacts			
Railroad Crossings	0	0	0
Underground Storage Tanks (number)	0	0	0
Costs			
Right-of-Way Costs (\$ M 2010)	\$ 125,000	\$ 125,000	\$ 125,000
Utilities Relocation (\$ M 2014)	\$ 195,838	\$ 195,838	\$ 195,838
Construction Costs (\$ M 2014)	\$ 53,500,000	\$ 58,000,000	\$ 53,500,000
Total Construction Cost	\$ 53,820,838	\$ 58,320,838	\$ 53,820,838

* Impacts were calculated based on a 25-foot clearing limits outside slope stake lines

Table 6. Structure Recommendation

Bridge Number	Existing Length (ft)	Existing Width (ft)	Year Built	Sufficiency Rating ¹	Recommendation
Small Pipe #29-2017***	6	328	Unknown	Unknown	Retain and extend.
82***	18	302	1968	78.0	Retain and extend.
127***	16	124	1959	98.0	Retain and extend.
84**	227	16	1959	48.1	Replace with new pedestrian bridge – approximate length of 197 feet and standard vertical
85 (EB)*	1121	28	1959	61.2	Replace with new bridge of same length and elevation.
86 (WB)*	1121	28	1959	13.9	Replace with new bridge of same length and elevation.

1 Sufficiency Rating (out of a possible 100 rating points)

* Structurally Deficient

**Functionally Obsolete

***Reinforced Concrete Box Culvert

Table 7. Soils in the study area

Soil Series	Mapping Unit	Drainage Class	Hydric Status
Davie County			
Banister fine sandy loam	Ba	Moderately Well Drained	*Hydric
Codurus loam	Co	Somewhat Poorly Drained	*Hydric
Danripple fine sandy loam	De	Well Drained	Nonhydric
Dan River loam	Dh	Well Drained	*Hydric
Davie sandy loam	Dk	Moderately Well Drained	*Hydric
Fairview sandy clay loam	Fc	Well Drained	Nonhydric
Mocksville sandy loam	Ms	Well Drained	Nonhydric
Oak Level clay loam	Ok	Well Drained	Nonhydric
Rasalo fine sandy loam	Ht	Well Drained	Nonhydric
Toast sandy loam	Ta	Well Drained	Nonhydric
Tomlin loam and clay loam	To/Tm	Well Drained	Nonhydric
Udorthents, loamy	Ud	Well Drained	Nonhydric
Urban land	Ur	--	Nonhydric
Forsyth County			
Codurus loam	Co	Somewhat Poorly Drained	*Hydric
Oak Level clay loam	Ok	Well Drained	Nonhydric
Siloam sandy loam	Sm	Well Drained	Nonhydric
Tomlin loam	Tm	Well Drained	Nonhydric

* - Soils which are primarily nonhydric, but which may contain hydric inclusions

Table 8. Water resources in the study area

Stream Name	*Map ID	NCDWQ Index Number	Best Usage Classification
Yadkin River	Yadkin River	12-(86.7)	WS-IV
Smith Creek	*Smith Creek	12-93-1	C
UT to Smith Creek	*SAB	12-93-1	WS-IV
UT to Smith Creek	SC	12-93-1	WS-IV
UT to Yadkin River	CB	12-(86.7)	WS-IV
UT to Yadkin River	CBZ	12-(86.7)	WS-IV
UT to Yadkin River	JS	12-(86.7)	WS-IV
UT to Yadkin River	*SAA	12-(86.7)	WS-IV
UT to Yadkin River	FH	12-(86.7)	WS-IV
UT to Yadkin River	SP	12-(86.7)	WS-IV
UT to Yadkin River	1a	12-(86.7)	WS-IV
UT to Yadkin River	A	12-(86.7)	WS-IV
UT to Yadkin River	UT-SA	12-(86.7)	WS-IV

*Map ID: *= a stream located within the 2013 study area that was not encompassed by, or present in, the 2007 study area.

Table 9. Physical characteristics of water resources in the study area

Map ID	Bank Height (ft)	Bankful Width (ft)	Water Depth (in)	Channel Substrate	Velocity	Clarity
Yadkin River	10-15	300	--	Sand, Gravel, Cobble, Boulder	Fast	Turbid
Smith Creek	4-6	10-12	6-12	Sand, Gravel, Cobble	Moderate	Turbid
SAB	0.2	6	0.2	Silt	Slow	Clear
SC	2-3	3	2-6	Silt, Sand, Gravel	Moderate	Clear
CB	2-4	3-6	2-6	Silt, Sand, Gravel, Cobble	Moderate	Clear
CBZ	2-3	2-3	1-4	Silt, Sand, Gravel, Cobble	Moderate	Clear
JS	1-2	2	2-8	Silt, Sand, Gravel	Moderate	Clear
SAA	0.5-1	1	2	Silt, Sand, Gravel	Slow	Clear
FH	2-3	2-3	2-6	Silt, Sand, Gravel	Moderate	Clear
SP	2-4	5-7	4-12	Silt, Sand, Gravel, Cobble	Fast	Clear
1a	1-2	1-3	1-6	Silt, Sand, Gravel	Slow	Clear
A	2-4	4-6	2-10	Silt, Sand, Gravel	Moderate	Clear
UT-SA	1-4	3	0-4	Silt, Sand	Slow	Clear

Table 10. Terrestrial Community Impacts

Community ID	Area (Acres)*	% of Study Area
Maintained/Disturbed	134.1	73.16
Mixed Upland Hardwood Forest	48.2	26.30
Piedmont Levee Forest	1.0	0.55
Total	183.3	100.00

Table 11. Jurisdictional characteristics of water resources in the study area

Map ID	Classification	Compensatory Mitigation Required	River Basin Buffer	Length (feet)	Impacts Within Construction Limits (ft)**
Yadkin River	Perennial	Yes	Not Subject	378	0
Smith Creek*	Perennial	Yes	Not Subject	1241	240
SAB*	Intermittent	Yes	Not Subject	82	82
SC	Intermittent	Yes	Not Subject	122	40
CB	Intermittent/ Perennial	Yes	Not Subject	138/359	70/359
CBZ	Intermittent	Yes	Not Subject	83	83
JS	Intermittent	Yes	Not Subject	81	50
SAA*	Intermittent	Yes	Not Subject	4	4
FH	Intermittent	Yes	Not Subject	127	80
SP	Perennial	Yes	Not Subject	867	0
1a	Intermittent	Yes	Not Subject	162	100
A	Perennial	Yes	Not Subject	724	185
UT-SA	Intermittent	Yes	Not Subject	48	0
			Total	4416	1,293

* Map ID: *= a stream located within the 2013 study area that was not encompassed by, or present in, the 2007 study area.

** Impacts were calculated based on a 25-foot clearing limits outside slope stake lines

Table 12. Jurisdictional Wetlands and Impacts within Project Area

*Map ID	NCWAM Classification	Hydrologic Classification	NCDWQ Wetland Rating	Wetland Size In Study Area (acres)	Impacts Within Construction Limits (acres) **
Wetland WAA*	Bottomland Hardwood Forest	Riparian	48	0.32	0.00
Wetland WAB*	Headwater Forest	Riparian	33	0.03	0.00
Wetland WAC*	Headwater Forest	Riparian	33	0.02	0.02
Wetland J	Headwater Forest	Riparian	26	<0.01	<0.01
Wetland BS	Headwater Forest	Riparian	13	0.01	0.00
Wetland FH	Headwater Forest	Riparian	48	0.03	0.00
Wetland SP	Seep	Non- Riparian	24	0.23	0.12
Wetland AC	Headwater Forest	Riparian	38	0.08	0.08
Wetland WAD*	Bottomland Hardwood Forest	Riparian	52	0.20	0.00
Wetland A	Bottomland Hardwood Forest	Riparian	41	0.02	0.01
			Total	0.94 acres	0.23 acres

* Map ID: *= a wetland located within the 2013 study area that was not encompassed by, or present in, the 2007 study area.

** Wetland impacts were computed based on a 25-foot clearing limits outside slope stake lines

Table 13. Federally protected species listed for Davie and Forsyth Counties

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
Davie County				
<i>Rhus michauxii</i>	Michaux's sumac	E	Yes	No Effect
Forsyth County				
<i>Clemmys muhlenbergii</i>	Bog turtle	T(S/A)	No	Not Required
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	No	No Effect
<i>Cardamine micranthera</i>	Small-anthered bittercress	E	No	No Effect

E - Endangered

T(S/A) - Threatened due to similarity of appearance

Table 14. Population

	2000	2010	Difference	% Change
CT 802, BG 1	1,223	1,966	743	60.8%
CT 802, BG 2	964	934	-30	-3.1%
CT 803, BG 1	2,172	2,174	2	0.1%
CT 803, BG 2	1,734	3,095	1,361	78.5%
CT 40.05, BG 1	1,150	1,221	71	6.2%
CT 40.05, BG 2	2,327	2,389	62	2.7%
CT 40.13, BG 2*	1,129	1,300	171	15.1%
DSA Aggregate	10,699	13,079	2,380	22.2%
Davie	34,835	41,240	6,405	18.4%
Forsyth	306,067	350,670	44,603	14.6%
North Carolina	8,049,313	9,535,483	1,486,170	18.50%

Source: US Census Bureau, Census 2010 and Census 2000, Summary File 1 100% Data, Table P1 and P001 "Total Population"

* Census Tract 40.06, Block Group 3 in Census 2000 became Census Tract 40.13, Block Group 2 in Census 2010. The geography remained the same.

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Table 15. Race

Race	Total Population	White		Black or African American		American Indian and Alaska Native Alone		Asian		Native Hawaiian/Pacific Islander		Some other race		Two or more races		Total Non-White	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Davie	41,240	35,257	85.5%	2,552	6.2%	106	0.3%	228	0.6%	6	0.0%	39	0.1%	556	1.3%	5,983	14.5%
Forsyth	350,670	205,934	58.7%	89,533	25.5%	894	0.3%	6,427	1.8%	156	0.0%	696	0.2%	5,255	1.5%	144,736	41.3%
CT 802, BG 1	1,966	1,801	91.6%	87	4.4%	1	0.1%	28	1.4%	0	0.0%	11	0.6%	38	1.9%	165	8.4%
CT 802, BG 2	934	867	92.8%	29	3.1%	4	0.4%	9	1.0%	0	0.0%	19	2.0%	6	0.6%	67	7.2%
CT 803, BG 1	2,174	2,087	96.0%	27	1.2%	8	0.4%	26	1.2%	1	0.0%	6	0.3%	19	0.9%	87	4.0%
CT 803, BG 2	3,095	2,928	94.6%	70	2.3%	9	0.3%	39	1.3%	0	0.0%	11	0.4%	38	1.2%	167	5.4%
CT 40.05, BG 1	1,221	1,132	92.7%	42	3.4%	1	0.1%	17	1.4%	0	0.0%	11	0.9%	18	1.5%	89	7.3%
CT 40.05, BG 2	2,389	2,205	92.3%	102	4.3%	4	0.2%	43	1.8%	0	0.0%	17	0.7%	18	0.8%	184	7.7%
CT 40.13, BG 2	1,300	1,163	89.5%	42	3.2%	4	0.3%	56	4.3%	1	0.1%	16	1.2%	18	1.4%	137	10.5%
DSA	13,079	12,183	93.1%	399	3.1%	31	0.2%	218	1.7%	2	0.0%	91	0.7%	155	1.2%	896	6.9%

Source: US Census Bureau, Census 2010, Redistricting Data Summary File (PL 94-171), Table P1 "Race"

Table 16. Hispanic or Latino Origin

	Total Population	Hispanic		Not Hispanic	
		#	%	#	%
Davie	41,240	2,496	6.1%	38,744	93.9%
Forsyth	350,670	41,775	11.9%	308,895	88.1%
CT 802, BG 1	1,966	47	2.4%	1,919	97.6%
CT 802, BG 2	934	23	2.5%	911	97.5%
CT 803, BG 1	2,174	21	1.0%	2,153	99.0%
CT 803, BG 2	3,095	80	2.6%	3,015	97.4%
CT 40.05, BG 1	1,221	22	1.8%	1,199	98.2%
CT 40.05, BG 2	2,389	49	2.1%	2,340	97.9%
CT 40.13, BG 2	1,300	50	3.8%	1,250	96.2%
DSA	13,079	292	2.2%	12,787	97.8%

Source: US Census Bureau, Census 2010, Summary File 1 100% Data, Table P4 "Hispanic or Latino Origin"

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Table17. Indirect Land Use Effects Screening Tool – TIP I-0911A – I-40 Pavement Rehabilitation and Construct Additional Lanes in Davie and Forsyth Counties

Rating	Scope of Project	Change in Accessibility	Forecasted Population Growth	Forecasted Employment Growth	Available Land	Water/Sewer Availability	Market for Development	Public Policy	Notable Environmental Features	Result
More Concern	Major New Location	> 10 minute travel time savings	> 3% annual population growth	Substantial # of New Jobs Expected	5000+ Acres of Land	All services existing / available	Development activity abundant	Less stringent, no growth management	Targeted or Threatened Resource	
↑						X				
↑				X			X			
↔			X							
↓	X	X			X			X	X	Indirect Scenario Assessment Not Likely
↓										
Less Concern	Very Limited Scope	No travel time savings	No population growth or decline	No new Jobs or Job Losses	Limited Land Available	No service available now or in future	Development activity lacking	More stringent, growth management	Features incorporated in local protection	

B-10

Table 18. Predicted Traffic Noise Impacts by Alternative*

Alternative	Traffic Noise Impacts			
	Residential (NAC B)	Places of Worship/Schools, Parks, etc. (NAC C & D)	Businesses (NAC E)	Total
1	113	12	1	126

*Per TNM 2.5 and in accordance with 23 CFR Part 772

Table 19. Preliminary Noise Barrier Evaluation Results

Alternative (Noise Barrier Location)	Length / Height (feet)	Square Footage	Number of Benefited Receptors	Square Feet per Benefited Receptor / Allowable Square Feet per Benefited Receptor	Preliminary Recommended for Construction ¹
Alternative 1 (Noise Study Area 1 - I-40 westbound, adjacent to Pinewood Ln, east of SR 801)	1,500 / 18	27,270	45	606 / 2,605	Yes
Alternative 1 (Noise Study Area 5 - I-40 westbound, adjacent to Peony Way and Abelia Way, east of Yadkin River)	705 / 13	9,460	2	4,730 / 2,570 (per Barrier Quantity Averaging)	Yes
Alternative 1 (Noise Study Area 6 - I-40 eastbound, from the river to Harper Road)	3,135/ 14	43,830	120	365/ 2,605	Yes
Alternative 1 (Noise Study Area 7 - I-40 westbound, adjacent to fair oaks lane, west o Harper Road)	1,110/ 13	14,832	7	2,119 / 2,605	Yes

¹ The recommendation for barrier construction is preliminary and subject to change, pending completion of final design and the public involvement process.

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APPENDIX C
COMMENTS ON ENVIRONMENTAL
ASSESSMENT

**U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION 4 RALEIGH OFFICE
Terry Sanford Federal Courthouse
310 New Bern Avenue
Raleigh, North Carolina 27601**

Date: August 1, 2011

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 for the Federal Environmental Assessment (EA), I-40 Widening West of NC 801 to East of SR 1101, Davie and Forsyth Counties; TIP Project No. I-0911A

Dear Dr. Thorpe:

The U.S. Environmental Protection Agency (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) propose to widen existing Interstate 40 west of NC 801 to east of SR 1101 in Davie and Forsyth Counties. The length of the project is approximately 2.6 miles and includes increasing lane capacity from 4 lanes existing to 6 lanes with 10-foot shoulders and a reduced median width of 36 feet.

The proposed widening project was placed into the Merger process at Concurrence Points (CP) 2A and 4A by the primary agencies. EPA concurred on the CP 2A and 4A forms on April 20, 2010. The NCDOT agreed to steeper side slopes (2:1) in jurisdictional areas no impacts to the Yadkin River from the replacement of the existing bridges.

The EA identifies impacts from the proposed project as follows: 0.2 acres of wetland impacts, 821 linear feet of stream impacts, 100-year floodplain and floodway impacts, and a *de minimus* impact to 1 historic property/Section 4(f). The EA also identifies 3 potential noise barriers under consideration on pages 30-31. The summary impact table does not identify the total number of impacted noise receptors per FHWA criteria. Based upon the three noise sensitive areas (NSAs), there are at least 105 impacted noise receptors that meet or exceed FHWA criteria. Referring to Appendix E, there appears to be at least 116 impacted receptors per 23 CFR 772. The Noise Barrier Reasonableness Assessment is also contained in Appendix E.

According to Table E-3, potential noise barriers would be 1,597 feet, 3,381 feet and 1,867 feet in length and benefit approximately 143 receptors along existing I-40. EPA notes the 'Green sheet' commitment of conducting an updated traffic noise analysis and assessment of the potential noise barriers.

EPA also notes the 'Green sheet' commitment concerning the 1.5:1 slopes for the area adjacent to the Win-Mock Farm historic property. EPA notes that Table 11 does not match the impacts to Federally-listed species habitat as shown in Table S2. Table 11 indicates that there is habitat for Michaux's sumac (*Rhus michauxii*) and Table S2 indicates there is no habitat for Federal listed species.

On pages 15 to 16 of the EA, biotic resources for the project study area are described and terrestrial community impacts identified in Table 8. According to direct field observations, numerous clumps of Japanese knotweed (*Fallopia japonica*, *Polygonum cuspidatum*, or *Reynoutria japonica*) have been seen near the project study area along the I-40 right of way in Forsyth County. EPA requests that FHWA and NCDOT consider the recommendations under Executive Order 13112 and implement best management practices to potentially minimize the spread of this damaging invasive plant during construction should it become identified during further studies.

Page 37 of the EA describes 3 potential hazardous materials sites and Appendix G provides additional details concerning possible soil contamination from these underground storage tank (UST) sites. EPA also notes the geotechnical commitment for the three identified properties that will be potentially impacted. Table S2 indicates there are no UST sites for the preferred alternative. EPA requests that this error be amended in the Finding of No Significant Impact (FONSI). Because of the proximity of the project to the Yadkin River and numerous tributaries and the primary water supply intake for the City of Winston-Salem, additional measures to minimize runoff from these potentially contaminated sites might need to be considered during final design efforts for the project.

EPA plans to continue to work with the NCDOT and other agencies through the Merger process on the hydraulic review and final design and the further reduction of jurisdictional wetland and stream impacts. EPA requests a copy of the FONSI when it becomes available. Thank you for the opportunity to comment and please feel free to contact me at (919) 856-4206 or by e-mail at militscher.chris@epa.gov should you have any questions.

Sincerely,



Christopher A. Militscher, REM, CHMM
Merger Team Representative

For: Heinz J. Mueller, Chief
NEPA Program Office

cc: J. Thomas, Jr., USACE
A. Euliss, NCDWQ



North Carolina Department of Environment and Natural Resources

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

MEMORANDUM

TO: Sheila Green
State Clearinghouse

FROM: Melba McGee 
Project Review Coordinator

RE: 12-0016 EA- Widening of I-40 to West of SR 1101 in Davie and
Forsyth Counties

DATE: August 25, 2011

The attached comments were received by this office after the response due date. These comments should be forwarded to the applicant and made a part of our previous comment package.

Thank you for the opportunity to respond.

Attachment

DEPARTMENT OF ENVIRONMENT AND
NATURAL RESOURCES
DIVISION OF WATER RESOURCES
PUBLIC WATER SUPPLY SECTION

Project Number 12-0016
County Forsyth, Davie

Inter-Agency Project Review Response

Project Name NC-DOT Type EA - Widening of I-40 from 0.3 miles
of west of NC 801 to 0.3 miles west of SR
Project 1102, TIP No. 1-0911A

- The applicant should be advised that plans and specifications for all water system improvements must be approved by the Division of Water Resources/Public Water Supply Section prior to the award of a contract or the initiation of construction (as required by 15A NCAC 18C .0300et. seq.). For information, contact the Public Water Supply Section, (919) 733-2321.
- This project will be classified as a non-community public water supply and must comply with state and federal drinking water monitoring requirements. For more information the applicant should contact the Public Water Supply Section, (919) 733-2321.
- If existing water lines will be relocated during the construction, plans for the water line relocation must be submitted to the Division of Water Resources, Public Water Supply Section, Technical Services Branch, 1634 Mail Service Center, Raleigh, North Carolina 27699-1634, (919) 733-2321.
- For Regional and Central Office comments, see the reverse side of this form.

Jim McRight

Review Coordinator

PWSS

Section/Branch

07/25/2011

Date

DEPARTMENT OF ENVIRONMENT AND
NATURAL RESOURCES
DIVISION OF WATER RESOURCES
PUBLIC WATER SUPPLY SECTION

Inter-Agency Project Review Response

Project Number 12-0016
County Forsyth, Davie

Project Name NC-DOT Type of Project EA - Widening of I-40 from 0.3 miles west of NC 801 to 0.3 miles west of SR 1102. TIP No. I-0911A

Comments provided by:

- Regional Program Person
- Regional Supervisor for Public Water Supply Section
- Central Office program person

Name Lisa Edwards-Winston-Salem RO Date 07/25/2011

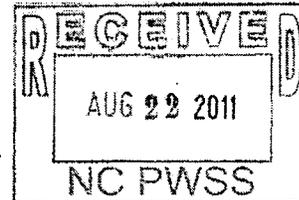
Telephone number: 336-771-5000

Program within Division of Water Resources:

- Public Water Supply
- Other, Name of Program: _____

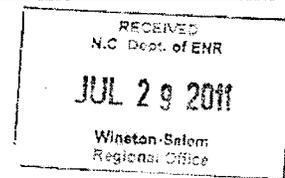
Response (check all applicable):

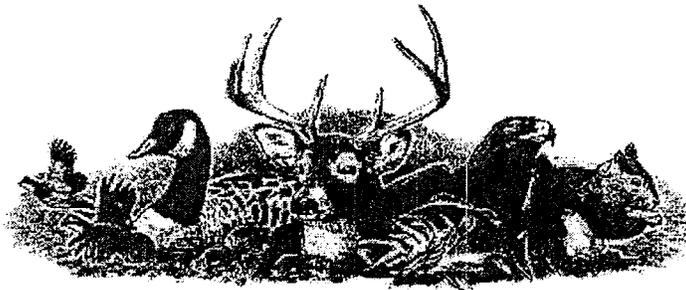
- No objection to project as proposed
- No comment
- Insufficient information to complete review
- Comments attached
- See comments below



I-40 bridge crossing Yadkin River is ~ 4 miles above drinking water intake for the Winston-Salem / Forsyth Co. Neilson water treatment plant. Extreme care should be taken to ensure water quality is maintained. Any mishaps or deviations should be reported immediately to the Neilson WTP so that proper precautions can be taken at the water plant.

Return to:
Public Water Supply Section
Environmental Review Coordinator for the
Division of Water Resources





☒ North Carolina Wildlife Resources Commission ☒

Gordon Myers, Executive Director

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

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

DATE: August 17, 2011

SUBJECT: Review of the Environmental Assessment for NCDOT's proposed project to widen I-40 from 0.3 miles west of NC 801 (Exit 180) to 0.3 miles east of SR 1101 (Harper Road/Tanglewood Business Park Road), Davie and Forsyth Counties. TIP No. I-911A. DENR Project No. 12-0016, due 8/17/2011.

The North Carolina Department of Transportation (NCDOT) has submitted for review an Environmental Assessment (EA) for the subject project. Staff biologists with the North Carolina Wildlife Resources Commission (NCWRC) have reviewed the information provided in the EA and are participating in the Merger process for the development of the project. These comments are provided in accordance with the provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)), the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d), and the Clean Water Act of 1977 (33 U.S.C. 466 et seq.).

The EA provided little detail and had some discrepancies that left a number of questions. The document indicated that ordinances and local regulations have been passed in the study area to address land use and growth, but details that would reveal the level of protection were lacking. The overall result of the indirect and cumulative effects screening tool was mentioned, but neither a discussion of how that result was determined nor the table resulting from the screening tool were provided.

Page 16 indicated that no 303(d) listed impaired waters exist within a mile radius of the study area, while on page 28 the principal natural feature in the study area, the Yadkin River, is identified as a 303(d) listed stream. On page 6, two different population figures are given for the Village of Clemmons. Also there was no explanation of why only one of the two Yadkin River bridges will be constructed with a wider typical section. We believe additional details and clarifications are appropriate for this EA.

Mailing Address: Division of Inland Fisheries • 1721 Mail Service Center • Raleigh NC 27699-1721

Telephone: (919) 707-0020 • Fax: (919) 707-0028

Thank you for the opportunity to review and comment on this project. If you have any questions regarding these comments, please contact me at (704) 485-8291.

cc: Amy Euliss, NCDWQ
Marella Buncick, USFWS
Christopher Militscher, USEPA

INTERGOVERNMENTAL REVIEW - PROJECT COMMENTS

Project Number: 12-0016 Due Date: 8-17-11

After review of this project it has been determined that the ENR permit(s) and/or approvals indicated may need to be obtained in order for this project to comply with North Carolina Law. Questions regarding these permits should be addressed to the Regional Office indicated on the reverse of the form. All applications, information and guidelines relative to these plans and permits are available from the same Regional Office.

	PERMITS	SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
<input type="checkbox"/>	Permit to construct & operate wastewater treatment facilities, sewer system extensions & sewer systems not discharging into state surface waters.	Application 90 days before begin construction or award of construction contracts. On-site inspection. Post-application technical conference usual.	30 days (90 days)
<input type="checkbox"/>	NPDES - permit to discharge into surface water and/or permit to operate and construct wastewater facilities discharging into state surface waters.	Application 180 days before begin activity. On-site inspection. Pre-application conference usual. Additionally, obtain permit to construct wastewater treatment facility-granted after NPDES. Reply time, 30 days after receipt of plans or issue of NPDES permit-whichever is later.	90-120 days (N/A)
<input type="checkbox"/>	Water Use Permit	Pre-application technical conference usually necessary	30 days (N/A)
<input type="checkbox"/>	Well Construction Permit	Complete application must be received and permit issued prior to the installation of a well.	7 days (15 days)
<input type="checkbox"/>	Dredge and Fill Permit	Application copy must be served on each adjacent riparian property owner. On-site inspection. Pre-application conference usual. Filling may require Easement to Fill from N.C. Department of Administration and Federal Dredge and Fill Permit.	55 days (90 days)
<input type="checkbox"/>	Permit to construct & operate Air Pollution Abatement facilities and/or Emission Sources as per 15 A NCAC (2Q.0150 thru 2Q.0300)	Application must be submitted and permit received prior to construction and operation of the source. If a permit is required in an area without local zoning, then there are additional requirements and timelines (2Q.0113).	90 days
<input type="checkbox"/>	Permit to construct & operate Transportation Facility as per 15 A NCAC (2D.0800, 2Q.0601)	Application must be submitted at least 90 days prior to construction or modification of the source.	90 days
<input checked="" type="checkbox"/>	Any open burning associated with subject proposal must be in compliance with 15 A NCAC 2D.1900		
<input type="checkbox"/>	Demolition or renovations of structures containing asbestos material must be in compliance with 15 A NCAC 20.1110 (a) (1) which requires notification and removal prior to demolition. Contact Asbestos Control Group 919-707-5950.	N/A	60 days (90 days)
<input type="checkbox"/>	Complex Source Permit required under 15 A NCAC 2D.0800		
<input type="checkbox"/>	The Sedimentation Pollution Control Act of 1973 must be properly addressed for any land disturbing activity. An erosion & sedimentation control plan will be required if one or more acres to be disturbed. Plan filed with proper Regional Office (Land Quality Section) At least 30 days before beginning activity. A fee of \$65 for the first acre or any part of an acre. An express review option is available with additional fees.		20 days (30 days)
<input checked="" type="checkbox"/>	Sedimentation and erosion control must be addressed in accordance with NCDOT's approved program. Particular attention should be given to design and installation of appropriate perimeter sediment trapping devices as well as stable stormwater conveyances and outlets.		(30 days)
<input type="checkbox"/>	Mining Permit	On-site inspection usual. Surety bond filed with ENR. Bond amount varies with type mine and number of acres of affected land. Any acre mined greater than one acre must be permitted. The appropriate bond must be received before the permit can be issued.	30 days (60 days)
<input type="checkbox"/>	North Carolina Burning permit	On-site inspection by N.C. Division Forest Resources if permit exceeds 4 days	1 day (N/A)
<input type="checkbox"/>	Special Ground Clearance Burning Permit - 22 counties in coastal N.C. with organic soils	On-site inspection by N.C. Division Forest Resources required "if more than five acres of ground clearing activities are involved. Inspections should be requested at least ten days before actual burn is planned."	1 day (N/A)
<input type="checkbox"/>	Oil Refining Facilities	N/A	90-120 days (N/A)
<input type="checkbox"/>	Dam Safety Permit	If permit required, application 60 days before begin construction. Applicant must hire N.C. qualified engineer to prepare plans, inspect construction, certify construction is according to ENR approved plans. May also require permit under mosquito-control program. And a 404 permit from Corps of Engineers. An inspection of site is necessary to verify Hazard Classification. A minimum fee of \$200.00 must accompany the application. An additional processing fee based on a percentage of the total project cost will be required upon completion.	30 days (60 days)

PERMITS		SPECIAL APPLICATION PROCEDURES or REQUIREMENTS	Normal Process Time (statutory time limit)
<input type="checkbox"/>	Permit to drill exploratory oil or gas well	File surety bond of \$5,000 with ENR running to State of NC conditional that any well opened by drill operator shall, upon abandonment, be plugged according to ENR rules and regulations.	10 days N/A
<input type="checkbox"/>	Geophysical Exploration Permit	Application filed with ENR at least 10 days prior to issue of permit. Application by letter. No standard application form.	10 days N/A
<input type="checkbox"/>	State Lakes Construction Permit	Application fees based on structure size is charged. Must include descriptions & drawings of structure & proof of ownership of riparian property.	15-20 days N/A
④ <input checked="" type="checkbox"/>	401 Water Quality Certification	N/A	60 days (130 days)
<input type="checkbox"/>	CAMA Permit for MAJOR development	\$250.00 fee must accompany application	55 days (150 days)
<input type="checkbox"/>	CAMA Permit for MINOR development	\$50.00 fee must accompany application	22 days (25 days)
<input type="checkbox"/>	Several geodetic monuments are located in or near the project area. If any monument needs to be moved or destroyed, please notify: N.C. Geodetic Survey, Box 27687 Raleigh, NC 27611		
<input type="checkbox"/>	Abandonment of any wells, if required must be in accordance with Title 15A Subchapter 2C.0100.		
② <input checked="" type="checkbox"/>	Notification of the proper regional office is requested if "orphan" underground storage tanks (USTS) are discovered during any excavation operation.		
<input type="checkbox"/>	Compliance with 15A NCAC 211.1000 (Coastal Stormwater Rules) is required.		45 days (N/A)
<input type="checkbox"/>	Tar Pamlico or Neuse Riparian Buffer Rules required.		
* Other comments (attach additional pages as necessary, being certain to cite comment authority)			
① Margaret Love, DAQ 07/26/2011 ② Linda Estkowski, UST DWM 7/26/2011 TM ③ Shemkinjet, APS-DWQ - 8/2/11 ④ Corey Blander - SWP-DWQ 4 Aug 2011 ⑤ Matthew Jett - LQ - 8/5/2011.			

REGIONAL OFFICES

Questions regarding these permits should be addressed to the Regional Office marked below.

Asheville Regional Office
2090 US Highway 70
Swannanoa, NC 28778
(828) 296-4500

Mooresville Regional Office
610 East Center Avenue, Suite 301
Mooresville, NC 28115
(704) 663-1699

Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, NC 28405
(910) 796-7215

Fayetteville Regional Office
225 North Green Street, Suite 714
Fayetteville, NC 28301-5043
(910) 433-3300

Raleigh Regional Office
3800 Barrett Drive, Suite 101
Raleigh, NC 27609
(919) 791-4200

Winston-Salem Regional Office
585 Woughtown Street
Winston-Salem, NC 27107
(336) 771-5000

Washington Regional Office
943 Washington Square Mall
Washington, NC 27889
(252) 946-6481



North Carolina Department of Environment and Natural Resources

Division of Water Quality
Coleen H. Sullins
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary

August 12, 2011

MEMORANDUM

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

From: Amy Euliss, Division of Water Quality, Winston Salem Regional Office

Subject: Comments on the Environmental Assessment related to proposed widening of I-40 from 0.3 mile west of NC 801 to 0.3 mile west of SR 1101 in Davie and Forsyth counties. WBS Project No. 34147.1.2. Federal Aid No. NHMF-40-3(112)180. TIP No. I-0911A. State Clearinghouse Project No.12-0016.

This office has reviewed the referenced document dated June, 2011. The NC Division of Water Quality (NCDWQ) is responsible for the issuance of the Section 401 Water Quality Certification for activities that impact Waters of the U.S., including wetlands. It is our understanding that the project as presented will result in impacts to jurisdictional wetlands, streams, and other surface waters. NCDWQ offers the following comments based on review of the aforementioned document:

Project Specific Comments:

1. This project is being planned as part of the 404/NEPA Merger Process. As a participating team member, NCDWQ will continue to work with the team.
2. **If Any Class with 303(d):**
The Yadkin River are class WSIV; 303(d) waters of the State. The Yadkin River is on the 303(d) list for impaired use for aquatic life due to turbidity. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDWQ recommends that the most protective sediment and erosion control BMPs be implemented in accordance with *Design Standards in Sensitive Watersheds* to reduce the risk of nutrient runoff to the Yadkin River. NCDWQ requests that road design plans provide treatment of the storm water runoff through best management practices as detailed in the most recent version of NCDWQ's *Stormwater Best Management Practices*.

General Comments:

3. The environmental document shall 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.

North Carolina Division of Water Quality, Winston-Salem Regional Office
Location: 585 Waughtown St. Winston-Salem, North Carolina 27107
Phone: 336-771-5000 \ FAX: 336-771-4630 \ Customer Service: 1-877-623-6748
Internet: www.ncwaterquality.org

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North Carolina
Naturally

4. Environmental assessment alternatives shall consider design criteria that reduce the impacts to streams and wetlands from storm water runoff. These alternatives shall include road designs that allow for treatment of the storm water runoff through best management practices as detailed in the most recent version of NCDWQ's *Stormwater Best Management Practices*, such as grassed swales, buffer areas, preformed scour holes, retention basins, etc.
5. 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.
6. In accordance with the Environmental Management Commission's Rules {15A NCAC 2H.0506(h)}, mitigation will be required for impacts of greater than 150 linear feet to any single stream. In the event that mitigation is required, the mitigation plan shall be designed to replace appropriate lost functions and values. The NC Ecosystem Enhancement Program may be available for use as stream mitigation.
7. 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.
8. NCDWQ is very concerned with sediment and erosion impacts that could result from this project. NCDOT shall address these concerns by describing the potential impacts that may occur to the aquatic environments and any mitigating factors that would reduce the impacts.
9. An analysis of cumulative and secondary impacts anticipated as a result of this project is required. The type and detail of analysis shall conform to the NC Division of Water Quality Policy on the assessment of secondary and cumulative impacts dated April 10, 2004.
10. NCDOT is respectfully reminded that all impacts, including but not limited to, bridging, fill, excavation and clearing, and rip rap to jurisdictional wetlands, streams, and riparian buffers need to be included in the final impact calculations. These impacts, in addition to any construction impacts, temporary or otherwise, also need to be included as part of the 401 Water Quality Certification Application.
11. Where streams must be crossed, NCDWQ prefers bridges be used in lieu of culverts. However, we realize that economic considerations often require the use of culverts. Please be advised that culverts shall 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, NCDOT should not install the bridge bents in the creek, to the maximum extent practicable.
12. Whenever possible, NCDWQ prefers spanning structures. Spanning structures usually do not require work within the stream or grubbing of the streambanks and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges shall allow for human and wildlife passage beneath the structure. Fish passage and navigation by canoeists and boaters shall not be blocked. Bridge supports (bents) shall not be placed in the stream when possible.

13. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of NCDWQ's *Stormwater Best Management Practices*.
14. Sediment and erosion control measures shall not be placed in wetlands or streams.
15. Borrow/waste areas shall avoid wetlands to the maximum extent practical. Impacts to wetlands in borrow/waste areas will need to be presented in the 401 Water Quality Certification and could precipitate compensatory mitigation.
16. The 401 Water Quality Certification application will need to specifically address the proposed methods for stormwater management. More specifically, stormwater shall not be permitted to discharge directly into streams or surface waters.
17. Based on the information presented in the document, the magnitude of impacts to wetlands and streams may require an Individual Permit (IP) application to the Corps of Engineers and corresponding 401 Water Quality Certification. Please be advised that a 401 Water Quality Certification requires satisfactory protection of water quality to ensure that water quality standards are met and no wetland or stream uses are lost. Final permit authorization will require the submittal of a formal application by the NCDOT and written concurrence from NCDWQ. Please be aware that any approval will be contingent on appropriate avoidance and minimization of wetland and stream impacts to the maximum extent practical, the development of an acceptable stormwater management plan, and the inclusion of appropriate mitigation plans where appropriate.
18. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
19. If temporary access roads or detours are constructed, the site shall be graded to its preconstruction contours and elevations. Disturbed areas shall be seeded or mulched to stabilize the soil and appropriate native woody species shall be planted. When using temporary structures the area shall be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact allows the area to re-vegetate naturally and minimizes soil disturbance.
20. Placement of culverts and other structures in waters, streams, and wetlands shall be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact the NCDWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.
21. If multiple pipes or barrels are required, they shall be designed to mimic natural stream cross section as closely as possible including pipes or barrels at flood plain elevation, floodplain benches, and/or

sills may be required where appropriate. Widening the stream channel shall be avoided. Stream channel widening at the inlet or outlet end of structures typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.

22. If foundation test borings are necessary; it shall be noted in the document. Geotechnical work is approved under General 401 Certification Number 3687/Nationwide Permit No. 6 for Survey Activities.
23. Sediment and erosion control measures sufficient to protect water resources must be implemented and maintained in accordance with the most recent version of North Carolina Sediment and Erosion Control Planning and Design Manual and the most recent version of NCS000250. .
24. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
25. While the use of National Wetland Inventory (NWI) maps, NC Coastal Region Evaluation of Wetland Significance (NC-CREWS) maps and soil survey maps are useful tools, their inherent inaccuracies require that qualified personnel perform onsite wetland delineations prior to permit approval.
26. Heavy equipment shall 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.
27. Riprap shall not be placed in the active thalweg channel or placed in the streambed in a manner that precludes aquatic life passage. Bioengineering boulders or structures shall be properly designed, sized and installed.
28. Riparian vegetation (native trees and shrubs) shall be preserved to the maximum extent possible. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.

NCDWQ appreciates the opportunity to provide comments on your project. Shall you have any questions or require any additional information, please contact Amy Euliss at (336) 771-4959.

cc: John Thomas, US Army Corps of Engineers, Raleigh Field Office (electronic copy only)
Federal Highway Administration
Chris Militscher, Environmental Protection Agency (electronic copy only)
Wetlands/ 401 Transportation Permitting Unit
File Copy



Steven W. Troxler
Commissioner

North Carolina Department of Agriculture
and Consumer Services
Agricultural Services

Vernon N. Cox
Environmental Programs
Specialist

August 15, 2011

Ms. Sheila Green
State Clearinghouse
N.C. Department of Administration
1301 Mail Service Center
Raleigh, North Carolina 27699-1301

State #: 11-E-0000-0016
RE: Proposal for TIP No. I-0911A



Dear Ms. Green:

Thank you for the opportunity to comment on the proposed widening of I-40 from 0.3 mile west of NC 801 to 0.3 mile west of SR 1101 in Davie and Forsyth counties. The North Carolina Department of Agriculture and Consumer Services (NCDA&CS) is concerned about the conversion of North Carolina's farm and forest lands to other uses. Due to the importance of agricultural activities in the area, as well as the economy of the entire state, NCDA&CS strongly encourages the project planners to avoid conversion of agricultural land to other uses whenever possible. When avoidance is not possible, all reasonable efforts to minimize impacts to agricultural operations and agricultural land should be implemented.

There is insufficient information to determine whether appropriate consideration has been given to potential impacts to farms and farmland in the project area. Other than the discussion of the Win-Mock Farm as being on the National Register for Historic Places, it is unclear whether any other sites within the project area are in farms or farmland. Please provide additional information in the final document to clarify this issue and ensure that proper consideration has been given to farmland impacts.

Respectfully,

Vernon N. Cox
Environmental Programs Specialist



September 15, 2011

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Division of Highways

SEP 16 2011

Preconstruction
Project Development and
Environmental Analysis Branch

**Department of
Transportation**

City of Winston-Salem
P.O. Box 2511
Winston-Salem, NC 27102
CityLink 336.727-8000
Fax 336.748.3370
www.dot.cityofus.org

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

RE: TIP Project No. I-0911A
Comments on the Environmental Assessment

Dear Dr. Thorpe:

Thank you for providing the Winston-Salem Urban Area Metropolitan Planning Organization (MPO) the opportunity to comment on the Environmental Assessment of the I-40 widening from west of NC 801 in Davie County to east of Harper Road (SR 1101) in Forsyth County. As lead planning agency for the Winston-Salem Urban Area MPO, we are responsible for the transportation planning for this area which is within the Metropolitan Area Boundary.

In the spring of 2009, the MPO began work with the Town of Bermuda Run, the Village of Clemmons and the Town of Lewisville to study the feasibility of constructing a greenway along the Yadkin River on both the east and west banks. The Village of Clemmons adopted the concept of this greenway in the Village Transportation Plan on March 9, 2009. The completed Yadkin River Greenway Feasibility Study calls for both a paved 10ft bicycle and pedestrian greenway trail and a 10ft. multi-use trail with a minimum 12 ft vertical clearance for equestrian use along the east side of the Yadkin River running north from Tanglewood Park under the I-40 corridor. The west side of the Yadkin River will have a 10 ft. bicycle and pedestrian greenway trail running under the I-40 corridor from the US 158 bridge north to the BB & T soccer facility and Town of Bermuda Run's proposed river park. The attached pages from the Yadkin River Greenway Feasibility study show the locations of the greenway facility and other local connections to be retained, the proposed cross-sections with both horizontal and vertical clearances, and future phasing of the project.

The Village of Clemmons will adopt the Yadkin River Greenway study in September 2011 and the Town of Bermuda Run will be adopting the study along with their Bermuda Run Comprehensive Plan in January 2012. The MPO has allocated \$1 million in STP-DA funds for FY 2013 to construct Phase One of the Yadkin River Greenway which includes the 10 ft. paved bicycle and pedestrian greenway trail from Tanglewood Park to the Fair Oaks neighborhood along the east side of the Yadkin River north of I-40. Easements for the greenway along the river are currently being acquired by the Village of Clemmons.



City Council: Mayor Allen Joines; Vivian H. Burke, Mayor Pro Tempore, Northeast Ward; Denise D. Adams, North Ward; Dan Besse, Southwest Ward; Robert C. Clark, West Ward; Molly Leigh, South Ward; Wanda Merschel, Northwest Ward; Derwin L. Montgomery, East Ward; James Taylor, Jr., Southeast Ward; City Manager: Lee D. Garrity

> request a service > report a problem
> make a suggestion

Future phases of the Yadkin River Greenway plan call for a bridge crossing of the Yadkin River just north of the I-40 corridor exclusively for bicycle and pedestrian use. The MPO would like to request that consideration of this bicycle and pedestrian bridge crossing, either through joint use of existing Right-of-Way or accommodation with I-40 bridge replacements, be included as a part of the I-0911A project planning, design and right-of-way acquisition.

The Yadkin River Feasibility Study more broadly looked at pedestrian and bicycle connections to the Yadkin River Greenway throughout the planning area from residential and commercial developments. The Town of Bermuda Run is bisected by I-40 and severely impacted by losing the proposed connectivity that exists with both the Bert's Way bridge and the culvert under I-40 that connects the Kinderton community on the north to the commercial and municipal services on the south. Both these connections need to be retained and enhanced as a part of the I-0911A project to provide a safe alternative for bicycle and pedestrian movements across I-40.

Specific comments on the I-0911A Environmental Assessment include:

Page 3, Bicycle and Pedestrian Facilities/Greenways

Sidewalks exist on the bridges on NC 801, US 158 and Harper Road and along the west side of Harper Road to US 158. Future sidewalk connections are planned along each of these facilities and required through zoning and development of adjacent properties.

Page 4, School Bus Usage

The new Frank Morgan Elementary School has been constructed and opened August 25, 2011 along Harper Road north of I-40. Buses may now be crossing I-40 on Harper Road.

Page 6, Village of Clemmons

The adopted Clemmons Village Transportation Plan (VTP) also includes the recommendation for the Yadkin River Greenway trail along the river.

Page 7, 2. Transportation Plans, b. Winston-Salem Urban Area Comprehensive Transportation Plan 2009 (CTP)

The Winston-Salem Urban Area MPO adopted the Pedestrian Element of the CTP on July 21, 2011. The CTP Pedestrian Plan incorporates the pedestrian and greenway recommendations adopted through the Clemmons Village Transportation Plan including Yadkin River Greenway.

Page 12, H. Bicycle and Pedestrian Facilities/Greenways

Please see the above comments.

Page 28, F. Land Use

On the northeast side of I-40 at Harper Road, Novant Health is developing Village Point which includes a medical facility, additional mixed use parcels, a new school, and an internal public greenway system that will connect to the sidewalk on Harper Road. The Win-Mock at Kinderton, adjacent to Bert's Way bridge, is a special events and conference facility that opened in the spring of 2011.

Pages 30 and 31, Noise Barriers

Location and design of the noise barriers should take into consideration the Yadkin River Greenway and adjacent connections to prevent creating barriers to the trail along the river or access to adjacent pedestrian connections.

If you have questions or need additional clarification, please call me at 336-747-6871.

Sincerely,

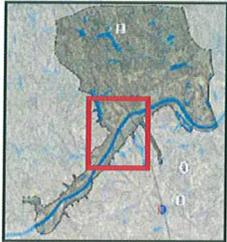
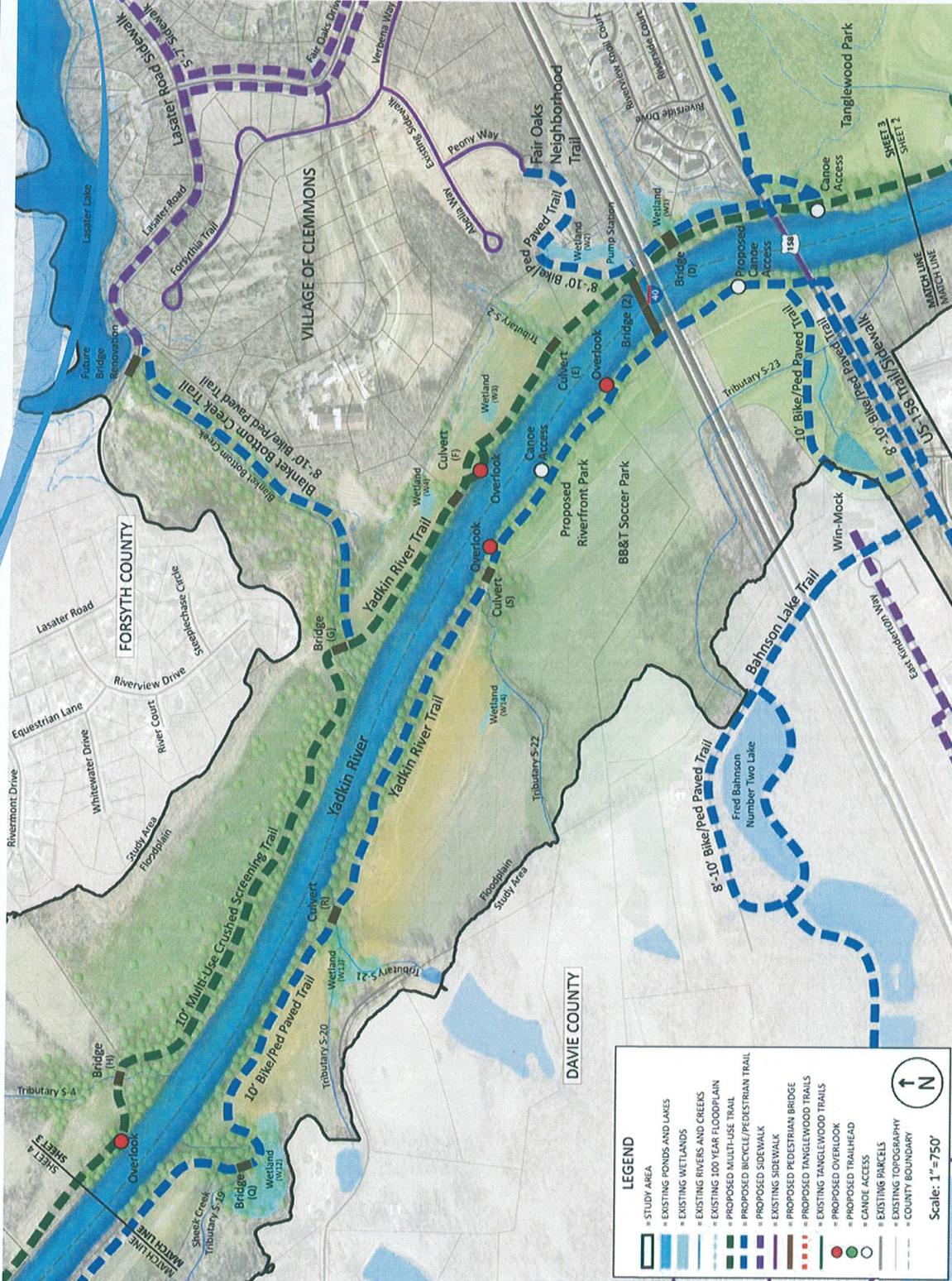
GREG ERRETT

Gregory L. Errett, AICP
Planning Development Coordinator

Attachments

Cc: Pat Ivey, P.E., NCDOT Division 9 Engineer
Lee Rollins, Town Manager, Town of Bermuda Run
Gary Looper, Village Manager, Village of Clemmons
J.A. Bailey, MPO Coordinator, NCDOT

Yadkin River Greenway Feasibility Study



Vicinity Map

LEGEND

- STUDY AREA
- EXISTING PONDS AND LAKES
- EXISTING WETLANDS
- EXISTING RIVERS AND CREEKS
- EXISTING 100-YEAR FLOODPLAIN
- PROPOSED MULTI-USE TRAIL
- PROPOSED BICYCLE/PEDESTRIAN TRAIL
- EXISTING SIDEWALK
- PROPOSED PEDESTRIAN BRIDGE
- PROPOSED TANGLEWOOD TRAILS
- EXISTING TANGLEWOOD TRAILS
- PROPOSED OVERLOOK
- PROPOSED TRAILHEAD
- CANOE ACCESS
- EXISTING PARCELS
- EXISTING TOPOGRAPHY
- COUNTY BOUNDARY

Scale: 1"=750'

Figure 5.5 Section Three - East Map
Susan Hatchell Landscape Architecture, PLLC

Section Three - East

The ten foot crushed screenings multi-use Yadkin River Trail continues up the Yadkin River in Section Three, to the existing canoe access in Tanglewood Park where a connection is made to an eight foot bicycle/pedestrian paved trail along US 158. The trail continues under the US 158 and I-40 bridges, as a ten foot bicycle/pedestrian trail. At the pump station, a future Fair Oaks Neighborhood Trail will be located along the easement and access road, connecting to the Fair Oaks neighborhood.

In a future phase, a ten foot crushed screenings multi-use trail will extend from Tanglewood Park along the Bicycle/Pedestrian Trail. A long span pedestrian bridge will be located parallel to I-40 across the Yadkin River. As the trail continues up the river, one overlook will be located which takes advantage of river views and the beautiful views of the adjacent pasture. At Blanket Bottom Creek, a 2,100 foot long eight to ten foot paved trail will follow the creek and intersect with the proposed sidewalk on Lasater Road. The Yadkin River Trail continues north through meadows, woodland edges, and forested areas. See Figure 5.5 for Section Three - East Map.

Length: 1.5 miles

Trail Type: 10' crushed screenings multi-use trail

Crossings: Four bridges, One culvert

Overlooks: Two

Experiential Zone/Views: Developed recreational area, views up and down river, meadows, woodland edges, forested areas

Points of Interest: Tanglewood Park Canoe Access, US 158, long span pedestrian bridge

Interpretive opportunities: River and riparian ecology, stream bank/sedimentation/erosion, history of Hall's Ferry and Hall's Bridge

Connectivity: Tanglewood Park canoe access, US 158 Bike/Ped Trail and Sidewalk, Fair Oaks Neighborhood Trail, Blanket Bottom Creek Trail, connection to Yadkin River Trail - West over the Yadkin River on the long span pedestrian bridge



Yadkin River corridor, SHLA



BB&T Soccer Park, SHLA



BB&T Soccer Park, SHLA

Section Three - West

There is an existing sidewalk on the south side of the US 158 bridge that will allow pedestrians to cross over the Yadkin River. Since the sidewalk on the bridge is only five and one half feet wide, bicyclists should dismount and walk their bicycles across the bridge. Once on the west side, pedestrians can go down a set of steps adjacent to the bridge to cross under the US 158 bridge to continue on the west side trail. Alternatively, pedestrians and bicyclists can continue up the south side of US 158 on a paved bike/ped trail to cross at the proposed roundabout at the entrance to Bermuda Run. From here, the ten foot paved Yadkin River Trail begins at the entrance to the BB&T Soccer Park and the future Riverfront Park. A future long span pedestrian bridge located north of the I-40 overpass will connect both sides of the trail. The paved bicycle/pedestrian trail will continue along the alignment shown in the Riverfront Park master plan and includes two overlooks and a canoe access. After the canoe access, the main trail will continue north along the river on an existing footpath, viewing meadows and agricultural fields. See Figure 5.6 for Section Three - West Map.

Length: 1.7 miles

Trail Type: 10' paved bike/ped trail

Crossings: One bridges, Two culverts

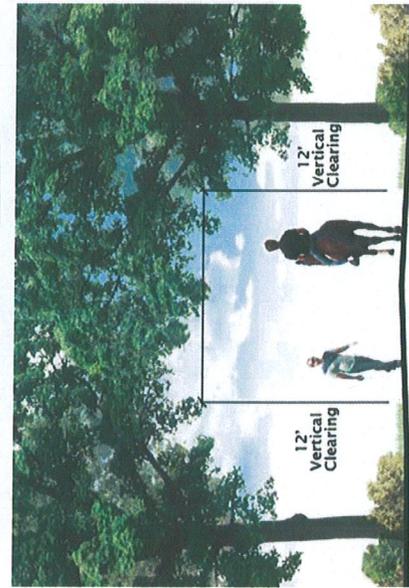
Overlooks: Two

Experiential Zone/Views: meadows/agricultural areas, developed recreational areas

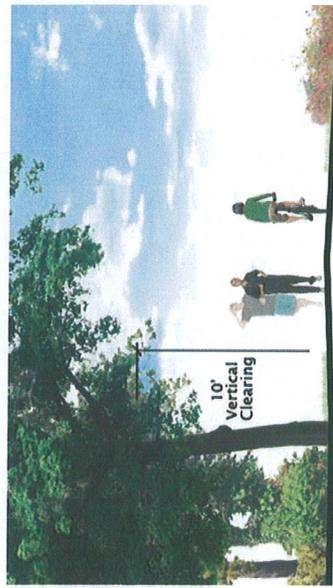
Points of Interest: Yadkin River, BB&T Soccer Park, future Riverfront Park, canoe access, long span pedestrian bridge

Interpretive opportunities: River and riparian ecology, history of recreation, Win-Mock

Connectivity: A long span pedestrian bridge to Yadkin River Trail East, Town of Bermuda Run, Village of Clemmons



10' Multi-Use Crushed Screenings Trail



8'-10' Bike/Ped Paved Trail (off-street)

trail for bicycle and pedestrians, an on-street eight to ten foot wide paved trail, and an on-street five to seven foot wide paved concrete sidewalk. In order to provide connectivity across I-40 which bisects the study area east to west, a combination of existing overpasses/bridges and underpasses will be utilized. The existing pedestrian access across the new US 158 bridge over the Yadkin River includes a five and a half foot concrete sidewalk immediately adjacent to the roadway on the south side. Narrow sidewalks also exist in both directions on the I-40 overpass on Lewisville-Clemmons Road. An existing bridge over I-40, and an underpass under I-40 will be converted to pedestrian crossings for connectivity to the first phase of the Kinderton residential areas.

10' Multi-use Crushed Screenings Trail

This type of trail is constructed using compacted crushed screenings and can be used by pedestrians, bicycles, and equestrians. The trail is ten feet wide, with three foot shoulders on each side. The center of the trail should be crowned to help drainage. Beyond the three foot shoulders, a six foot wide zone of selective vegetative clearing on each side of the trail will ensure a clear zone of vision along the trail. A 12' zone of vertical clearing is necessary for equestrian users. The advantages to using a crushed screenings trail are that the trail cost is moderate, it is a firm surface, a natural material, and can accommodate equestrian use. The disadvantages to this type of trail are that it is not as ideal for flood prone areas and will require regular maintenance to keep a consistent surface. This type of trail can rut or erode with heavy rainfall if not designed with proper drainage, and is not suitable for steep slopes.

8-10' Bike/Ped Paved Trail (off and on-street)

This type of trail is typically constructed with asphalt and is used primarily by pedestrians and bicyclists. The trail is eight to ten feet wide, depending on its location in the trail system, with three foot wide shoulders on either side. The center of the trail should be crowned to help drainage. Beyond the three foot shoulders, a six foot wide zone of selective vegetative clearing on each side of the trail will ensure a clear zone of vision along the trail. A ten foot zone of vertical clearing is necessary for user safety. The advantages of this type of trail are that the trail surface is hard and all-weather, it accommodates most users, and does not erode. The disadvantages to this type of trail are the high installation cost, and the effects of freeze and thaw. It is more durable than crushed screenings trails in flood prone areas, but not as durable as concrete which has an even higher installation cost. Flooding also negatively impacts paved trails by undermining the subgrade. A paved trail is not suitable for equestrian use. When the trail is proposed in an on-street location, a five foot or wider grass or vegetated area separating the user from the road should be included to buffer the sounds and sights of traffic where feasible. A grass swale between the walk and the road is also needed to maintain proper drainage.

US 158 Bicycle/Pedestrian Trail and Sidewalk

US 158 is a vital major thoroughfare in the study area that links the Yadkin River Trail to other recreational, residential, commercial and civic areas, and future development. With the exception of a few short lengths of sidewalk, there is not a consistent stretch of walkway. The width of the travel lanes and the intensity of development changes as the road nears Lewisville-Clemmons Road. See Figures 5.11 and 5.12 for US 158 Trail/Sidewalk Maps.

Connectivity

- Food Lion/Shopping at NC Highway 801/US 158
- Future Wake Forest Baptist Health
- Future Transit Stop on proposed bus route – Davie County Extension (PART)
- Kinderton residential and commercial/hotels
- Bermuda Run Town Hall
- Bermuda Run Residential areas
- Win-Mock
- BB&T Soccer Park
- Future Riverfront Park
- Yadkin River Trail
- Tanglewood Park
- Clemmons Residential areas
- Clemmons commercial, retail, restaurants
- Clemmons Village Hall, Library

Barriers/Hazards/Concerns:

- Many driveways
- Utilities
- Traffic counts, speed limits and safety
- No signalized pedestrian crossings
- Roundabout, crosswalks needed

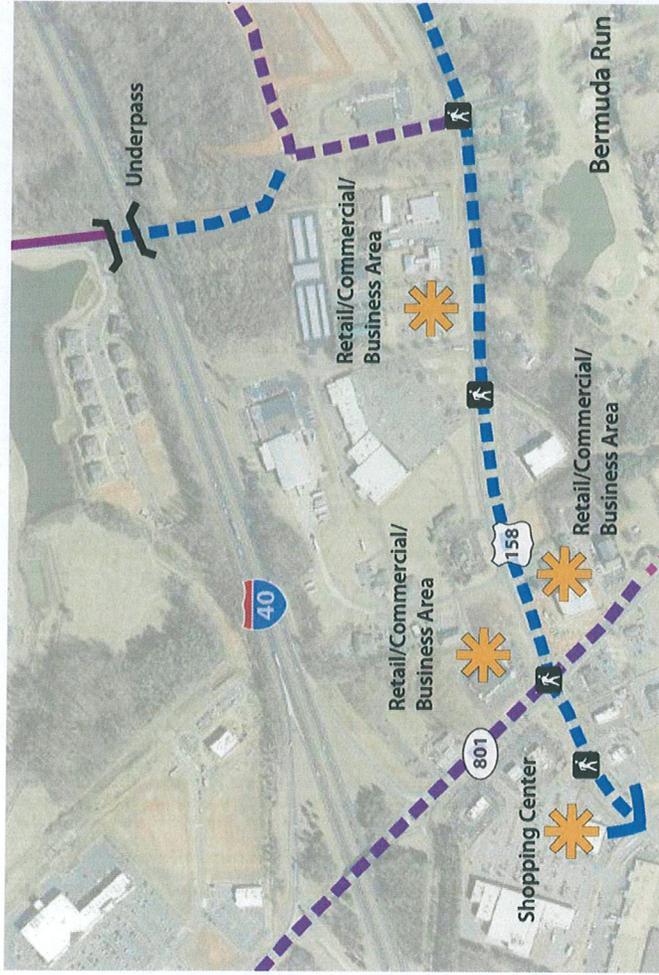
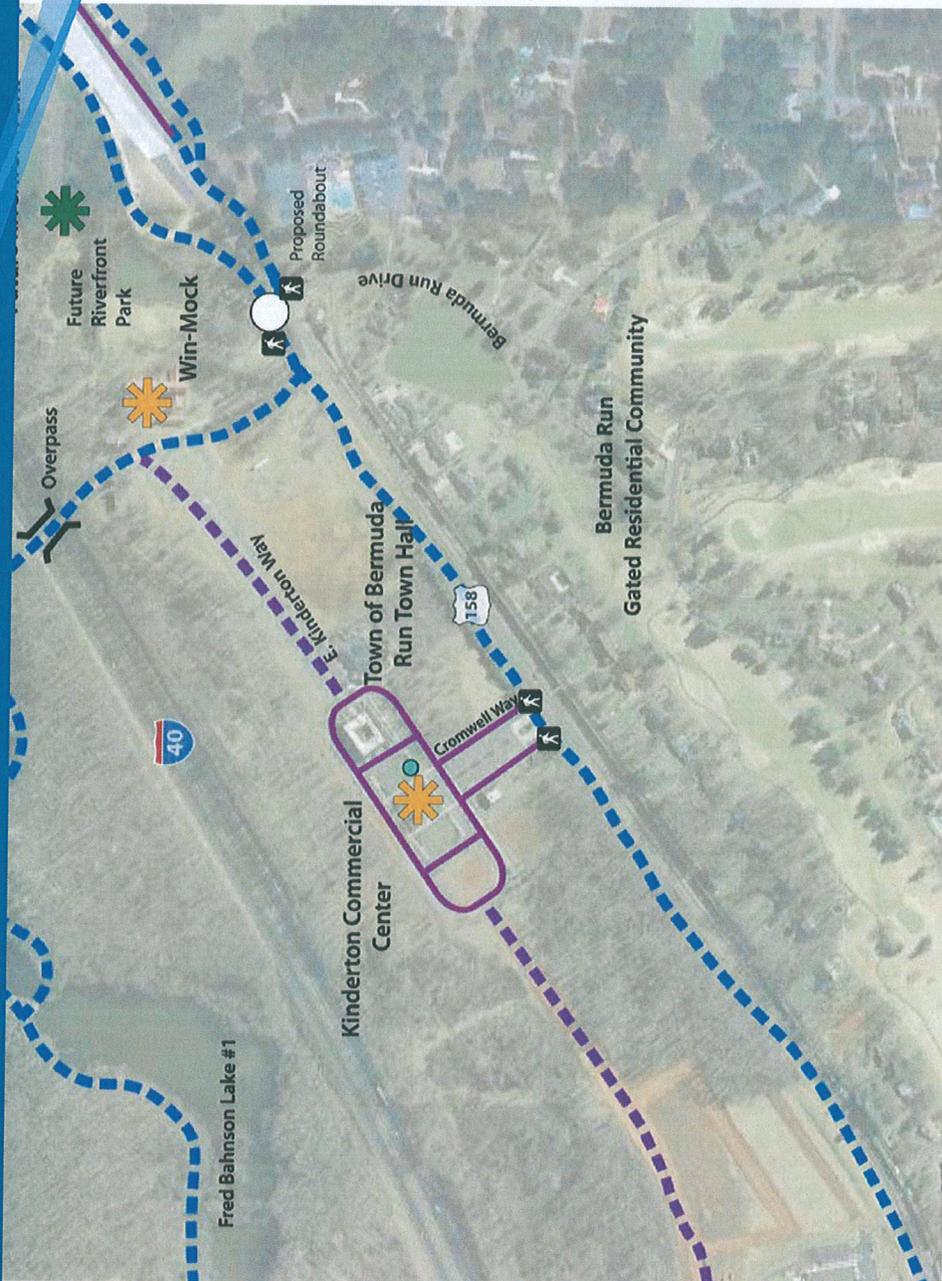


Figure 5.11 US 158 Bike/Pedestrian Trail and Sidewalk-East Map

Yadkin River Greenway Feasibility Study



Legend

- = Proposed Multi-Use Trail
- = Proposed Sidewalk
- = Existing Sidewalk
- = 8'-10' Bike/Ped Trail
- = Trails Recommended in Other Plans
- = Sidewalk Recommended in Other Plans
- = Pedestrian Crosswalk
- = Retail/Commercial
- = Park/Open Space/Recreation
- = Schools
- = Town Hall

Figure 5.11 US 158 Bike/Pedestrian Trail and Sidewalk-East Map

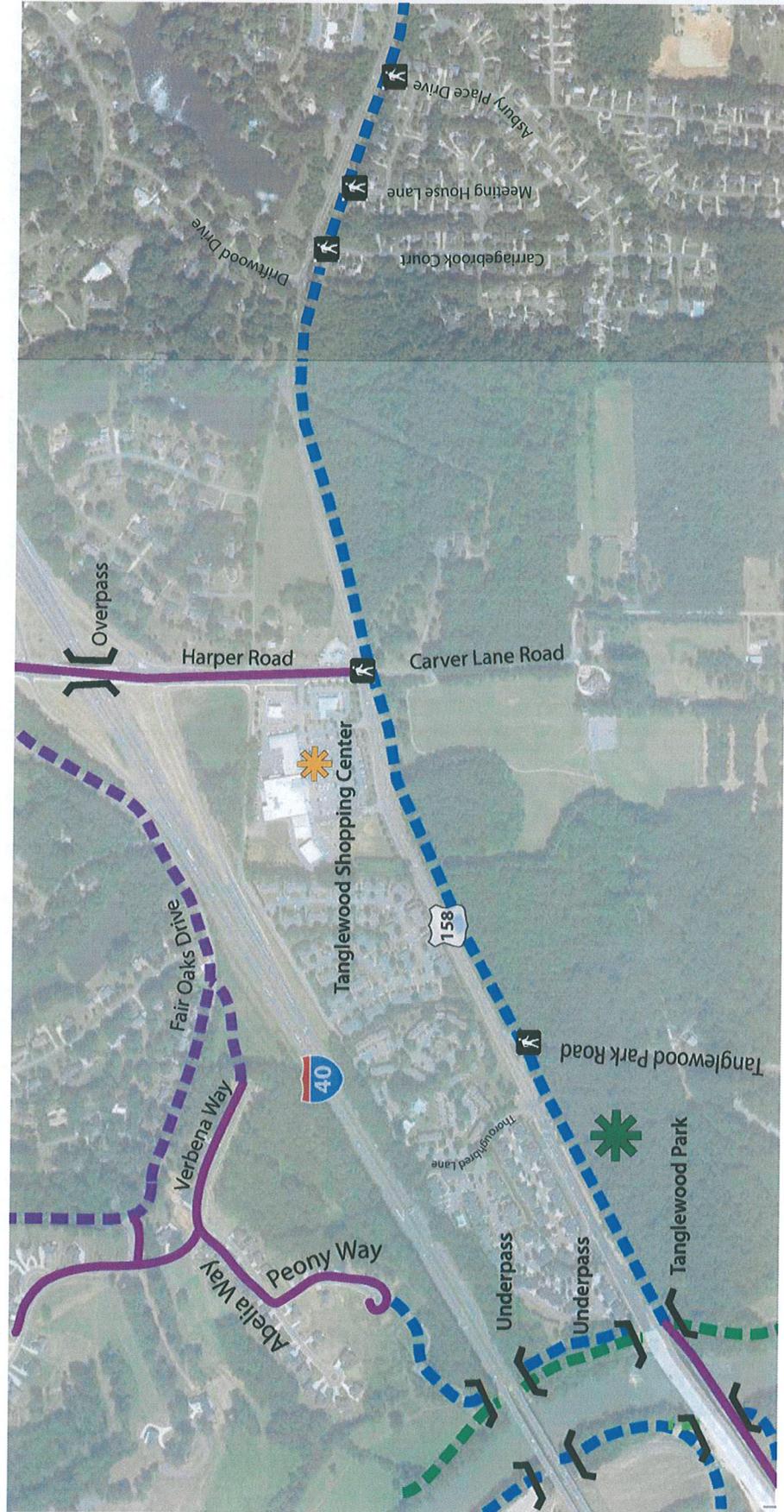


Figure 5.12 US 158 Bike/Pedestrian Trail and Sidewalk-West Map

Bahnsen Lake Trail (overpass, underpass and 8-10' trails)

A connector trail to the first phase of the Kinderton residential areas north of I-40 is proposed along Bert's Way. This eight to ten foot paved asphalt trail will tie into the Win-Mock development and the Kinderton Commercial Center and will cross I-40 on an existing overpass. From this point, the trail will loop around the Fred Bahnsen Number Two Lake and connect to Town Park Drive to the west and the lakeside sidewalk around the Fred Bahnsen Number One Lake. Another trail will head south, under I-40 in an existing underpass, tying back into the Kinderton Commercial Center and connect back to the trail proposed along US 158. See Figure 5.14 for Bahnsen Lake Trail

Connectivity:

Kinderton Residential & Commercial
Win-Mock
Fred Bahnsen Lakes

Barriers/Hazards/Concerns:

Moderate slope
Existing plans for development do not show the connectivity

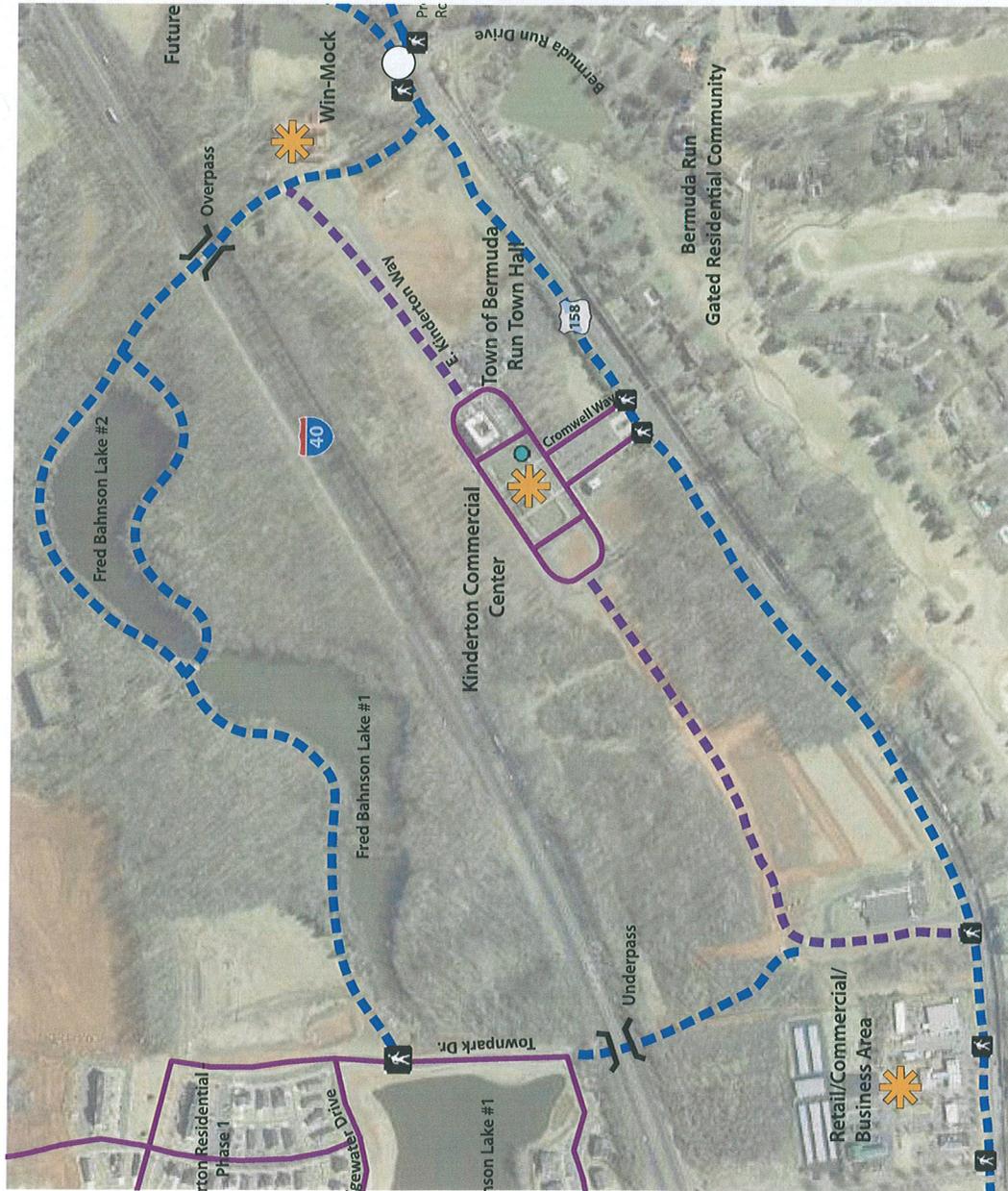


Figure 5.14 Bahnsen Lake Trail Map

Yadkin River Greenway Feasibility Study

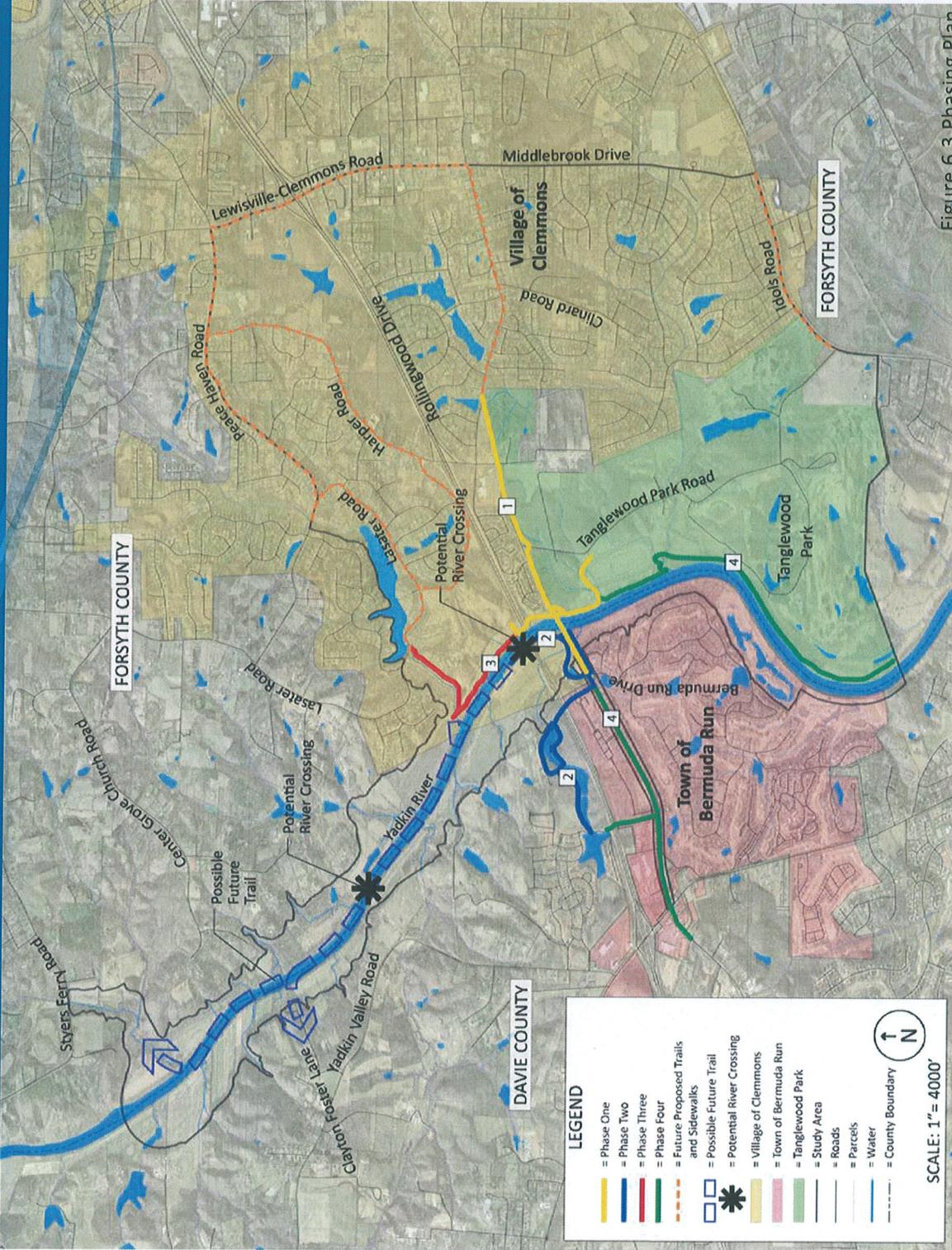


Figure 6.3 Phasing Plan

Phase One

Phase One (shown in yellow below) includes a ten foot multi-use screenings trail from a trailhead in Tanglewood Park to the canoe access point south of US 158, a ten foot bicycle/pedestrian trail extending from the canoe access point north to the existing pump house and utility easement, and an eight to ten foot trail along US 158. The trail along US 158 begins at the entrance of the BB&T Soccer Park to the west, crosses to the south side of the road at a future roundabout at Bermuda Run Drive, then across the existing sidewalk on the new US 158 bridge, and extends to the eastern boundary of Tanglewood Park.

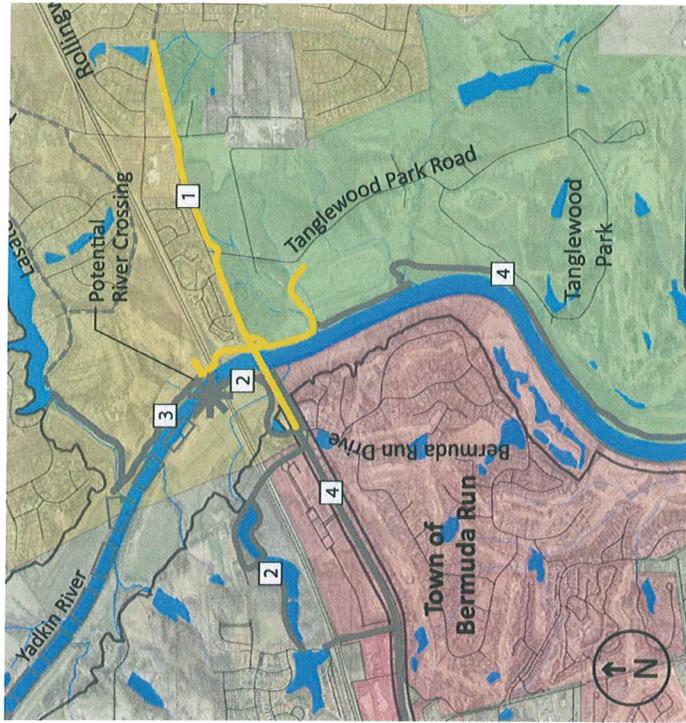


Figure 6.4 Phase One

Susan Hatchell Landscape Architecture, PLLC
6-6

Phase One Cost Estimate		
Quantity	Description of Work	Cost
	Clearing and Grubbing	\$75,000
	Grading	\$122,000
	Erosion Control	\$50,000
	Stormwater/BMP/Rain Garden	\$80,000
1	Primary Trailhead - (Parking, Shelter with Restroom, Signage, Lighting, Site Amenities, Public Art)	\$375,000
3	Secondary Trailheads - (Signage, Site Amenities)	\$30,000
1	Overlook - (Railings, Site Amenities, Signage, Paving)	\$10,000
14,700 LF	10' Bike/Ped Asphalt Trail	\$441,000
3	Crosswalks with Curbcut	\$9,000
	Site Amenities - (Benches, Trash, Recycling, Bollards)	\$45,000
	Retaining Walls	\$75,000
	Handrails	\$10,000
	Interpretive Signs	\$5,000
	Planting	\$100,000
2	Stream Crossings (Pedestrian Bridges)	\$160,000
	Total Phase One Construction Cost:	\$1,587,000

Figure 6.5 Phase One Construction Cost Estimate



120 Kinderton Boulevard, Suite 100 • Bermuda Run, NC 27006
(336) 998-0906 • Fax (336) 998-7209 • www.townofbr.com

September 9, 2011

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

SUBJECT: Federal Environmental Assessment for I-40 Widening from West of
NC 801 to East of SR 1101. TIP Project No. I-0911A

Resolution Supporting Replacement of Bert's Way Bridge

Dear Dr. Thorpe:

The Bermuda Run Town Council has asked that I send you the attached resolution supporting the replacement of Bert's Way Bridge. The Federal Environmental Assessment does not recommend replacement of the bridge.

Due to it's unique, historic connection to WinMock Barn and for its necessity as part of a comprehensive greenway and multi-modal transportation plan, the Town of Bermuda Run respectfully requests replacement of the bridge when I-40 is widened.

Sincerely yours,

H. Lee Rollins
Town Manager

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Division of Highways

SEP 12 2011

Preconstruction
Project Development and
Environmental Analysis Branch

C-30



Resolution Supporting Replacement of Bert's Way Bridge

WHEREAS, the Town of Bermuda Run is located in the northeastern section of Davie County, with its corporate limits divided north and south by Interstate 40; and

WHEREAS, due to its physical proximity, traffic volume and commuting patterns, the Town of Bermuda Run is a member of the Winston-Salem Urban Area Metropolitan Planning Organization; and

WHEREAS, the Town of Bermuda Run, the Village of Clemmons and the Town of Lewisville through the Winston-Salem Urban Area Metropolitan Planning Organization, participated in a joint project in 2010 to determine the feasibility of a greenway and greenway trail along the Yadkin River as well as sidewalks that will connect the trail to the surrounding area; and

WHEREAS, one of the recommendations of the feasibility study is to use the existing Bert's Way Bridge for a multi-use trail to connect the residential and recreational areas north of I-40 to the Kinderton Commercial Town Center, thereby creating a loop; and

WHEREAS, the Town of Bermuda Run Planning Board is conducting a Comprehensive Plan that incorporates the feasibility study's findings; and

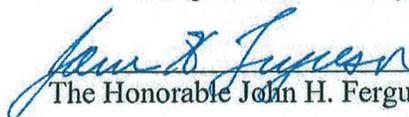
WHEREAS, the Bert's Way Bridge is adjoined by the WinMock Barn, a property registered as an historic structure under the National Registry; and

WHEREAS, when the original I-40 project was constructed the Bert's Way Bridge was a unique structure to provide access from one side of a farm to the other; and

WHEREAS, the June, 2011 Federal Environmental Assessment for I-40 widening from west of NC 801 to east of SR1101, TIP Project # I-0911A, page 12, item G., does not recommend the bridge for replacement.

NOW THEREFORE, BE IT RESOLVED, that the Town Council of the Town of Bermuda Run unanimously adopts this resolution to support replacement of the Bert's Way Bridge as a component of the final plans for the widening of I-40, due to its unique, historic connection to WinMock Barn and for its necessity as part of a comprehensive greenway and multi-modal transportation plan.

Adopted unanimously the 23rd day of August, 2011


The Honorable John H. Ferguson, Mayor


ATTEST: Lee Rollins, Town Clerk



120 Kinderton Boulevard, Suite 100 • Bermuda Run, NC 27006
(336) 998-0906 • Fax (336) 998-7209 • www.townofbr.com

August 29, 2011

Gregory J. Thorpe, Ph.D., Manager
Project Development and Environmental Analysis Branch
NCDOT
1548 Mail Service Center
Raleigh, NC 27699-1548

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AUG 31 2011

Div. 9 Engineers Office

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Division of Highways

SEP 08 2011

Preconstruction
Project Development and
Environmental Analysis Branch

Re: TIP Project No. I-0911A Comments on Federal Environmental Assessment

Mr. Thorpe,

Thank you for providing the Town of Bermuda Run with the environmental assessment for the I-40 widening from West of NC 801 to East of SR 1101 (Harper Road). As the planner and zoning administrator for the Town of Bermuda Run, I do have one comment as it relates to the removal of the Bert's Way bridge over I-40 near the WinMock barn in Town of Bermuda Run's jurisdiction.

On pages 23 and 24 of the report it is noted that the WinMock barn is eligible for National Register designation. Appendix C also documents this with letters from the Department of Cultural Resources. In the letter from Vanessa Patrick dated August 6, 2007, a recommendation is made that the National Register Boundary be reduced from its original 2002 location. Neither the 2002 boundary nor 2007 boundary include the Bert's Way bridge as part of the potential National Register site. The Town of Bermuda Run feels that the bridge, while not original to the property, has its own historic significance in that it is more than 50 years old and it was built as a means of keeping the barn connected with its farm land when I-40 was constructed. This farm bridge was used for decades to travel from one part of the historic farm to another.

Aside from any potential historic merit, the bridge is integral to the Town's future multi-modal connectivity. A draft Yadkin River Greenway Feasibility Study shows the Berts' Way bridge providing a multi-use trail between the north side and south side of the interstate connecting the residential and commercial of the Kinderton development. This study involved the Town of Bermuda Run, Village of Clemmons, Town of Lewisville, Winston-Salem Metropolitan Planning Organization, Forsyth County, Davie County, and the Northwest Piedmont Council of Governments led by project consultants Susan Hatchell Landscape Architecture, PLLC in conjunction with Ward Consulting Engineers, PC and the Catena Group, Inc. This connection is crucial to the successful implementation of the plan.

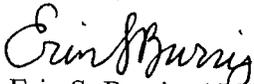
Additionally, the Town of Bermuda Run is engaged in its first Comprehensive Plan. Preliminary recommendations carry out the same strategy to integrate the Bert's Way bridge into the multi-modal transportation network that will connect the Town to different parts of itself as well as to the adjacent

community of Clemmons and Tanglewood Park. Furthermore, the Town has completed annexation proceedings to bring the Kinderton Village area into the Town limits. This annexation is to become effective July 1, 2012.

The Bert's Way bridge will help connect the different residential areas of town despite the large obstacle of I-40. Without the bridge, the community will remain fractured, vehicular transportation will remain heavily relied upon, and valuable parks and recreation assets will lack necessary accessibility to serve the surrounding community. If the scope of the I-40 widening project precludes saving the original, potentially historic Bert's Way Bridge, the Town urges NCDOT to reconstruct the bridge to maintain a vital connection that is integral to transportation strategies of the Town and immediately surrounding areas. Please see the attached resolution passed by the Town Council.

If you have any questions, please do not hesitate to call me at 1-800-650-3925 ext. 104. Please thank you for your consideration in this matter.

Sincerely,



Erin S. Burris, AICP

Town Planner & Zoning Administrator

Attachment

Cc: Pat Ivey, NCDOT Division 9 Engineer
Greg Errett, WSDOT



Resolution Supporting Replacement of Bert's Way Bridge

WHEREAS, the Town of Bermuda Run is located in the northeastern section of Davie County, with its corporate limits divided north and south by Interstate 40; and

WHEREAS, due to its physical proximity, traffic volume and commuting patterns, the Town of Bermuda Run is a member of the Winston-Salem Urban Area Metropolitan Planning Organization; and

WHEREAS, the Town of Bermuda Run, the Village of Clemmons and the Town of Lewisville through the Winston-Salem Urban Area Metropolitan Planning Organization, participated in a joint project in 2010 to determine the feasibility of a greenway and greenway trail along the Yadkin River as well as sidewalks that will connect the trail to the surrounding area; and

WHEREAS, one of the recommendations of the feasibility study is to use the existing Bert's Way Bridge for a multi-use trail to connect the residential and recreational areas north of I-40 to the Kinderton Commercial Town Center, thereby creating a loop; and

WHEREAS, the Town of Bermuda Run Planning Board is conducting a Comprehensive Plan that incorporates the feasibility study's findings; and

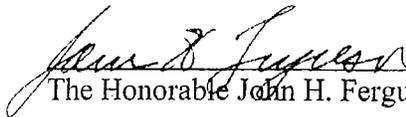
WHEREAS, the Bert's Way Bridge is adjoined by the WinMock Barn, a property registered as an historic structure under the National Registry; and

WHEREAS, when the original I-40 project was constructed the Bert's Way Bridge was a unique structure to provide access from one side of a farm to the other; and

WHEREAS, the June, 2011 Federal Environmental Assessment for I-40 widening from west of NC 801 to east of SR1101, TIP Project # I-0911A, page 12, item G., does not recommend the bridge for replacement.

NOW THEREFORE, BE IT RESOLVED, that the Town Council of the Town of Bermuda Run unanimously adopts this resolution to support replacement of the Bert's Way Bridge as a component of the final plans for the widening of I-40, due to its unique, historic connection to WinMock Barn and for its necessity as part of a comprehensive greenway and multi-modal transportation plan.

Adopted unanimously the 23rd day of August, 2011


The Honorable John H. Ferguson, Mayor


ATTEST: Lee Rollins, Town Clerk

Yadkin River Greenway Feasibility Study

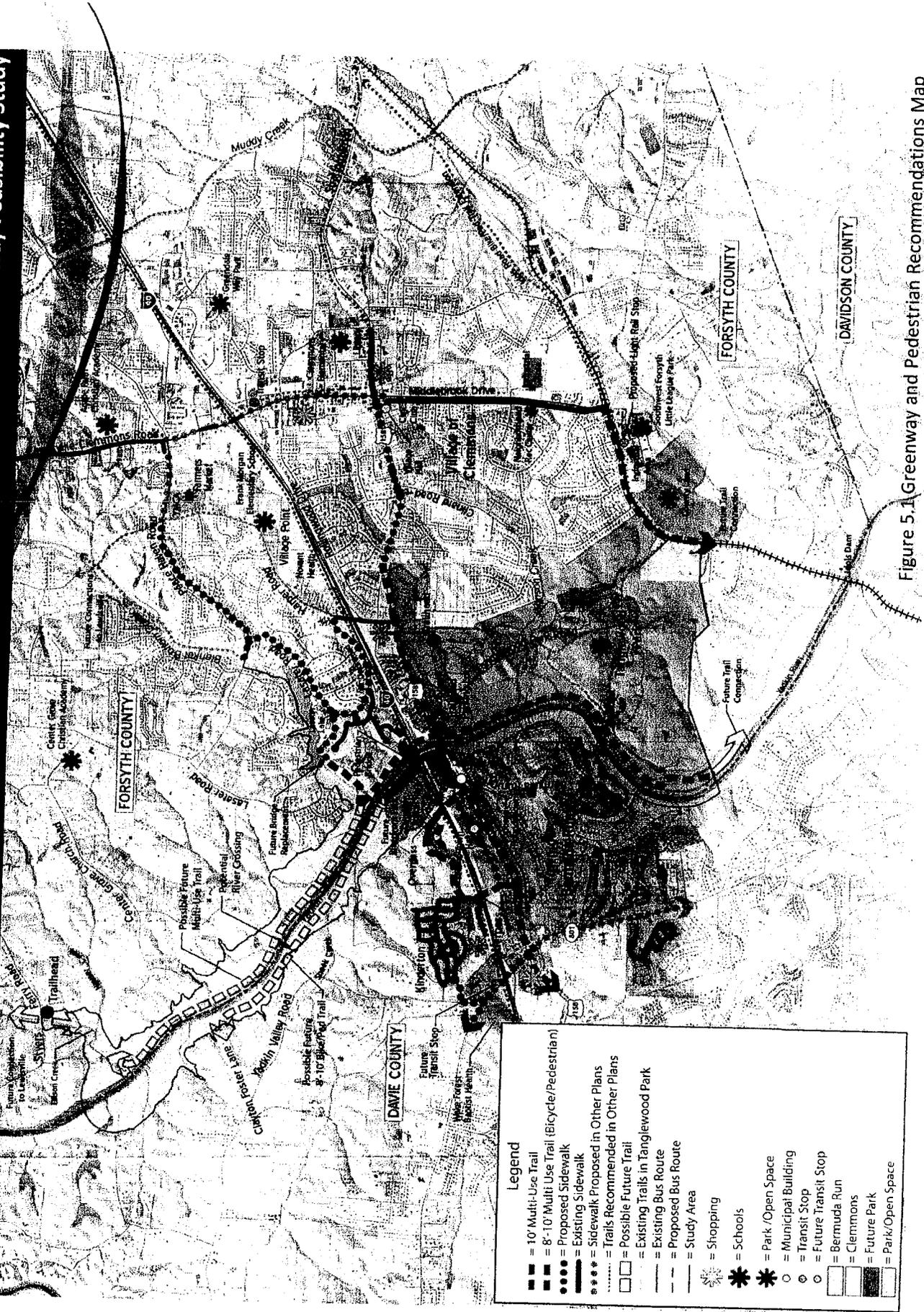
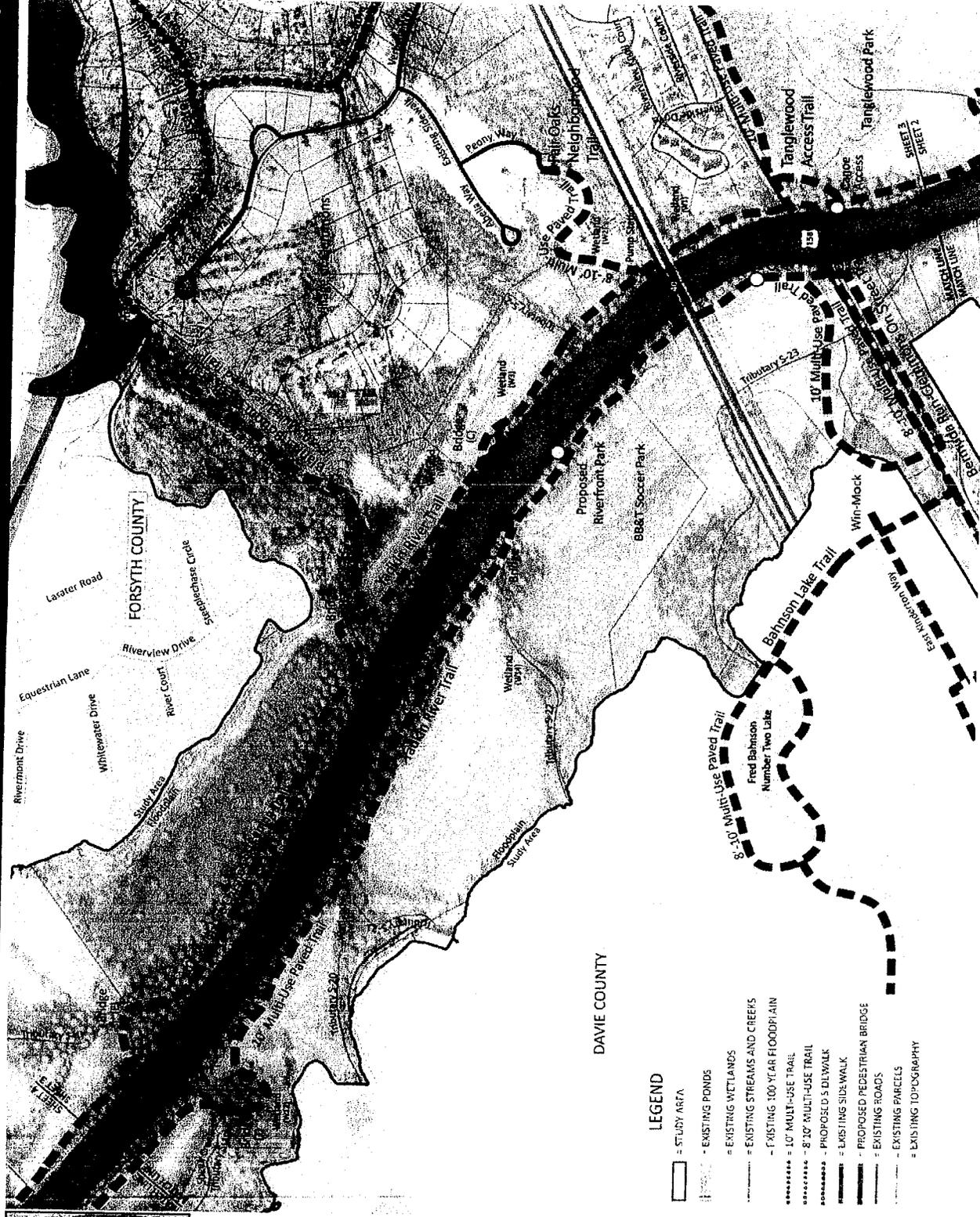


Figure 5.1 Greenway and Pedestrian Recommendations Map

Yadkin River Greenway Feasibility Study



Vicinity Map

Figure 5.5 Section Three - East Map
Susan Hatchell Landscape Architecture, PLLC

Conditional Letter of Map Revision (CLOMR) and subsequent final Letter of Map Revision (LOMR). This project involves construction activities on or adjacent to a FEMA regulated stream. 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.

B. Cultural Resources

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at 36 CFR Part 800. Section 106 requires federal agencies to take into account the effect of their undertakings (federally-funded, licensed, or permitted) on properties included in or eligible for inclusion in the National Register of Historic Places and to afford the Advisory Council a reasonable opportunity to comment on such undertakings.

1. Historic Architecture

A Final Identification and Evaluation survey was conducted to determine the Area of Potential Effects (APE), and to identify and evaluate all structures over fifty years of age within the APE according to the Criteria of Evaluation for the National Register of Historic Places. On March 7, 2007, surveys were conducted by automobile and on foot, covering 100% of the APE, to identify those properties over fifty years of age. In addition to fieldwork, Davie and Forsyth county survey files were consulted in the North Carolina State Historic Preservation Office (HPO) in Raleigh, as were HPO's National Register of Historic Places (NRHP) and the North Carolina State Study List (NCSL) files.

Eight properties were identified in this survey. Of these, the Win-Mock Farm (see Appendix C) had been previously determined eligible for the NRHP. These findings were presented at an April 18, 2008 consultation meeting between NCDOT and HPO, of which six were determined not eligible and not worthy of further evaluation for this project. One remaining property, Hickory Grove A.M.E. Zion Church was evaluated and determined not eligible for listing to the NRHP.

Win-Mock Farm

Win-Mock Farm is a handsome twentieth-century dairy farm complex near the Yadkin River. This property was determined eligible for listing on the NRHP in a November 2002 evaluation undertaken by NCDOT's Historic Architecture Group for TIP project B-3835. "The barns and outbuildings of Win-Mock Farm (formerly Arden Farms) demonstrate the plan, layout, and functions of a second-quarter, twentieth-century dairy operation. With the financial support of owner S. Clay Williams, a president of R. J. Reynolds Tobacco Company, this dairy complex is demonstrative of the important role of mechanization and modernization of dairy farming in North Carolina during the twentieth century." Summary of the findings from surveys and evaluation along with photos of the Win-Mock Farm are included in Appendix C.

On March 30, 2010 and May 3, 2011 HPO and FHWA met with NCDOT staff to determine the effects of the I-40 improvements on the Win-Mock Farm. It was agreed that the proposed project would have **no adverse effect** upon the property provided that the following conditions were met:

- A 1.5:1 slope with rock plating to stabilize soil at the Win-Mock Farm property would be incorporated into the design.

A copy of the signed concurrence forms from the March 30, 2010 and May 3, 2011 meetings are included in Appendix C.

2. Archaeology

An archaeological survey was completed on August 25, 1993. No archaeological sites were located within the project area. No further archaeological investigation is needed in conjunction with this project. (See Appendix C).

C. Section 4(F) Resources

Section 4(f) of the US Department of Transportation Act of 1966 specifies that publicly owned land from a public park, recreation area, wildlife and waterfowl refuge, and all historic sites of national, state, and local significance may be used for federal projects only if there is no feasible and prudent alternative to the use of such land and the project includes all possible planning to minimize impacts to 4(f) land resulting from such use.

One Section 4(f) resource, an individual historic property, is located in the project area. The project will require use of land from this Section 4(f) resource. The project involves widening along existing alignment. There is no feasible alternative that will avoid this resource.

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) amendment to the Section 4(f) requirements allows the U.S. Department of Transportation (DOT) to determine that certain uses of Section 4(f) land will have no adverse effect on the protected resource. When this is the case, and the responsible official(s) with jurisdiction over the resource agrees in writing, compliance with Section 4(f) is greatly simplified.

This project is being planned and designed to minimize harm to the historic farm property. The SHPO concur that the proposed project with the planned mitigation will not substantially impair the use of the Section 4(f) resource; therefore, a Section 4(f) analysis of the avoidance alternatives is not required under the SAFETEA-LU amendment. Mitigation will include a 1.5:1 slope with rock plating in the vicinity of the Win-Mock Farm.

Federal Highway Administration finding is that the proposed use of land from the Win-Mock Farm is considered a de minimus impact because the project will have “no adverse” effect on the historic property. The State Historic Preservation office has concurred with this de minimus finding under Section 4(f) (See concurrence form in Appendix C of this document).

Approximately 0.407 acres will be used from the Win Mock Farm to accommodate this project.



North Carolina Department of Cultural Resources
State Historic Preservation Office
 Peter B. Sandbeck, Administrator

Michael F. Easley, Governor
 Lizabeth C. Evans, Secretary
 Jeffrey J. Crow, Deputy Secretary

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

January 4, 2006

MEMORANDUM

TO: Greg Thorpe, Ph.D., Director
 Project Development and Environmental Analysis Branch
 NCDOT Division of Highways

FROM: Peter Sandbeck *PSS for Peter Sandbeck*

SUBJECT: I-40 From 0.3 miles west of NC 801 (Exit 180) in Davie County to 0.3 miles west of SR 1101 in Forsyth County, I-911A, ER 05-2699

Thank you for your letter of November 16, 2005, concerning the above project.

We have conducted a review of the proposed undertaking and are aware of no historic resources, which would be affected by the project. Therefore, we have no comment on the undertaking as proposed.

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, please contact Rence Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above-referenced tracking number.

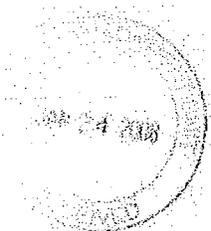
cc: Mary Pope Furr, NCDOT
 Matt Wilkerson, NCDOT

	Location	Mailing Address	Telephone/Fax
ADMINISTRATION	507 N. Blount Street, Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919)733-4763/733-8653
RESTORATION	515 N. Blount Street, Raleigh NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919)733-6547/715-4801
SURVEY & PLANNING	515 N. Blount Street, Raleigh, NC	4617 Mail Service Center, Raleigh NC 27699-4617	(919)733-6545/715-4801

APPENDIX C

HISTORIC ARCHITECTURE DATA, PHOTOS AND RELATED CORRESPONDENCES

TIP Project No. I-0911 A



North Carolina Department of Cultural Resources
 State Historic Preservation Office
 Peter H. Sandbeck, Administrator

Michael F. Easley, Governor
 Elisabeth C. Evans, Secretary
 Jeffrey J. Crow, Deputy Secretary

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

January 18, 2008

MEMORANDUM

To: Mary Pope Furr
 Historic Architecture Group
 Department of Transportation

From: Renee Gledhill-Barley *RGB*
 Environmental Review Coordinator

Re: Historic Architectural Structures Report, Widening of I-40, 0.3 mile W of NC 801 to 0.3 mile E of SR 1101, I-911A, Forsyth/Davie Counties, PR05-2699

Thank you for your letter of November 26, 2008, transmitting the above-referenced document. We have reviewed the report and offer the following comments.

We concur with the finding that the Win-Mock Farm, with its recently revised boundaries, remains eligible for listing in the National Register of Historic Places.

The report does an excellent job of presenting the historic context for the Hickory Grove A.M.E. Zion Church (FY155) and of arguing that it is not eligible for listing in the National Register. We concur with this finding.

We have no reservations about five of the six properties found to be not eligible for listing and unworthy of additional evaluation in the report. However, given the State Study List status of the R. E. Lasater House (FY 34), we believe that additional photographs of the property are needed in our files to support our concurrence in the property's ineligibility for listing. Copies of the photographs, presented at the review meeting by Ms. Sandbeck, that show the new development around the building and changes to the exterior would be sufficient for our files. *Photo given to RCB at 1-28-08 per review meeting (RCB)*

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-Barley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above-referenced tracking number.

cc: HPC



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

August 6, 2007

Mr. Peter B. Sandbeck
Deputy State Historic Preservation Officer
North Carolina Department of Cultural Resources
4617 Mail Service Center
Raleigh, North Carolina 27699-4617

Dear Mr. Sandbeck:

RE: *Win-Mock Farm -- B-3835, Davie/Forsyth Counties*
State Project No. 8.1611401, Federal Aid No. BRSTP-158(12)
ER 01-8193

In 2002 the North Carolina Department of Transportation (NCDOT) and your office agreed that Win-Mock Farm, located on US 158 in the Town of Bermuda Run in Davie County, is eligible for listing in the National Register of Historic Places (NR) under Criterion A for agriculture and Criterion C for architecture. The property also is included on the North Carolina State Study list.

Sale and development of the adjacent properties since the mid-twentieth century greatly reduced the farm in size. The National Register boundary proposed in 2002 encompassed those parts of four parcels (according to Davie County tax maps for 2007) containing the principle barns, the foreman's house, and auxiliary buildings, as well as the attendant pond and bottom-lands along the Yadkin River. Just as recent construction dictated the "west" boundary line, current and imminent development of the pond area, bottom-lands, and barn vicinity now suggest an adjustment of the "eastern" and "southern" extent of the historic property to best reflect NR eligibility.

The Twin City Youth Soccer Association, owner of most of the land between the Win-Mock structures and the Yadkin River, has completed initial development of its property as an athletic complex (see attached tax map). Twin City Youth Soccer obtained a grading/erosion control permit for additional site work, which

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
OFFICE OF HUMAN ENVIRONMENT
1503 MAIL SERVICE CENTER
RALEIGH, NC 27699-1583

TELEPHONE: 919-715-1500
FAX: 919-715-1522

WEBSITE: WWW.NCDOT.ORG

LOCATION:
PARKER LINCOLN BUILDING
2728 CAPITAL BOULEVARD, SUITE 168
RALEIGH, NC 27604

Includes the construction of a new road within the property connecting it to NC 158. The original permit expired, Twin City Youth Soccer applied for a renewal, and approval is certain. The existing soccer fields and the imminent road and landscape work have and will alter the historic character of the pond area and most of the bottom-lands that supported the NR eligibility of Win-Mock Farm under Criterion A for agriculture. Now non-contributing elements of the NR-eligible Win-Mock property as defined in 2002, the Twin City Youth Soccer parcels may be excluded by adopting a new "eastern" boundary. The area immediately surrounding the Win-Mock structures, as well as a small amount of bottom-land adjacent to I-40, are part of two parcels immediately adjacent to the Twin City Youth Soccer property. The "eastern" property lines of the two parcels, owned by The Hillsdale Group, effectively mark the "eastern" extent of the NR-eligible remnant of the Win-Mock Farm. Similarly, site work presently underway just south of the barns on the Hillsdale Group property suggests moving the "southernmost" boundary line closer to the buildings.

On July 27, 2007 NCDOT architectural historians and engineers met with environmental review staff of the State Historic Preservation Office and the Federal Highways Administration to discuss the possibility of reducing the proposed NR boundary for Win-Mock Farm. They reviewed the conditions summarized above and agreed that the boundary can be relocated at the "east" and "south" along US 158 and remain as originally defined at the interior "south," the "west," and the "north." Specifically, the new boundary conforms to the lines of the parcels owned by The Hillsdale Group at the "east," to a point approximately 125 feet "north" of the existing US 158 centerline. It then runs "west" to Bert's Way ("western" side), follows Bert's Way to a point approximately 50 feet "north" of the E. Kinderton Way terminus, continues "west" for approximately 175 feet, then runs "north" to the I-40 right-of-way and along the same to the "eastern" parcel line (see attached NR boundary map).

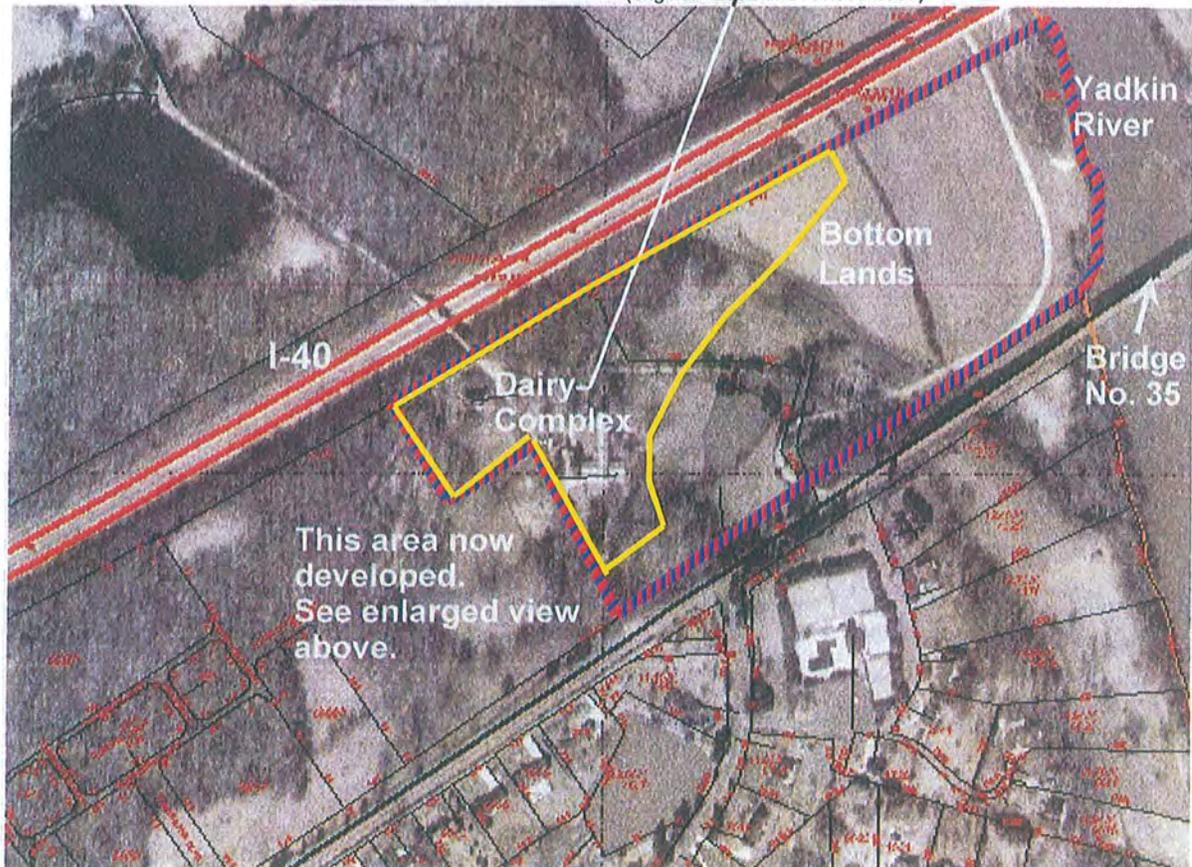
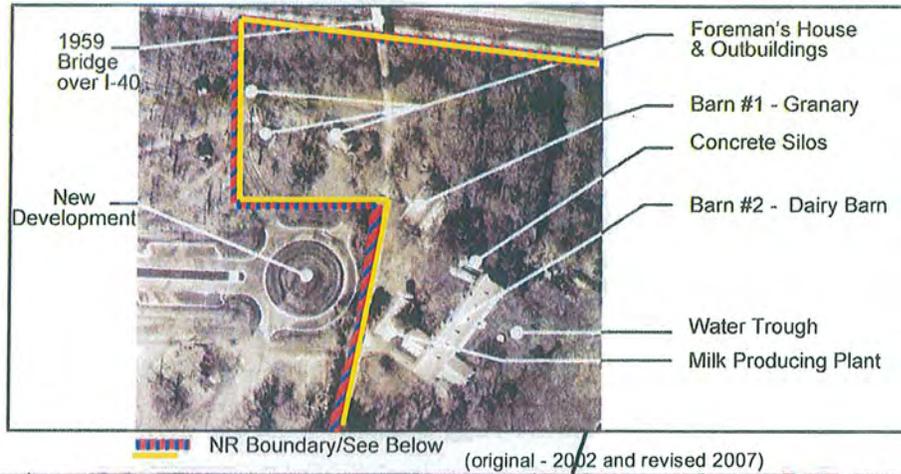
Should questions arise or if you need additional information, please contact me at 919-715-1617 or vepatrick@dot.state.nc.us. Thank you.

Sincerely,

Vanessa E. Patrick
Architectural Historian

Attachment
Copy: John Wadsworth, P.E., NCDOT

Nov. 2002
(rev. 2007)



Win-Mock Farm Complex

(2007 Boundaries from TIP B-3835)

Original 2002
Revised 2007



*I-911 A: I-40 Widening
Davie and Forsyth Counties
Phase II Historic Architectural Resources Survey Report*

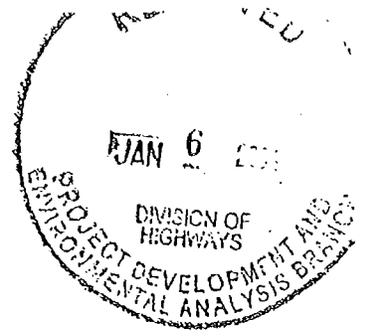
*NCDOT Historic Architecture Group
Penne Sandbeck / November 2007*



Photo of Win-Mock Farm (Property No. 2, DV 493), Main Barn, W and S elevations



Photo of Win-Mock Farm, Dairy, S and W elevations



North Carolina Department of Cultural Resources
State Historic Preservation Office

Peter B. Sandbeck, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

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

January 4, 2006

MEMORANDUM

TO: Greg Thorpe, Ph.D., Director
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

FROM: Peter Sandbeck *PSS for Peter Sandbeck*

SUBJECT: I-40 From 0.3 miles west of NC 801 (Exit 180) in Davie County to 0.3 miles west of SR 1101 in Forsyth County, I-911A, ER 05-2699

Thank you for your letter of November 16, 2005, concerning the above project.

We have conducted a review of the proposed undertaking and are aware of no historic resources, which would be affected by the project. Therefore, we have no comment on the undertaking as proposed.

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, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above-referenced tracking number.

cc: Mary Pope Furr, NCDOT
Matt Wilkerson, NCDOT

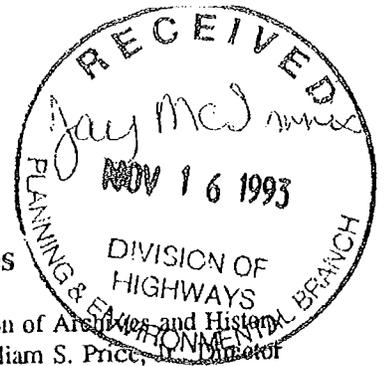
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North Carolina Department of Cultural Resources

James B. Hunt, Jr., Governor
Betty Ray McCain, Secretary

Division of Archives and History
William S. Price, Director



November 12, 1993

Nicholas L. Graf
Division Administrator
Federal Highway Administration
Department of Transportation
310 New Bern Avenue
Raleigh, N.C. 27601-1442

Re: I-40 from east of SR 1103 to west of SR 1122, I-911, A, B, & C, Forsyth County, ER 94-7716

3-225

Dear Mr. Graf:

Thank you for your letter of October 20, 1993, transmitting the archaeological survey report concerning the above project.

During the course of the survey no archaeological sites were located within the project area. Mr. Glover has recommended that no further archaeological investigation be conducted in connection with this project. We concur with this recommendation since this project will not involve significant archaeological resources.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966 and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106, codified at 36 CFR Part 800.

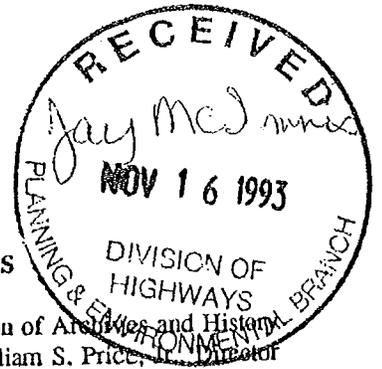
Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763.

Sincerely,

David Brook
Deputy State Historic Preservation Officer

DB:slw

cc: ✓ H. F. Vick
T. Padgett



North Carolina Department of Cultural Resources

James B. Hunt, Jr., Governor
Betty Ray McCain, Secretary

Division of Archaeology and History
William S. Price, Director

November 12, 1993

Nicholas L. Graf
Division Administrator
Federal Highway Administration
Department of Transportation
310 New Bern Avenue
Raleigh, N.C. 27601-1442

Re: I-40 from east of SR 1103 to west of SR 1122, I-
911, A, B, & C, Forsyth County, ER 94-7716

3-2215

Dear Mr. Graf:

Thank you for your letter of October 20, 1993, transmitting the archaeological survey report concerning the above project.

During the course of the survey no archaeological sites were located within the project area. Mr. Glover has recommended that no further archaeological investigation be conducted in connection with this project. We concur with this recommendation since this project will not involve significant archaeological resources.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966 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, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763.

Sincerely,

David Brook
Deputy State Historic Preservation Officer

DB:slw

cc: ✓ H. F. Vick
T. Padgett

Federal Aid #: IR-40-3(60)180

TIP#: I-911A

County: Davie-Forsyth

CONCURRENCE FORM FOR ASSESSMENT OF EFFECTS

Project Description: Widening Interstate 40 (I-40), .3 miles W of NC 801 to .3 miles E of SR 1101, Clemmons vic: Alteration of slope/stakes on S side I-40, adjacent to Win-Mock Farm (NR), Davie County

On March 30, 2009, representatives of the

- North Carolina Department of Transportation (NCDOT)
- Federal Highway Administration (FHWA)
- North Carolina State Historic Preservation Office (HPO)
- Other

Reviewed the subject project and agreed on the effects findings listed within the table on the reverse of this signature page.

Signed:

Mary Pope 3.30.2010
Representative, NCDOT Date

Michael D. Damm 3/30/10
FHWA, for the Division Administrator, or other Federal Agency Date

Representative, HPO Date

Renee Medkell-Easley 3.30.10
State Historic Preservation Officer Date

Federal Aid #: IR-40-3(60)180

TIP #: I-911A

County: Davie/Forsyth

Property and Status	Alternative	Effect Finding	Reasons
Win-Mock Farm (NR, DE)	Alteration of ROW/slope stakes	No adverse effect	If 1.5:1 slopes are used (which may require rock plating for stabilization of the slope) it will have no adverse effect to the property. - No Retaining Walls -

Initialed: NCDOT MPA FHWA _____ HPO CYE

Federal Aid #: I-40-3(60)180

TIP#: I-0911A

County: Davie and Forsyth

CONCURRENCE FORM FOR ASSESSMENT OF EFFECTS

Project Description: Widen I-40 from west of NC 801 to west of SR 1101

On May 3, 2011, representatives of the

- North Carolina Department of Transportation (NCDOT)
- Federal Highway Administration (FHWA)
- North Carolina State Historic Preservation Office (HPO)
- Other

Reviewed the subject project and agreed on the effects findings listed within the table on the reverse of this signature page.

Signed:

Mary Pope 5.3.2011
Representative, NCDOT Date

Dahl W. Burt 5-3-11
FHWA, for the Division Administrator, or other Federal Agency Date

Representative, HPO Date

Renee Medhill-Early 5/3/11
State Historic Preservation Officer Date

Federal Aid #: I-40-3(60)180

TIP#: I-0911A

County: Forsyth & Dawie

Property and Status	Effect Finding	Alternative	Reasons
Win-Mock Farm (DE)	No Adverse Effect		1 1/2:1 slope with rock plaiting & ditch w/ 25' easement - some of which within historic boundary but not impacting contributing resources

Initialed: NCDOT MPA FHWA DB HPO PSA

FHWA intends to use HPO's call of "No Adverse Effect" as the basis of a "de minimis" finding for the following properties, pursuant to Section 4(f): FHWA initials DB

Penney, John M

From: Robbins, Jamille A
Sent: Sunday, December 29, 2013 8:31 PM
To: Penney, John M; Houser, Anthony A; Washington, Katrina N
Subject: Fwd: I 40 Widening - Davie/Forsyth Counties

Follow Up Flag: Follow up
Flag Status: Flagged

I will take a look at this when I get back in the office on Friday.

Sent from my iPhone

Begin forwarded message:

From: Kathy Baumgaertner <kbaumgaertner52@gmail.com>
Date: December 29, 2013 at 10:43:28 AM EST
To: <jarobbins@ncdot.gov>, <slcaudill@dot.state.nc.us>
Cc: Gene Baumgaertner <webaum47@gmail.com>
Subject: I 40 Widening - Davie/Forsyth Counties

Thank you for providing me with a copy of the EA and supporting appendices for the above listed project. As a National Environmental Policy Act (NEPA) expert and FHWA National Highway Institute Instructor, I found the EA was lacking in some areas, particularly related to the Cumulative Impact Analysis, which I will expand upon in the following paragraphs.

My husband and I purchased 3904 Westridge Meadow Circle in 2006 as a home for my elderly mother, who still lives there today. About two years after the purchase, NCDOT added an eastbound exit ramp from I-40 to Harper Road. As a consequence, the distance between the I-40 edge of pavement and the Tanglewood Farm neighborhood was decreased and all of the vegetation between Thoroughbred Road and I-40 was removed. There was a noticeable increase in traffic noise as a result of this project. It is impossible to use the outside patio as a consequence. However, NCDOT did nothing to mitigate the noise impact.

As you know, NEPA requires the Federal agency (or DOT as the recipient of federal funds) to take into consideration the cumulative impacts of the action when combined with other past, present, or reasonably foreseeable future actions regardless of who takes the action or how the action is funded. I have reviewed the proposed project EA and all appendices and find no place where cumulative impacts are adequately addressed with the exception of Land Use. The noise analysis should have taken into account the cumulative impact of the proposed action in conjunction with the previous ramp project. Since NCDOT is currently conducting a detailed study of potential mitigation measures, I suggest that the analysis and subsequent decision-making take into consideration the cumulative impacts of the two projects.

I believe without mitigation, and specifically a noise wall, the noise impacts from the combination of the two projects will not only impact the livability of the home, but will also negatively impact the value of my property and make it very difficult to sell when we decide to

do so. The economic impact of noise on property value was not addressed at all in the EA, which is an oversight on the part of the preparers.

I strongly urge you to provide a noise wall adjacent to the Tanglewood Farm and neighboring communities and to take into consideration that this is not the first project to have a noise impact on these homes.

Respectfully,

Kathy Baumgaertner
3904 Westridge Meadow Circle, Clemmons, NC
10104 Old Warden Road, Raleigh, NC

Email correspondence to and from this sender is subject to the M.C. Public Records Law and may be disclosed to third parties.

APPENDIX D
PUBLIC HEARING



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PATRICK L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

MEMO TO: Post Hearing Meeting Attendees

FROM: Roger Thomas, PE 
Assistant State Roadway Design Engineer

DATE: May 29, 2014

SUBJECT: Project 34147.1.2 (I-0911A) Davie and Forsyth Counties
F. A. Project NHIMF-40-3(112)18
I-40, from 0.3 mile West of NC 801 in Davie County to 0.3 mile West
of SR 1101 (Harper Road) in Forsyth County

Post Hearing Meeting Minutes

The Post Hearing Meeting was held in the Roadway Design Conference Room at 11:00 am on March 13, 2014, to discuss the comments received at the I-0911A Design Public Hearing. The Design Public Hearing was held on November 18, 2013 at the Clemmons Village Hall Council Chambers located at 3715 Clemmons Road in Clemmons. An informal Open House Meeting was held from 4:00 pm to 7:00 pm.

Executive Summary

Based upon coordination with Division Staff, this project will maintain traffic in a two-lane, two-way pattern during the construction process. Noise walls that were found to be feasible and reasonable based upon the NCDOT Traffic Noise Abatement Policy have been recommended.

Written Comments

Ms. Vickie S. Sutton 7685 Fair Oaks Drive, Clemmons, NC

Ms. Sutton is concerned about her property. She enclosed pictures of her property after the previous time NCDOT completed work around her property. She wants to know what will happen to her property if the interstate is widened to her side.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN UNIT
1582 MAIL SERVICE CENTER
RALEIGH NC 27699-1582

TELEPHONE: 919-707-6200
FAX: 919-250-4036
WEBSITE: WWW.NCDOT.ORG/DOH

LOCATION:
CENTURY CENTER COMPLEX
BUILDING A
1000 BIRCH RIDGE DRIVE
RALEIGH NC

I-0911A
Post Hearing Meeting Minutes
May 29, 2014

Response:

The construction of the I-0911A project will not impact Ms. Sutton's property.

Ms. Debbie Corbin 3944 Westridge Meadow Circle

Ms. Corbin requests a noise wall be constructed if I-40 is widened.

Response:

The traffic noise analyses prepared for the project indicate that a proposed noise wall adjacent to the eastbound lanes of I-40 near Westridge Meadow Circle was found to be feasible and reasonable based upon the NCDOT Traffic Noise Abatement Policy. A proposed noise wall has been recommended for this area. Ms. Corbin's residence is not impacted (by definition in the NCDOT Traffic Noise Abatement Policy) by current traffic noise levels from I-40, nor is it predicted to be impacted by Design Year traffic noise. The majority of traffic noise at her residence is US 158. The noise wall proposed along I-40 is not expected to have any noise reduction effect on Ms. Corbin's residence due to its distance from I-40.

Ms. Frances Ogburn 7707 Whitehorse Drive, Clemmons, NC 27012

Ms. Ogburn requests that a noise wall be constructed on the Fair Oaks Drive side of I-40 if more lanes are added. Ms. Ogburn comments that it is extremely loud with the existing four lanes.

Response:

The traffic noise analyses prepared for the project indicate that a proposed noise wall adjacent to the eastbound lanes of I-40 near Fair Oaks Drive was found to be feasible and reasonable based upon the NCDOT Traffic Noise Abatement Policy. A proposed noise wall has been recommended for this area. Ms. Ogburn's residence is not impacted (by definition in the NCDOT Traffic Noise Abatement Policy) by current traffic noise levels from I-40, nor is it predicted to be impacted by Design Year traffic noise. The noise wall proposed along I-40 is not expected to have any noise reduction effect on Ms. Ogburn's residence due to its distance from I-40.

R. Nelson and Sandi White 3924 Westridge Meadow Circle

They request a noise wall be constructed if more lanes are added because the noise is terrible.

Response:

The traffic noise analyses prepared for the project indicates that a proposed noise wall adjacent to the eastbound lanes of I-40 near Westridge Meadow Circle was found to be feasible and reasonable based upon the NCDOT Traffic Noise Abatement Policy. A proposed noise wall has been recommended for this area. The Nelson/White residence is not impacted (by definition in the NCDOT Traffic Noise Abatement Policy) by current traffic noise levels from I-40, nor is it predicted to be impacted by Design Year traffic noise. The majority of traffic noise at their residence is generated by US 158. The noise

wall proposed along I-40 is not expected to have any noise reduction effect on the Nelson/White residence due to its distance from I-40.

Ms. Kathy Baumgaertner 3904 Westbridge Meadow Circle

Ms. Baumgaertner is well versed on the National Environmental Policy Act (NEPA) and is also a National Highway Institute instructor. She read the Environmental Assessment (EA) planning document for I-0911A and the supporting indices. Based upon her review, she does not think that NCDOT has taken into consideration the cumulative impacts of I-0911A when combined with other past projects. When NCDOT added a ramp at eastbound I-40 to Harper Road, the distance between the edge of pavement and the Tanglewood Farm neighborhood decreased and all of the vegetation between Thoroughbred Road and I-40 was removed. The increased noise from the added ramp was never mitigated. She believes that the I-0911A project, along with a previous project (the addition of an eastbound exit ramp from I-40 to Harper Road), will increase the noise to the point that their house will not be habitable and the market value will drop. She would like a noise wall to mitigate the increased noise.

Response:

Traffic noise analyses prepared for the project indicate that a proposed noise wall adjacent to the eastbound lanes of I-40 near Westridge Meadow Circle was found to be feasible and reasonable per the NCDOT Traffic Noise Abatement Policy. A proposed noise wall has been recommended for this area. Ms. Baumgaertner's residence is predicted to receive a Design Year noise level approximately 11 decibel noise level reduction after construction of the proposed noise wall.

Mr. Mike Jenkins 191 Brookstone Drive, Advance, NC

Mr. Jenkins had a couple of questions/concerns dealing with noise. He says that the noise from I-40 has gotten worse over the past several years

He would like to know:

- 1) How the noise study area around Pinewood Lane was determined?
- 2) Why wasn't it extended further into Kinderton Village?
- 3) Is there a process for extending the noise study further into Kinderton Village?
- 4) What noise abatement methods might be used along I-40?

Response:

1) Traffic noise analyses determine whether noise sensitive land uses such as neighborhoods, apartments, churches, and schools will be impacted in the future by traffic noise related to a proposed highway project. Future traffic noise levels resulting from the project's proposed construction are predicted through computer models using existing noise levels, existing traffic volumes and predicted future traffic volumes. Noise reduction measures, such as noise walls, must be considered for all predicted traffic noise impacts created by the project.

2) The traffic noise analyses for the I-40 widening project determined that no predicted traffic noise impacts, as defined in the NCDOT Traffic Noise Abatement Policy, will extend beyond residences located north of Pinewood Lane. Consequently, noise reduction considerations did not include Kinderton Village.

3) Noise studies review only noise-impacted areas. Kinderton Village was determined not to be impacted as noted in response 2) above.

4) Traffic noise analyses completed for the project indicate that a noise wall adjacent to the I-40 westbound lanes in the vicinity of Pinewood Lane was found to be feasible and reasonable per the NCDOT Traffic Noise Abatement Policy. A proposed noise wall has been recommended for this area. Mr. Jenkins' residence is located approximately 1200 feet from I-40 and is not impacted (by definition in the NCDOT Traffic Noise Abatement Policy) by current traffic noise levels from I-40, nor is it predicted to be impacted by Design Year traffic noise. No noise wall along I-40 will be effective at reducing noise levels at his home due to its distance from I-40.

Ms. Helen W. Kelly 103 Glenmoor Avenue

Ms. Kelly would like more information about what is to be done about the pedestrian tunnel that goes under I-40 near Kinderton Village. She specifically asks that it be fixed so water does not collect in the tunnel.

Response:

The widening of I-40 will require the pedestrian tunnel to be extended on both sides. The design of the pedestrian tunnel extension will be reviewed to keep water from collecting in the tunnel.

If anyone has questions or comments regarding this information, please contact Mr. Bruce Payne, Project Design Engineer at (919)707-6302 or Mr. Tony Houser, PE, Project Engineer at (919) 707-6253.

RDT/aah

cc: Deborah Barbour, PE – Director of Preconstruction

Post Hearing Meeting Attendees:

Name	Unit / Agency	Email
Keith Raulston, PE	NCDOT-Division 9	kraulston@ncdot.gov
Drew Joyner, PE	NCDOT-PDEA-HES	djoyner@ncdot.gov
Roger Thomas, PE	NCDOT-Roadway Design	rthomas@ncdot.gov
Doug Taylor, PE	NCDOT-Roadway Design	bdtaylor@ncdot.gov
Donnie Richardson	NCDOT-WZTC	derichardson@ncdot.gov
Helen Shyu	NCDOT-WZTC	hshyu@ncdot.gov
Jamille Robbins	NCDOT-PDEA-HES	jarobbins@ncdot.gov

I-0911A
 Post Hearing Meeting Minutes
 May 29, 2014

Jay A. Bennett, PE	NCDOT-Roadway Design	jbennett@ncdot.gov
Don Smith, PE	NCDOT-Structure Management	drsmith@ncdot.gov
Brenda Moore, PE	NCDOT-Roadway Design	blmoore@ncdot.gov
Glenn Mumford, PE	NCDOT-Roadway Design	gmumford@ncdot.gov
Michael Penney, PE	NCDOT-PDEA	mpenney@ncdot.gov
Felix Davila, PE	FHWA	felix.davila@dot.gov
Leigh Wing, PE	NCDOT-VMU	lmwing@ncdot.gov
Bruce Payne, PE	NCDOT- Roadway Design	bbpayne@ncdot.gov
Tatia White, PE, PLS	NCDOT-Roadway Design	tlwhite@ncdot.gov
Rebecca Jackson	NCDOT-Roadway Design-TEA	rfjackson@ncdot.gov
Beverly Robinson	NCDOT-PDEA	brobinson@ncdot.gov
Natasha Earle	NCDOT-PDEA	nbearle@ncdot.gov
Katrina Washington	NCDOT-Roadway Design	kwashington@ncdot.gov
Kyle Pleasant	NCDOT-Utilities	kpleasant@ncdot.gov
Tony Houser, PE	NCDOT-Roadway Design	thouser@ncdot.gov
Pat Ivey, PE	NCDOT-Division 9	pivey@ncdot.gov
Diane Hampton, PE	NCDOT-Division 9	dkhampton@ncdot.gov
Greg Errett	Winston-Salem DOT	grege@cityofws.org

COMMENT SHEET

I-0911A – Public Hearing
November 18, 2013
I-40 Improvements

NAME: Vickie S. Sutton (LATE) ROBERT B. Sutton

ADDRESS: 7685 FAIR OAKS DR., CLEMMONS, N.C.

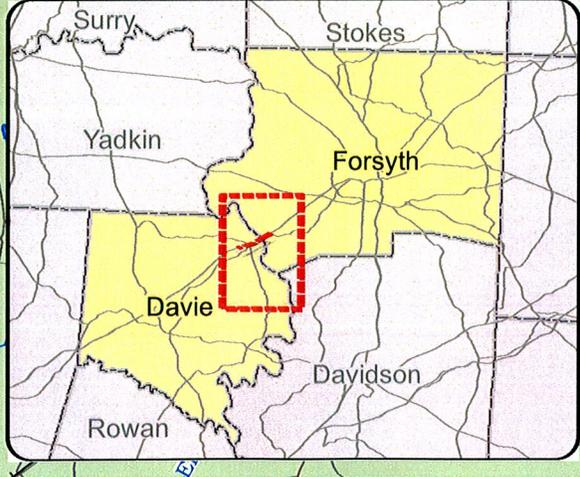
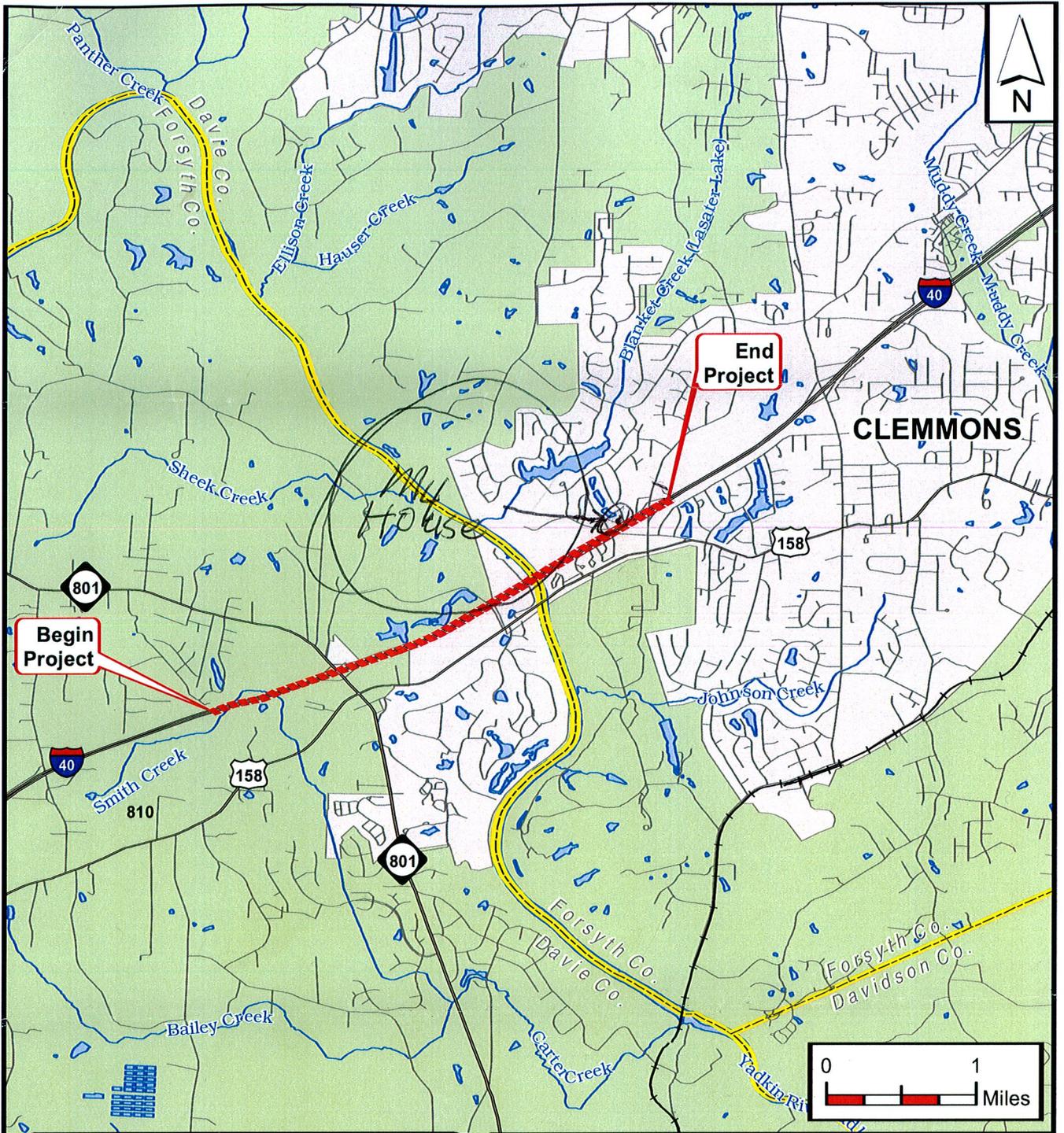
EMAIL: _____

COMMENTS and/or QUESTIONS:

If you look at the map you'll see marked
is our house. The address is 7685 Fair Oaks Dr.
If the highway is expanded from the
side, what will happen to our house.
Please reply! A picture paints a
thousand words. Please send someone
to look at this matter. Enclose are
a couple of pictures before and
after the first time the DOT
widen the highway and here is
our house.

Comments may be mailed, faxed or emailed by December 20, 2013 to:

Mr. Jammie Robbins
NCDOT - Human Environment Section
1598 Mail Service Center
Raleigh, NC 27699-1598
Phone: (919) 707-6085
Fax: (919) 212-5785
Email: PublicInvolvement1@ncdot.gov



NORTH CAROLINA DEPARTMENT
 OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 PROJECT DEVELOPMENT AND
 ENVIRONMENTAL ANALYSIS BRANCH

VICINITY MAP
I-40 PAVEMENT REHABILITATION
AND CONSTRUCT ADDITIONAL LANES
FROM WEST OF NC 801
TO EAST OF SR 1101 (HARPER ROAD /
TANGLEWOOD BUSINESS PARK ROAD)

MARCH 2013 DAVIE-FORSYTH COUNTIES **FIGURE 1**
 TIP PROJECT I-0911A



COMMENT SHEET

I-0911A – Public Hearing
November 18, 2013
I-40 Improvements

NAME: Debbie Corbin

ADDRESS: 3944 Westridge Meadow Circle

EMAIL: dcorbin14@aol.com

COMMENTS and/or QUESTIONS:

Please do NOT Add more lanes to
I-40 without giving us a sound wall.
The noise is already unbearable.

Comments may be mailed, faxed or emailed by December 20, 2013 to:

Mr. Jamille Robbins
NCDOT - Human Environment Section
1598 Mail Service Center
Raleigh, NC 27699-1598
Phone: (919) 707-6085
Fax: (919) 212-5785
Email: PublicInvolvement1@ncdot.gov

COMMENT SHEET

**I-0911A – Public Hearing
November 18, 2013
I-40 Improvements**

NAME: Helen W. Kelly

ADDRESS: 103 Glenmoor Ave. Bermuda Run

EMAIL: helenarden2003@yahoo.com

COMMENTS and/or QUESTIONS:

Lakeside Crossing in Kinderton Village runs under
I-40. There is a tunnel under I-40 with grading
leading to the tunnel goes down and up on the other
side. Will the grading be fixed so that
water does not collect in the tunnel.

Comments may be mailed, faxed or emailed by December 20, 2013 to:

Mr. Jamille Robbins
NCDOT - Human Environment Section
1598 Mail Service Center
Raleigh, NC 27699-1598
Phone: (919) 707-6085
Fax: (919) 212-5785
Email: PublicInvolvement1@ncdot.gov

COMMENT SHEET

I-0911A – Public Hearing
November 18, 2013
I-40 Improvements

NAME:

Ogburn

ADDRESS:

7707 Whitehorse Dr. Clemmons NC

EMAIL:

_____ 27012

COMMENTS and/or QUESTIONS:

Under no circumstances should more lanes
be added without a noise wall installed
on the Fair Oaks Drive side.

It is already extremely loud now with
4 lanes, much less 6 lanes.

Please don't do this without installing
a noise wall. Thank You.

Comments may be mailed, faxed or emailed by December 20, 2013 to:

Mr. Jamille Robbins
NCDOT - Human Environment Section
1598 Mail Service Center
Raleigh, NC 27699-1598
Phone: (919) 707-6085
Fax: (919) 212-5785
Email: PublicInvolvement1@ncdot.gov

COMMENT SHEET

I-0911A – Public Hearing
November 18, 2013
I-40 Improvements

NAME: R. Nelson + Sondi White

ADDRESS: 3924 Westridge Meadow Circle

EMAIL: 408.bear3924@ATT.net

COMMENTS and/or QUESTIONS:

Please do not add more lanes unless there is
a sound wall. Noise is Terrible

Comments may be mailed, faxed or emailed by December 20, 2013 to:

Mr. Jamille Robbins
NCDOT - Human Environment Section
1598 Mail Service Center
Raleigh, NC 27699-1598
Phone: (919) 707-6085
Fax: (919) 212-5785
Email: PublicInvolvement1@ncdot.gov

TIP Project I-0911:

I-40 WIDENING, WEST OF NC 801 IN DAVIE COUNTY TO EAST OF SR 1101 (HARPER ROAD) IN FORSYTH COUNTY



Public Hearing

SIGN IN SHEET (please print)

NAME	ADDRESS	EMAIL	PHONE
Diane Hampton	NCDOT DIV 9	dhampton@ncdot.gov	336 742 2320
Tony Houser	NCDOT - Roadway	thouser@ncdot.gov	
Michael Penney	NCDOT - PDEA	mpenney@ncdot.gov	919-707-6006
Sylvia Cardwell	4150 Brian Creek Rd.	brohinsm@ncdot.gov	766-4021
Beverly Robinson	NCDOT - PDEA		919 707-6041
Les Rollins	Town of Bermuda Run	lrollins@townofbr.com	336-998-0906
KEITH RAULSON	PO Box DIV 9	KRAULSON@ncdot.gov	
GREG ERICET	CITY OF WINSTON-SALEM DOT	GREG@CITYOFWS.ORG	(336) 747-6871
Rachel Lambert	NCDOT R/W	ELambert@ncdot.gov	336-766-8737
Wesley Sullivan	7685 FAIR OAKS DR		336-766-9819
Bobby Ogburn	PO Box 211 Clemmons 27012		
ED SCHREIBER	7621 RIVERVIEW KNOX CT		
VAN McGEHEE	POB 526 CLEMMONS NC 27012-0526		
Tom Branen	4200 STONEY BROOK RD	THOMASBRANEN@BELLSCOMM.NET	766 9677
DAVID JORDAN	6705 ROLLINGWOOD DR.		766-4923

TIP Project I-0911:

I-40 WIDENING, WEST OF NC 801 IN DAVIE COUNTY TO
EAST OF SR 1101 (HARPER ROAD) IN FORSYTH COUNTY



Public Hearing

SIGN IN SHEET (please print)

NAME	ADDRESS	EMAIL	PHONE
MR. C. FORIN DEAH	3523 LAWRENCE ST. CLEMMONS	C.robina29@yahoo.com	336-766-9814
HOWARD CARVION	4279 LAKE CLIFF	hcarvion@triad.rr.com	336-766-0365
Ball, Philip & Kathy	3905 Westridge Meadow Circle / Clemmons	pball@triad.rr.com	336-766-8521
Joye fuison	6713 Rollingwood Dr / Clemmons		336-766-4457
JAN P RHYNE	170 Sugar Creek Rd Mocksville NC		
Dabbie Corbin	3944 Westridge Meadow Cir		766-9389
Sandi + Nelson White	3924 Westridge Meadow Cir		766-6175
Mike Molsinger	1350 JAMIE CT WS, 27104	mmolsinger@ncdot.gov	949-5591
R. K. Hoffer	1605 Westbrook Pla Dr. WS	rhatten@ncdot.gov	336 760-8737
Patricia Petree	6818 Rollingwood Dr Clemmons		336 766 9465
JOHN MURPHY	6709 Rollingwood Dr Clemmons		766-5988
SUSAN HICKER	120 Bridgewater Dr., Advance	shicks@yadtel.net	741-7956
Gus Preschle	7711 Laster Rd Clemmons	explor@triad.rr.com	201-2026
DAVID BAKER	3636 Forsythia Tr Clemmons		813-0299
Pat Leah	4712 Rollingwood Dr. Clemmons, NC PO Box 210		766-4589

Clemmons, Forsyth County

November 18, 2013

TIP Project I-0911:

I-40 WIDENING, WEST OF NC 801 IN DAVIE COUNTY TO
EAST OF SR 1101 (HARPER ROAD) IN FORSYTH COUNTY



Public Hearing

SIGN IN SHEET (please print)

NAME	ADDRESS	EMAIL	PHONE
Bettie Vestal	6716 Rollingwood Dr Clemmons		7661266
S. Levern Smith	Advance		998-5784
Sherr Swain	135 Norman Ln Advance		909-0019
Karen Finley	3918 Westridge Meadow Cir, Clemmons		766-8010
Hope Harrell	3815 Ranchwood Dr Clemmons	hharris89@yahoo	766 6975
Dwight Cheryl Ayers	598 Jordan Dr. Advance	Coyers86@4600.com	330 671-0780
Helen Kelly	103 Glenmor Ave. Spawnda Run		998-2523
Debbie Cherry	6800 Rollingwood Drive	Cherryellie@aol.com	766-9859
Paula Thomas	8355 Lisimore St. Clemmons 27012	pthomas49@bellsouth.net	399-9434
AT TATE	1350 JAMME CT W-S 27106	pttelle@redot.gov	336-5899
Paul Whitener	4165 Briar Creek Rd. Clemmons	pwhitener@earthlink.net	766-9986
Rick Brown	724 LA VALE DR Clemmons NC 27012	rickbrown39@yahoo.com	816-8993
Donna Kuhn	140 Pinewood Ln unit 103 Advance	Kuhn-donna@hotmail.com	940-3572
MIKE ROGERS	110 STANWELL CT	MROGERS@CLEMMONS.NC	766-0849
James Beeson	106 Cameronstie Way Advance NC	job304.net@yettel.net	998-0262



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

I-40 Improvements From West of N.C. 801 in Davie County to East of Harper Road/Tanglewood Business Park Road in Forsyth County

STIP PROJECT NO. I-0911A

WBS No. 34147.1.2

Federal Aid Project No. NHIMF-40-3(112)180

Davie and Forsyth Counties, North Carolina

Public Hearing

Monday, November 18, 2013

Informal Open House 4:00 p.m. – 7:00 p.m.

**Clemmons Village Hall Council Chambers
3715 Clemmons Road, Clemmons**

PURPOSE OF THE PUBLIC HEARING

Today's hearing is another important step in the North Carolina Department of Transportation's (NCDOT) efforts for keeping you, the public, involved in the planning and development of the I-40 Improvement Project. The purpose of the hearing is to obtain public input on the location and design of the project.

Planning and environmental studies on the highway project are provided in the planning and environmental document – Environmental Assessment (EA). Copies of that report together with today's hearing maps are available for public review at the following locations:

- Village of Clemmons Planning Department, 3715 Clemmons Road
- Town of Bermuda Run, 120 Kinderton Boulevard, Suite 100
- NCDOT Division 9 Office, 375 Silas Creek Parkway, Winston-Salem
- Winston-Salem Transportation Department, Suite 307, Bryce Stuart Municipal Building, 100 E. First Street
- Public Meetings website: www.ncdot.gov/projects/publicmeetings

YOUR PARTICIPATION

You are encouraged to continue to participate by making your comments and/or questions a part of the public record. This may be done by writing them on the attached comment sheet. Several representatives of the North Carolina Department of Transportation are present. They will be happy to talk with you, explain the project to you and answer your questions.

You may write your comments and questions on the attached comment sheet and leave it in the comment box provided, or email or mail them to the following address (**Comments are due no later than December 20, 2013**):

Mr. Jammie Robbins
NCDOT – Human Environment Section
1598 Mail Service Center
Raleigh, NC 27699-1598
Phone: (919) 707-6085
Fax: (919) 212-5785
Email: PublicInvolvement1@ncdot.gov

Everyone present is urged to participate in the proceedings. It is important, however, that **THE OPINIONS OF ALL INDIVIDUALS BE RESPECTED REGARDLESS OF HOW DIVERGENT THEY MAY BE FROM YOUR OWN**. Accordingly, debates, as such, are out of place at public meetings. Also, the public hearing is not to be used as a POPULAR REFERENDUM to determine the location and/or design by a majority vote of those present.

WHAT IS DONE WITH THE INPUT?

A post-hearing meeting will be conducted after the comment period has ended. All spoken and written issues are reviewed and discussed at the post-hearing meeting. Most issues are resolved at this meeting. The NCDOT considers safety, costs, traffic service, social impacts and public comments in making decisions. Complex issues may require additional study and may be reviewed by higher management, Board of Transportation Members and/or the Secretary of Transportation.

Minutes of the post-hearing meeting will be summarized and made available to the public. If you are interested in receiving these minutes, please note your request on the attached comment sheet.

WHAT HAPPENS NEXT

A Finding of No Significant Impact (FONSI) will be prepared following the public hearing. The FONSI will be circulated for public and federal and state agency review. Final designs will be prepared, and the project will then proceed to the right of way acquisition phase of the project.

STATE-FEDERAL RELATIONSHIP

This proposed project is a Federal-Aid Highway Project and thus will be constructed under the State-Federal Aid Highway Program. Financing of this project will be 80% Federal funds and 20% State funds. The Board of Transportation is responsible for the selection and scheduling of projects on the Federal-Aid System including their location, design and maintenance cost after construction. The Federal Highway Administration (FHWA) is responsible for the review and approval of the previously mentioned activities to ensure that each Federal-Aid Project is designed, constructed and maintained to Federal-Aid Standards.

PROJECT DESCRIPTION

NCDOT proposes to widen I-40 from west of N.C. 801 in Davie County to east of Harper Road/Tanglewood Business Park Road (State Road 1101) in Forsyth County. I-40 is recommended to be widened to a six-lane divided facility with a 36-foot wide median and ten-foot shoulders. The project also will include replacing the existing bridges over the Yadkin River to improve safety and increase capacity along I-40. The total project length is approximately 2.6 miles long. A vicinity map is attached.

PROJECT HISTORY

One "best fit" build alternative with three design options was considered. Alternatives were compared based on qualitative and quantitative analysis, public input, and agency input. The option chosen as the preferred design will use a steeper slope (1.5:1 slope with rock plating) adjacent to the Win-Mock Farm property to reduce impacts. The Environmental Assessment for Project I-0911A was completed in June 2011.

PURPOSE AND NEED OF THE PROJECT

The primary purpose of this project is to increase the traffic carrying capacity and enhance transportation safety along I-40 within the project limits. Capacity analyses indicate that the existing four-lane divided highway is projected to operate at level of service (LOS) "F" in 2035 without improvements to the roadway. The level of service (LOS) of a roadway is the measure of its traffic carrying ability. Levels of service range from A to F, "A" being the best scenario with unrestricted maneuverability and operating speeds, and "F" being the worst scenario where travel on a roadway is characterized by "stop and go" conditions.

In addition, as part of the transportation safety requirements, the existing bridges over the Yadkin River were inspected and determined to be structurally deficient and must be replaced due to age and wear.

PROJECT INFORMATION

Length: 2.6 miles

Right of Way: Variable

Access Control: Full control of access (access provided by interchange only; no driveway access)

Project Costs:

Right of Way	\$18,300
Construction	\$48,200,000
Total	\$48,218,300

Current Schedule:

Spring 2014: Final environmental document (Finding of No Significant Impact)

Winter 2014: Final design

Fall 2015: Right of way acquisition begins

Construction is currently unfunded.

Many factors affect the project schedule, which is tentative and subject to change.

Project Impacts:

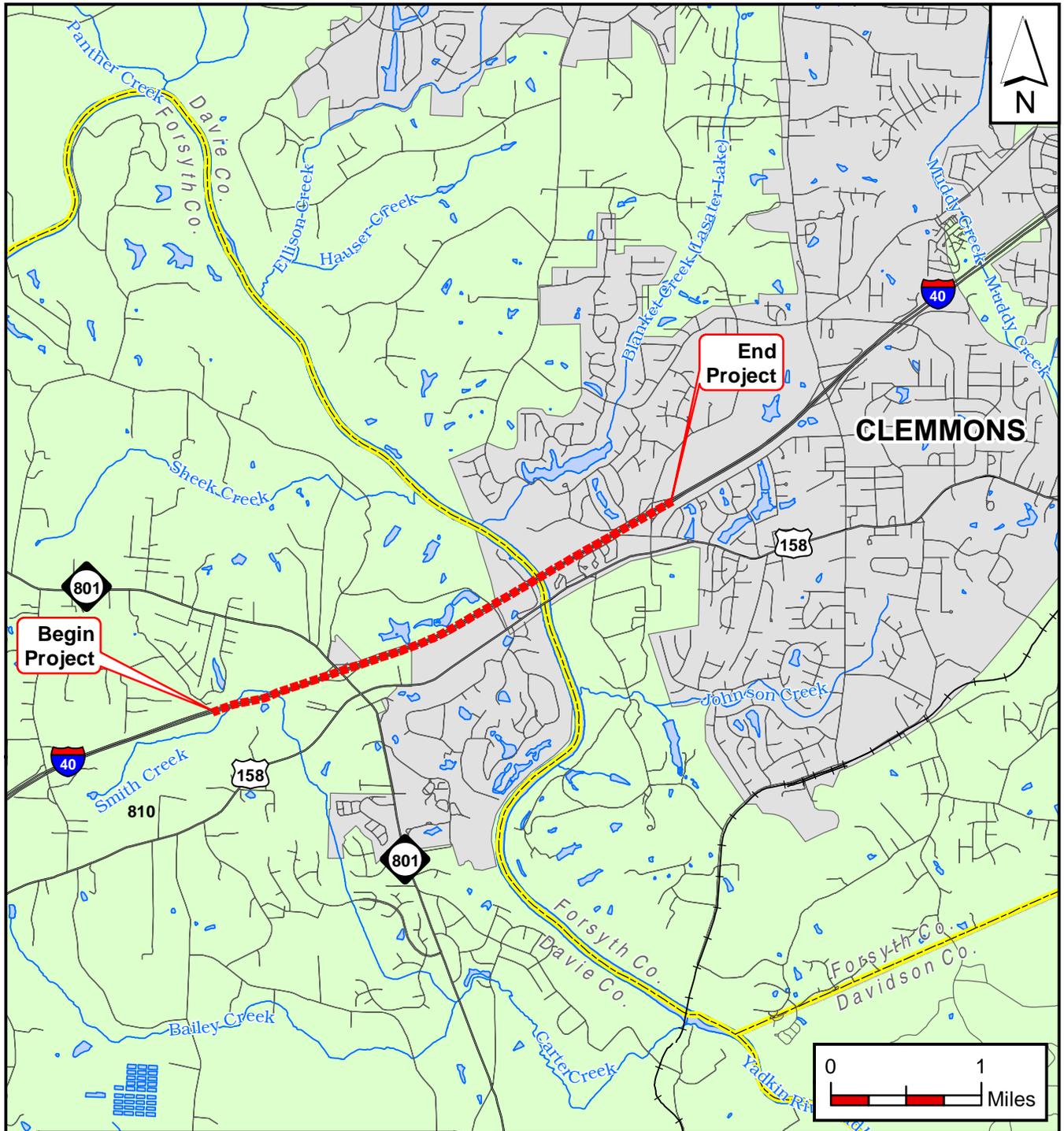
Impact Category	Preferred Alternative
Wetlands	4 crossings (0.2 acres)
Streams	5 crossings (821 linear feet)
Historic Resources	No Adverse Effect on Win-Mock Farm
Relocations	0

RIGHT-OF-WAY PROCEDURES

After decisions are made regarding the final design, the proposed right-of-way limits will be staked in the ground. If you are an affected property owner, a Right-of-Way Agent will contact you and arrange a meeting. The agent will explain the plans and advise you as to how the project will affect you. The agent will inform you of your rights as a property owner. If permanent right-of-way is required, professionals who are familiar with real estate values will evaluate or appraise your property. The evaluations or appraisals will be reviewed for completeness and accuracy, and then the Right-of-Way Agent will make a written offer to you. The current market value of the property at its highest and best use when appraised will be offered as compensation. The Department of Transportation must:

1. Treat all owners and tenants equally.
2. Fully explain the owner's rights.
3. Pay just compensation in exchange for property rights.
4. Furnish relocation advisory assistance.

NOTE: PAMPHLETS SUMMARIZING RIGHT OF WAY AND RELOCATION PROCEDURES ARE AVAILABLE AT THE SIGN-IN TABLE



**NORTH CAROLINA DEPARTMENT
OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH**

**VICINITY MAP
I-40 PAVEMENT REHABILITATION
AND CONSTRUCT ADDITIONAL LANES
FROM WEST OF NC 801
TO EAST OF SR 1101 (HARPER ROAD /
TANGLEWOOD BUSINESS PARK ROAD)**

MARCH 2013 DAVIE-FORSYTH COUNTIES **FIGURE 1**
TIP PROJECT I-0911A

TITLE VI PUBLIC INVOLVEMENT FORM

Completing this form is completely voluntary. You are not required to provide the information requested in order to participate in this meeting.

Meeting Type: Informal Public Hearing	Date: November 18, 2013
Location: Clemmons Village Hall Council Chambers, Clemmons	
STIP No.: I-0911A	
Project Description: I-40 Improvements	

In accordance with Title VI of the Civil Rights Act of 1964 and related authorities, the North Carolina Department of Transportation (NCDOT) assures that no person(s) shall be excluded from participation in, denied the benefits of, or subjected to discrimination under any of the Department's programs, policies, or activities, based on their race, color, national origin, disability, age, income, or gender.

Completing this form helps meet our data collection and public involvement obligations under Title VI and NEPA, and will improve how we serve the public. Please place the completed form in the designated box on the sign-in table, hand it to an NCDOT official or mail it to the PDEA-Human Environment Section, 1598 Mail Service Center, Raleigh, NC 27699-1598.

All forms will remain on file at the NCDOT as part of the public record.

Zip Code: _____	Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female
Street Name: (i.e. Main Street) _____	Age: <input type="checkbox"/> Less than 18 <input type="checkbox"/> 45-64 <input type="checkbox"/> 18-29 <input type="checkbox"/> 65 and older <input type="checkbox"/> 30-44
Total Household Income: <input type="checkbox"/> Less than \$12,000 <input type="checkbox"/> \$47,000 – \$69,999 <input type="checkbox"/> \$12,000 – \$19,999 <input type="checkbox"/> \$70,000 – \$93,999 <input type="checkbox"/> \$20,000 – \$30,999 <input type="checkbox"/> \$94,000 – \$117,999 <input type="checkbox"/> \$31,000 – \$46,999 <input type="checkbox"/> \$118,000 or greater	Have a Disability: <input type="checkbox"/> Yes <input type="checkbox"/> No
Race/Ethnicity: <input type="checkbox"/> White <input type="checkbox"/> Black/African American <input type="checkbox"/> Asian <input type="checkbox"/> American Indian/Alaskan Native <input type="checkbox"/> Native Hawaiian/Pacific Islander <input type="checkbox"/> Hispanic/Latino <input type="checkbox"/> Other (please specify): _____	National Origin: (if born outside the U.S.) <input type="checkbox"/> Mexican <input type="checkbox"/> Central American: _____ <input type="checkbox"/> South American: _____ <input type="checkbox"/> Puerto Rican <input type="checkbox"/> Chinese <input type="checkbox"/> Vietnamese <input type="checkbox"/> Korean <input type="checkbox"/> Other (please specify): _____

How did you hear about this meeting? (newspaper advertisement, flyer, and/or mailing) _____

For more information regarding Title VI or this request, please contact the NCDOT Title VI Section at (919) 508-1830 or toll free at 1-800-522-0453, or by email at slipscomb@ncdot.gov.

Thank you for your participation!

NC Department of Transportation
PDEA – Human Environment Section
1598 Mail Service Center
Raleigh, NC 27699-1598



I-40 Improvements, Davie & Forsyth Counties

NC Department of Transportation
PDEA – Human Environment Section
1598 Mail Service Center
Raleigh, NC 27699-1598



I-40 Improvements, Davie & Forsyth Counties

NCDOT to Hold Public Hearing Regarding Proposed I-40 Improvement Project in Clemmons

TIP Project No. I-0911A

The N.C. Department of Transportation will hold a public hearing in Clemmons from 4-7 p.m. on Monday, Nov. 18 to inform citizens of a proposed project to widen and improve I-40 from west of N.C. 801 in Davie County to east of Harper Road/Tanglewood Business Park Road in Forsyth County. These improvements will include the replacement of the existing bridges over the Yadkin River.

The purpose of the project is to increase capacity and enhance safety on this section of I-40.

An Environmental Assessment (EA) was approved in June 2011. One “best fit” alternative with three design options in the vicinity of the historic Win-Mock Farm was studied. The option chosen as the preferred design will use a steeper slope adjacent to the Win-Mock Farm property to reduce impacts. No relocations are anticipated as part of this project.

The public hearing will be held on Monday, Nov. 18 at the Clemmons Village Hall Council Chambers, located at 3715 Clemmons Road. Interested citizens may attend at any time during the hearing hours, as there will be no formal presentation. NCDOT representatives will be available to answer questions and receive comments regarding the proposed project. Citizens will also have the opportunity to submit comments and questions in writing.

Maps displaying the location and design of the project, as well as a copy of the EA are available for public review at the following locations:

- Village of Clemmons Planning Department, 3715 Clemmons Road;
- Town of Bermuda Run, 120 Kinderton Boulevard, Suite 100;
- NCDOT Division 9 Office, 375 Silas Creek Parkway, Winston-Salem; and
- Winston-Salem Transportation Department, Suite 307, Bryce Stuart Municipal Building, 100 E. First Street.

Project maps and EA are also available at: <http://www.ncdot.gov/projects/publicmeetings>.

For additional information, contact Jamille Robbins, NCDOT-Human Environment Section at 1598 Mail Service Center, Raleigh, NC 27699-1598, by phone at (919) 707-6085, or by email at PublicInvolvement1@ncdot.gov. All comments must be received no later than December 20, 2013.

NCDOT will provide auxiliary aids and services under the Americans with Disabilities Act for disabled persons who wish to participate in this hearing. Anyone requiring special services should contact Robbins as early as possible so that arrangements can be made.

Persons who speak Spanish and do not speak English, or have a limited ability to read, speak or understand English, may receive interpretive services upon request prior to the meeting by calling 1-800-481-6494.

APPENDIX E
CORRESPONDENCE



R2014-03

**RESOLUTION SUPPORTING AN ENHANCED PEDESTRIAN BRIDGE TO REPLACE
BERT'S WAY BRIDGE OVER I-40**

WHEREAS, The Town of Bermuda Run lies along the northeast border of Davie County and adjacent to neighboring Village of Clemmons in Forsyth County; and

WHEREAS, Interstate 40 intersects the Bermuda Run corporate limits, with the Exit 180, NC 801 bridge being the only current connection between the north side of the Town and the south side of the Town; and

WHEREAS, On April 10, 2012, the Bermuda Run Town Council unanimously adopted its first Comprehensive Plan; and

WHEREAS, Strategy T5 under the Transportation portion of the Comprehensive Plan states: *“Work with NCDOT to utilize the tunnel under I-40 and replace Bert’s Way bridge for pedestrian and bicycle use after the proposed widening of I-40”*; and

WHEREAS, The Town has created a first phase Blue Heron Trail which is intended to connect north and south Bermuda Run residents via a multi-use path; and

WHEREAS, The Winston-Salem MPO has approved allocation of STP-DA funds for this project; and

WHEREAS, In order to provide a complete loop for the multi-use trail, the Town of Bermuda Run asks that when TIP I-0911A to widen I-40 in Davie County is funded, the current Bert’s Way bridge be replaced with a pedestrian bridge; and

WHEREAS, The Town of Bermuda Run is in favor of an enhanced pedestrian bridge and will seek funding through the Winston-Salem MPO to fund the difference between the enhanced pedestrian bridge and a standard NCDOT pedestrian bridge; and

NOW, THEREFORE BE IT RESOLVED THAT, the Bermuda Run Town Council supports the construction of an enhanced pedestrian bridge to replace the existing Bert’s Way bridge and is responsible for funding the difference in cost from a standard pedestrian bridge.

Adopted this the 22th day of April, 2014.



Kenneth A. Rethmeier, DrPH - Mayor



Resolution Supporting Replacement of Bert's Way Bridge

WHEREAS, the Town of Bermuda Run is located in the northeastern section of Davie County, with its corporate limits divided north and south by Interstate 40; and

WHEREAS, due to its physical proximity, traffic volume and commuting patterns, the Town of Bermuda Run is a member of the Winston-Salem Urban Area Metropolitan Planning Organization; and

WHEREAS, the Town of Bermuda Run, the Village of Clemmons and the Town of Lewisville through the Winston-Salem Urban Area Metropolitan Planning Organization, participated in a joint project in 2010 to determine the feasibility of a greenway and greenway trail along the Yadkin River as well as sidewalks that will connect the trail to the surrounding area; and

WHEREAS, one of the recommendations of the feasibility study is to use the existing Bert's Way Bridge for a multi-use trail to connect the residential and recreational areas north of I-40 to the Kinderton Commercial Town Center, thereby creating a loop; and

WHEREAS, the Town of Bermuda Run Planning Board is conducting a Comprehensive Plan that incorporates the feasibility study's findings; and

WHEREAS, the Bert's Way Bridge is adjoined by the WinMock Barn, a property registered as an historic structure under the National Registry; and

WHEREAS, when the original I-40 project was constructed the Bert's Way Bridge was a unique structure to provide access from one side of a farm to the other; and

WHEREAS, the June, 2011 Federal Environmental Assessment for I-40 widening from west of NC 801 to east of SR1101, TIP Project # I-0911A, page 12, item G., does not recommend the bridge for replacement.

NOW THEREFORE, BE IT RESOLVED, that the Town Council of the Town of Bermuda Run unanimously adopts this resolution to support replacement of the Bert's Way Bridge as a component of the final plans for the widening of I-40, due to its unique, historic connection to WinMock Barn and for its necessity as part of a comprehensive greenway and multi-model transportation plan.

Adopted unanimously the 23rd day of August, 2011


The Honorable John H. Ferguson, Mayor


ATTEST: Lee Rollins, Town Clerk

APPENDIX F
HISTORIC PROPERTIES EFFECTS FORMS
AND LETTERS

CONCURRENCE FORM FOR ASSESSMENT OF EFFECTS

Project Description: **Widen I-40 from west of NC 801 to west of SR 1101**

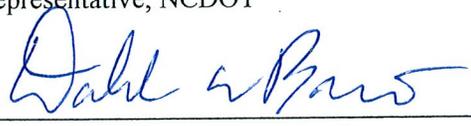
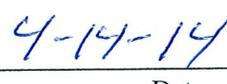
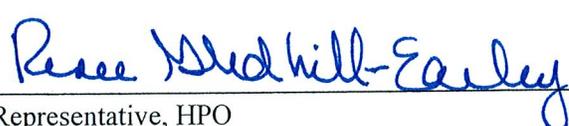
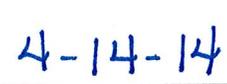
On **April 14, 2014** representatives of the

- North Carolina Department of Transportation (NCDOT)
- Federal Highway Administration (FHWA)
- North Carolina State Historic Preservation Office (HPO)
- Other

Reviewed the subject project and agreed on the effects findings listed within the table on the reverse of this signature page.

This form incorporates the original effects finding of May 3, 2011.

Signed:

	
Representative, NCDOT	Date
	
FHWA, for the Division Administrator, or other Federal Agency	Date
	
Representative, HPO	Date
	
State Historic Preservation Officer	Date

Federal Aid #: **IR-40-3(60)180**

TIP#: **I-0911A**

County: **Davie and Forsyth**

Property and Status	Alternative	Effect Finding	Reasons
Win-Mock Farm (NR)		No Adverse Effect	1-1/2:1 slope with rock plaiting and ditch with 25' easement - some of which within historic boundary, but not impacting contributing resources.
Win-Mock Farm (NR)	Preferred	No Adverse Effect	MSE wall on I-40 frontage, beated to minimize encroachment via easement into historic property 4-14-14

Initialed: NCDOT VEP FHWA DB HPO RSE

FHWA Intends to use the SHPO's concurrence as a basis for a "de minimis" finding for the following properties, pursuant to Section 4(f):
Win-Mock Farm.



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

May 1, 2013

Ms. Ramona Bartos,
Deputy State Historic Preservation Officer
Historic Preservation Office
4617 Mail Service Center
Raleigh, North Carolina 27699-4617

Dear Ms. Bartos:

Subject: Addendum to the Construction of Additional Lanes and Pavement Rehabilitation on I-40 from West of NC801 in Davie County to East of SR1101 (Harper Road/Tanglewood Business Park Rd) in Forsyth County, North Carolina; TIP # I-911A, FA Project No. NHIMF-40-3(112)180, State Project No. 8.1610401, ER 94-7716 & ER 05-2699.

The TIP I-911A project proposes to widen from four lanes to six lanes, a 3.3 mile portion of Interstate 40 from 0.3 miles west of NC801 to 0.15 mile east of SR1101. An archaeological survey of the Area of Potential Effects (APE) was conducted by the NCDOT in 1993. No historic properties or archaeological resources were documented at that time and concurrence for the work was received from SHPO (11/12/93). The project was then resubmitted to SHPO (2005) in association with the inclusion of the replacement of the two I-40 bridges over the Yadkin River to the project. SHPO (1/4/2006) conducted a review of the proposed undertaking and were aware of no historic resources which would be affected by the project. As such, SHPO had "no comment" on the undertaking.

In April 2013, the NCDOT archaeology group received updated information stating that the limits of the proposed project would be expanding westward and that the existing right-of-way would add an additional 50ft on each side to accommodate better lane drop and pickup within the expansion area. In total, 0.9 mile was affixed to the existing western project terminus. On April 30, 2013 NCDOT project archaeologist Scott Halvorsen met with Deputy State Archaeologist Dolores Hall to discuss if the undertaking may have any effects on potential archaeological or cultural resources. Environmental mapping, engineering design plans, previous archaeological and NRHP mapping/information, NRCS soil data, and aerial imagery were presented for the reasonable prediction/evaluation of archaeological site potential within the newly expanded APE section. Because of numerous factors, including, but not limited to, an absence of documented NRHP eligible archaeological sites, properties, and cemeteries within the expanded or existing APE, mostly eroded soils, impacts related to

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS UNIT
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

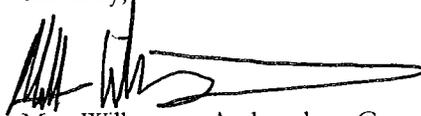
TELEPHONE: 919-707-6000
FAX: 919-212-5785
WEBSITE: NCDOT.GOV

LOCATION:
CENTURY CENTER, BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

the existing I-40 right-of-way, and the relatively diminutive scope of the proposed construction impacts on prevailing disturbed ground areas, it was determined that significant archaeological resources are unlikely to be affected by the project.

Should you have any questions regarding this project please contact Scott Halvorsen at 919-707-6071 or sehalvorsen@ncdot.gov or Matt Wilkerson at 919-707-6089 or mtwilkerson@ncdot.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Wilkerson', with a long horizontal flourish extending to the right.

Matt Wilkerson, Archaeology Group Leader
Human Environment Section

CC Dolores Hall, OSA
Scott Halvorsen, NCDOT
Michael Penney, NCDOT

APPENDIX G
NEPA/SECTION 404 MERGER TEAM
CONCURRENCE FORMS

Section 404/NEPA Merger Project Team Meeting Agreement

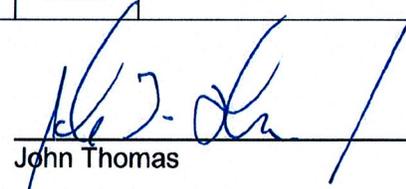
Concurrence Point No. 2A - Bridging Decisions and Alignment Review

Project Name/Description: **I-40 Pavement Rehabilitation and Construct Additional Lanes**, from west of NC 801 in Davie County to east of SR 1101 (Harper Road) in Forsyth County, Davie and Forsyth Counties, Federal Aid No. NHIMF-40-3(112)180, WBS No. 34147.1.2, TIP Project No. I-0911A

On May 14, 2014 the members of the Merger Team met to review wetland and stream crossings of the "Preferred Alternative" and the proposed culvert and bridge recommendations as presented in the meeting information package. The Project Team has concurred on this date, May 14, 2014, with the following locations of the culvert and bridge crossings:

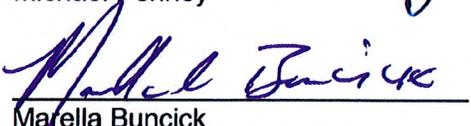
Hydraulic Structure Recommendation

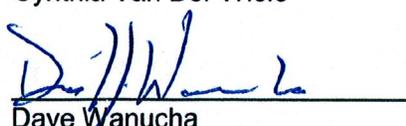
Map ID	Stream Name	Existing Structure	Length (ft)	Recommendation
Smith Creek	Smith Creek	Reinforced Concrete Box Culvert (RCBC)	328	Extend existing 1@ 6'x8'x328' RCBC (Small Pipe #29-2017)
Smith Creek	Smith Creek	RCBC	302	Extend existing 2@ 9'x9'x302' RCBC (Bridge No. 290082)
Yadkin River	Yadkin River	Bridge I-40 EBL	1121	Replace the existing bridge (Bridge No. 290085) I-40 EBL with new bridge of same length and elevation.
Yadkin River	Yadkin River	Bridge I-40 WBL	1121	Replace the existing bridge (Bridge No. 290086) I-40 WBL with new bridge of same length and elevation.

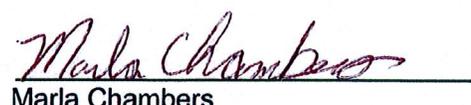
USACOE 
John Thomas

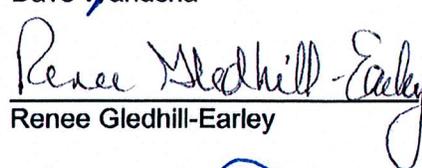
NCDOT 
Michael Penney

USEPA 
Cynthia Van Der Wiele

USFWS 
Marjella Buncick

NC DWQ 
Dave Wanucha

NC WRC 
Marla Chambers

SHPO 
Renee Gledhill-Earley

MPO 
Greg Errett

FHWA 
FELIX DAVILA

Section 404/NEPA Merger Project Team Meeting Agreement

Concurrence Point No. 4A - Avoidance & Minimization

Project Name/Description: **I-40 Pavement Rehabilitation and Construct Additional Lanes**, from west of NC 801 in Davie County to east of SR 1101 (Harper Road) in Forsyth County, Davie and Forsyth Counties, Federal Aid No. NHIMF-40-3(112)180, WBS No. 34147.1.2, TIP Project No. I-0911A

The initial design includes 2:1 slopes along the entire project. The initial preferred design included 1.5:1 slopes with rock plating at the Win-Mock property. Based on a refined design a new preferred alternative was developed utilizing retaining walls with variable slopes of 2:1 to 1.5:1 to minimize impacts to the Win Mock Farm (the historic property).

404 Avoidance and Minimization Measures:

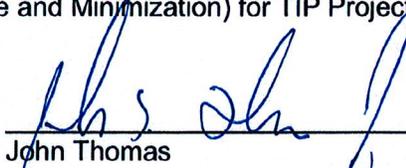
- Steeper Side slopes (2:1) in jurisdictional areas.
- No impacts to the Yadkin River

Other Measures to Avoid and Minimize Impacts to the Human and Natural Environment.

- Retaining wall from approximately Sta. 98+75.00 to 114+50.00 and Sta. 118+50 to 123+00 @ the Win-Mock Farm Property, see attached Effects Form dated April 14, 2014.
- Minimize the amount of easement required for the retaining wall tieback system, by moving the retaining wall closer to the travel lanes/shoulder of the proposed improvements, i.e. away from the Win-Mock Farm property.
- No impacts to the Riverside Park and Soccer facility.

The Project Team has concurred on this date of May 14, 2014, on Concurrence Point 4A (Avoidance and Minimization) for TIP Project I-0911 A.

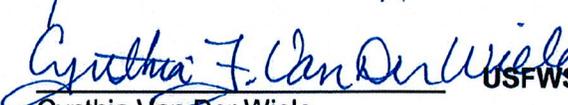
USACOE


John Thomas

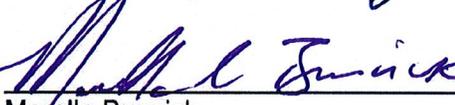
NCDOT


Michael Penney

USEPA


Cynthia Van Der Wiele

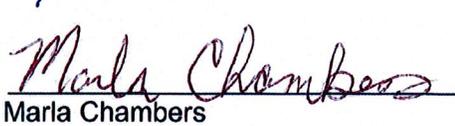
USFWS


Marjella Buncick

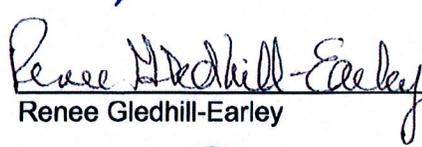
NC DWQ


Dave Wanucha

NC WRC


Marla Chambers

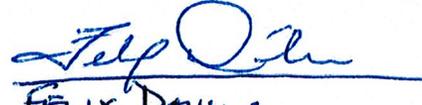
SHPO


Renee Gledhill-Earley

MPO


Greg Errett

FHWA


FELIX DAVILA

